A Grammar of Tiefo-D of Daramandugu

Niger-Congo language, Burkina Faso

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color code (for the "color" version of this document)

black	text
blue	transcriptions for this language
green	reconstructions *…, IPA transcriptions […], underlying representations /…/, forms from Jula and other neighboring languages

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1 Introduction

1.1 Gur and ex-Gur languages

Since Tiefo has traditionally been classified as a Gur language, we begin with a short discussion of this language family.

The Gur family as defined prior to around year 2000 extended from the Mali-Burkina border area eastward across central and southern Burkina, and northern parts of Ghana, Togo, and Benin, with outliers in western Nigeria and northeastern Côte d'Ivoire. Gur, in French often called *voltaïque*, belongs to the large Niger-Congo (or Niger-Kordofanian) linguistic phylum that dominates West and Central Africa. Within Niger-Congo, the Adamawa family has been suggested as related to Gur. Noun-class affix systems have been a favorite topic for Gur specialists and for Niger-Congo comparativists (Miehe et al. eds. 2012).

Gur specialists have long distinguished a core (Central Gur) and a collection of non-core or peripheral Gur languages. The latter are listed in (1). All are located in southwestern Burkina Faso, except that Senufo extends into northern Côte d'Ivoire and far southeastern Mali.

(1) Traditionally considered peripheral Gur

a. the Senufo family (about 8 languages)
b. Tiefo (two languages)
c. Viemo
d. Natioro and Wara (two or three languages)
e. Toussian (two languages)

In more recent classifications, all five of the groups in (1) have been at least temporarily expelled from Gur, based on lack of proof to date of a specific genetic relationship with Central Gur. They remain in Niger-Congo, but for the time being as early independent branches roughly at the same time depth as Central Gur (now redefined as Gur *sensu strictu*). Field research on all of the groups in (1) is at an early stage, and considerable scrambling of the genetic tree will likely occur in the not-so-distant future. To date no-one has argued in print that any of the five groups in (1) is more closely related to any of the four others than any of them are to (Central) Gur.

As a geographic region, southwestern Burkina is an interesting relic zone. In addition to a few Mande languages (Jalkunan, Dzuungo, Seenku, Bobo) that likely reflect migrations beginning in the heyday of the medieval Mande empire, this region hosts some Senufo languages and all of the other ex-Gur languages in (1). Also found in this zone are a number of (more or less) Central Gur languages (e.g. Turka and Lobi), along with the mysterious Siamou (or Sɛmɛ) language, which is either another isolate within Niger-Congo or else a geographically distant cousin of the Kru family of Liberia and western Côte d'Ivoire.

Jula (Mande family, mutually intelligible with Bambara in Mali) is the dominant lingua franca in the zone. Substantially all people in the zone, including the Tiefo, speak Jula on a daily basis.

1.2 Tiefo languages (Tiefo-N, Tiefo-D)

There are approximately 15 villages (some of them actually village clusters) that are considered to be ethnically Tiefo. Presumably there were several varieties of Tiefo that were spoken in this zone through the early 20th Century. The 1897 invasion by the Jula chief Samori Touré destroyed the Tiefo mini-state of the time under its king Tiefo Amoro (Hébert 1958) and triggered a linguistic and ethnic decentralization that has led to the disappearance of the Tiefo language(s) from all but a handful of the villages.

We refer to the two varieties that are extant as of our fieldwork period 2012-2017 as Tiefo-N and Tiefo-D. Comparison of the grammar and lexicon of Tiefo-D and Tiefo-N shows that they are distinct languages, a point confirmed by speakers in both communities. Tiefo-N was spoken by two elderly speakers in Nyafogo village during our fieldwork period. We were able to produce a short grammar (Heath, Ouattara & Hantgan 2017) and supporting lexical materials, but no running texts. A closely related variety of Tiefo-N had been spoken by a few old people in Numudara village into the 1990's but was extinct by the time we arrived. (See §1.5.1 below on the work of our predecessor Winkelmann.)

Tiefo-D, the subject of the present work, is spoken in parts of the village cluster known collectively as Daramandugu.

An initial historical comparison of Tiefo-D and -N is Heath (2019), which assembles evidence (sometimes vestigial) for vocalic noun-class markers in the two languages. The logical next step, for the near future, is a similar comparison of the verb-stem paradigms in the two languages. A talk on this subject is planned for WOCAL 2021.

1.3 Environment and geography

Although Nyafogo and Daramandugu are not very distant as the crow flies, contact between their populations has always been very limited. The two communities are part of separate subregional networks pointing in different directions. Nyafogo is networked with Numudara and other villages to the north and west on the plateau, and from there with the metropolis Bobo Dioulasso (sometimes called the economic capital of Burkina) farther to the north. Daramandugu, on the other hand, is networked with Tiefora village in the plains to its south and from there to the city of Banfora farther west. Travel between Nyafogo and Daramandugu is difficult even now (bush motorcycles and, seasonally, 4x4s can make it if they don't get lost in the poorly marked pistes).

Coordinates for the two villages that have or recently had Tiefo-N speakers are in (2a). Those for the widely dispersed *quartiers* of Daramandugu where Tiefo-D is or (in the cases of Sangogo and Sunugu) was until recently spoken are in (2b). All coordinates are in degrees, minutes, and decimal fractions of minutes. The northern and southern bounds for these Tiefo-D *quartiers* are N latitude 10 50.200 (Masaso) to 10 48.707 (Biton). The eastern and western bounds are W latitude 04 30.982 (Sunugu) and 04 33.648 (Jinejan). Biton is itself a collection of dispersed small settlements and hamlets and the coordinates here are for the settlement where the *chef de quartier* resides.

(2)	a. Tiefo-N villages			
	Nyafogo	10 53.203	04 22.725	
	Numudara	10 58.936	04 25.375	
	b. Tiefo-D (*quartiers* of Daramandugu)			population rank
	Sunugu	10 49.745	04 30.982	2
	Bofoboso	10 49.426	04 30.997	(administered by Sunugu)
	Sangogo	10 50.005	04 32.013	5
	Flaso	10 49.245	04 32.544	4
	Jinejan	10 49.267	04 33.648	3
	Biton	10 48.707	04 31.190	1
	Masaso	10 50.200	04 32.594	6
	c. landmark			
	Daramba pond	10 47.936	04 28.742	

In French, the administrative and therefore cartographic language, “u” in the village names as shown above is spelled “ou” (*Noumoudara*, *Sounougou*, *Daramandougou*). Nyafogo has various archaic spellings including *Ngagafogo*.

The language Tiefo-D is now effectively extinct in Sunugu, the largest and most concentrated *quartier*, where Jula is dominant. Some young women who marry into Sunugu (mostly from Biton) know Tiefo-D but do not pass it on. It is spoken in the small settlements Masaso and Flaso, some parts of Biton (a collection of widely scattered hamlets), in Jinejan, and by one extended family (ex-Jinejan) in the administrative center.

Winkelmann’s map (1998: 17) may be consulted for further detail. She identified the five *quartiers* that had Tiefo-D speakers during her fieldwork as Masaso, Biton, Bofoboso, Jinijan (our Jinejan), and Flaso. She indicated that Tiefo-D was not spoken in Sangogo (her “Sagoko”), which was inhabited primarily by Jula, and that it was hardly spoken in Sunugu.

The endonyms for the *quartiers* of Daramandugu are in (3). Most of them end in lē ‘settlement, village’, also more narrowly ‘house with walled courtyard’. Bi dialect has lé in most cases. As compound final, -lē is equated with Jula -só. Correlations with everyday vocabulary that were suggested by our assistants are given in parentheses. All of these terms can be preceded by the article ē.

(3)	Sunugu	ʃɛ̀^{n}jùʔɔ̀-lē ~ ʃɛ̀^{n}jù-lē ~ ʃìɲùʔò-lē (said to be < ʃì^{n}ʔì^{n}-jùʔɔ̀ ‘run after’)
	Sangogo	sà^{n}gbɔ̀ʔɔ̀-lē ~ sàŋmɔ̀gɔ́
	Sokura	lē fù^{n}ʔɔ̀^{n} ~ lī-fù^{n}ʔɔ̀^{n} (‘the new settlement’) or: dɔ́bɔ́-kərí
	Flaso	lē-fɛ̀^{n} (cf. lē fù^{n}ʔɔ̀^{n} ‘the new settlement’) ~ lū-fɛ̀^{n} or: àndò-lē (name used by people from Biton)
	Jinejan	tàfɔ̄-lē (said to be < tá ‘beat (lots of fish)’ and fùɔ́ ‘fish’)
	Biton	bìtūō-lē ~ bècūō-lē ~ bìcūō-lē
	Bofoboso	bɔ̀fɔ́bɔ̄-lē (Jula bɔ̀fɔ́bɔ̀ só)

Masaso	(w)ú^{n}-dì^{n} lē (‘chief’s settlement’)
	màsā-lē ~ màsā^{n}-dē (chief’s settlement; Jula màsà só)

The geography of the Tiefo zone is dominated by a long line of cliffs that run northeast to southwest, separating the high “plateau” to the west from the low “plains” to the east. The main Bobo to Banfora highway is on the high plateau. Some of the ethnically Tiefo villages, including Numudara and Péni, are also on the plateau. Nyafogo and the Daramandugu cluster, among other villages, are in the plains.

While motorized travel from Daramandugu to anywhere up on the plateau requires driving around the end of the cliffs, there are points in the cliffs where one can climb on foot to the top and proceed to Toussiana and Péni.

There is good farmland in sections of the plains, interspersed with forested areas. Water accumulates at the base of the cliffs, inundating some areas seasonally and supporting forested zones, attracting elephant herds.

1.4 Traditional naming system

Most Tiefo of the Daramandugu area carry modern surnames Ouattara, Traoré, or Coulibaly. All three surnames are widespread in West Africa and were likely superimposed on Tiefo in historical times. They correspond to the traditional clan names in (4). The ritual names appear to have the form of verbs with 3Pl subject, e.g. ò gbɛ̄ ‘they got’. The ordinary names have forms that are consistent with morphological plurals of nouns.

(4)		ritual names	ordinary names
a. Ouattara			
	i.	ò gbɛ̄	ē cə̀rò
	ii.	ò wā^{n}	ē sūō
b. Traoré		ò sɔ̄^{n}	ē ɲùó
c. Coulibaly		ò tō	ē gbə̀ró

The chiefly family based in Masaso *quartier* belongs to ò tō (Coulibaly). The majority of people at Flaso quartier are ò wā^{n}.

Traditional birth-order names for children are in (5).

(5)	order	male	female
	1	ʃíé	yīē
	2	sā^{n}	wɛ̄
	3	là	ɲə̀rì [ɲə̀ɾḭ̀]
	4	pɛ̄	pə̀rɛ̀^{n}
	5	cùɔ̀	sə̀rà
	6	dààkə́rú	ɲùà

1.5 Previous and contemporary study of Tiefo-D

1.5.1 Previous work: Kerstin Winkelmann

The major previous work on Tiefo-D grammar is Kerstin Winkelmann's dissertation (1998), in German. Her fieldwork occurred in the period 1990-1994. It is a fine study of Tiefo-D phonology, morphology, and historical morphology (especially vestiges of noun-class suffixes). It covers some syntax and includes a basic lexicon (with some Tiefo-N comparisons), but no texts. Her material on Tiefo-D noun classes is presented in English in Winkelmann (2007). She also wrote articles on the history of the Tiefo (1995, 1996), supplementing Hébert (1958).

Prior to Winkelmann's work the only material on the Tiefo language was from an unpublished (and to us unavailable) manuscript containing 140 words and 80 short sentences by André Prost. It was made available to comparative Gur specialist Gabriel Manessy (1982), who used the material to argue that Tiefo belongs to Gur. He quoted Prost as saying that the data were gathered in brief work with a toothless informant assisted by a non-Tiefo-speaking Jula interpreter.

Subsequent to Winkelmann's dissertation, an SIL sociolinguistic survey (Berthelette & Berthelette 2001) presented a bleak picture of the vitality of Tiefo-N, but gave a more optimistic account of the vitality of Tiefo-D based on interviews. However, no numbers of competent speakers were given, and few details were given about their distribution among the *quartiers*.

1.5.2 Fieldwork

During the period 2012-2017 the project directed by Heath, primarily on Dogon languages and Bangime in central Mali, undertook periodic salvage fieldwork on Tiefo-N, which was down to two competent speakers in Nyafogo. Most of the early fieldwork was carried out by Abbie Hantgan-Sonko and by Aminata Ouattara, a Burkinabé grad student. Ouattara is an ethnic Tiefo but not a native speaker. During the period 2012-14 Hantgan-Sonko combined work on Tiefo-N with work on Malian languages. After she left to become a postdoc at a SOAS project involving fieldwork in Senegal, Heath combined with Ouattara in grammatical and lexical fieldwork and they completed a short grammar and lexicon (Heath, Ouattara & Hantgan 2017). Ouattara defended her master's thesis on Tiefo-N in 2019.

Heath and Ouattara also visited Daramandugu in 2015, 2016, and April 2017, to make contact with people there and to gather preliminary data, including flora-fauna terminology. Our more sustained work on Tiefo-D, under a new NEH grant (see below), began with one month in summer 2017 and two weeks during December 2017, during which we compiled a working lexicon and drafted morphosyntax chapters of this grammar. Between May 2018 and August 2019 Heath and Ouattara carried out several additional weeks of fieldwork, focusing on transcription of texts, but also filling gaps and making corrections in grammar chapters and lexicon. Final fieldwork by Heath, joined in part by Ouattara, was completed in January-March 2021. Some follow-up work designed to help Tiefo-D people develop a language maintenance program is underway.

1.5.3 Acknowledgements

We gratefully acknowledge funding for fieldwork on Tiefo-D. Our preliminary visits to Daramandugu between 2015 and March 2017 were an extension of fieldwork on Tiefo-N and other languages, funded by National Science Foundation BCS-1263150 (2013-17). The April 2017 visit to Daramandugu was financed by a bridging grant from the University of Michigan (African Studies Center, Dept. of Linguistics, and UM Office of Research). The intensive work on Tiefo-D began in summer 2017, with primary support from the National Endowment for the Humanities grant PD-255909-17, part of NEH's contribution to the Documenting Endangered Languages program at the National Science Foundation.

In Daramandugu we have worked in coordination with the local cultural association led by Jean-Pierre Ouattara from Jinejan, assisted by Ouattara La from Flaso, Coulibaly Jean Bakari from Masaso who has also become the chief of Daramandugu, and Ouattara Drisa from Biton. The authors have worked with them both in Daramandugu in a long series of 3-5 days visits, and in our base in Bobo Dioulasso.

1.5.4 Supplemental materials

This grammar is designed to be used in conjunction with the companion text collection (*Tiefo-D Texts from Daramandugu: Niger Congo language, Burkina Faso*) and with the lexical spreadsheet (*Tiefo-D lexicon*), which are by the same authors. These documents will be archived online on Zenodo. Back-up copies will be archived online at Deep Blue (University of Michigan Libraries) along with other documents, audio files for the texts, and other media. Deep Blue is currently (2021) divided into a "documents" division (primarily for pdf's), and a "data" division for a wide range of files including spreadsheets, audio, video, and images. Until they are merged, the Tiefo-D materials will be divided into two collections, one in documents and one in data. Deep Blue links are:

https://deepblue.lib.umich.edu/documents
https://deepblue.lib.umich.edu/data

In Deep Blue, use the search function to locate relevant files for Tiefo (search "Tiefo") or a wider range of materials on various languages by the first author (search "Jeffrey Heath").

The connection between the grammar and the texts volume is straightforward. Many segments of transcribed text have cross-references to specific sections of the grammar for grammatical points. The lexical spreadsheet, on the other hand, takes some getting used to, but thereafter its spreadsheet form should be helpful to end-users. See the appendix to this grammar for a users' guide to the lexical spreadsheet; this guide is copied at the end of the texts volume.

A fieldworker always hopes that an occasional end-user will dig deeply into the language rather than just cherry-picking a data point or two for a typological survey. This is the point of designing the grammar, texts, and lexicon as an integrated corpus. If you are that end-user (and you are not a robot), here's to you!

2 Sketch

In this chapter we briefly present some basic features of Tiefo-D. This overview will make it easier for readers to make sense of formatted examples in the chapters to follow.

2.1 Phonology

2.1.1 Segmental phonology

Tiefo-D, like Tiefo-N and many other languages of the zone (southwestern Burkina and adjoining parts of Mali and Côte d'Ivoire) has seven vowel qualities. They are high vowels {i u}, [+ATR] mid-height vowels {e o}, [-ATR] mid-height vowels {ɛ ɔ}, and low vowel a. We use "ATR" (advanced tongue root) loosely, as there are doubts about the actual articulatory description. Vowels may be short or long, and nasalized or oral. Nasalized/oral alternations occur in some singular/plural pairings of noun stems (§4.1.2.3). We use lowercase v rather than V in Cv-type formulae to permit addition of tone diacritics (Cv́, Cv̀, and so forth).

Among regular consonants, obstruents are voiceless stops, voiced stops, and voiceless fricatives. Sonorants are nasals, liquids, and semivowels. Articulatory positions for obstruents and nasals are labial, alveolar, alveopalatal, velar, and labial velal. Of these, labial velars are least common.

An important feature of Tiefo-D is the high frequency of stems consisting entirely of, or ending in, Cvʔv with a single vowel quality, e.g. Cɛʔɛ or Caʔa, or with an ingliding diphthong as in Ciʔɛ. In careful speech, such sequences are pronounced approximately as [Cvʔv] with a glottal pulse toward the middle of the sequence. In allegro speech they are sometimes alternatively heard as [Cv̰v̰] with a long, creaky-voiced vowel. Some speakers optionally omit any discernible glottalization (creak), resulting in [Cvv]. Some stems, especially nonmonosyllabics ending in …Cvʔv, have unglottalized dialectal variants with just …Cv.

2.1.2 Tones and prosody

Tiefo-D has three tone levels, high, mid, and low, like several other languages of SW Burkina. The lingua franca Jula has two tones at least in standard varieties. Two minimal trios involving noun stems, valid for most dialects, are in (6).

(6)		tone	
a.	dɛ́	H	'body'
	dɛ̄	M	'elder sibling'
	dɛ̀	L	'field'

b.	dә́ráʔá	H	‘courtyard’
	dә̀ràʔá	LH	‘tale; dream’
	dә̀ràʔà	L	‘fruit pole’

There are some alternations of level M-tone with rising LH-tone. In such cases, the M-tone is associated with monomoraic syllables (Cv̄), and/or with initial position in a compound or similar tightly-knit combination (§3.6.1.2, §3.6.2.4). More generally, LH-toned morphemes and stems often flatten to M-toned in allegro speech. Some M-toned stems are clearly diachronic reflexes of former LH-tones. For example, dɛ̄ ‘elder sibling’ in (6a) has an LH-toned plural dì-ɔ́. Other M-toned non-verb stems may have had a similar origin, and there are some stems that alternate dialectally between M and LH.

Except for the small number of cases like ‘elder sibling’, noun stems generally preserve their lexical tone melody when pluralized. For example, L-toned dɛ̀ ‘field’ has L-toned plural dә̀-rɛ̀, while H-toned dɛ́ ‘body’ has H-toned plural dә́-rɛ́. There are, however, numerous noun-noun compounds that drop the tones of the final to L, as with LH-toned ʃì^{n}ʔí^{n} ‘tree, wood’ in tákә́rá-ʃì^{n}ʔì^{n} ‘teak tree’ (§5.1.1.1). By contrast, most tonal changes in compound initials reflect regular tone sandhi.

In predicative function, each verb has three forms that we call perfective (Pfv), base, and imperfective (Ipfv). Except for verb-verb compounds and Jula borrowings, each verb stem is level-toned, without contoured melodies like LH. For some verbs, all three forms have the same tone: L, M, or H depending on the stem. For many verbs, however, the Pfv tone is one notch below that of the base and Ipfv. Since there are three tones, these tone-changing verbs are either MHH or LMM, using formulae that show the tones for Pfv, base, and Ipfv in that order. For example, LMM verb pìɛ̀^{n}/pɛ̄^{n}/pī^{n} ‘remain’ has L-toned Pfv pìɛ̀^{n} alongside M-toned base and Ipfv. Meanwhile, MHH verb bɛ̄/bá/bí ~ bé ‘cultivate (crops)’ has M-toned Pfv bɛ̄ alongside H-toned base and Ipfv.

An important interdialectal difference is in H-toned glottalic stems, which appear as such (Cv́ʔv́) in Bi and Ji dialects, but as Cv̄ʔv́ in Fl and as Cv̀ʔv́ in Ma in basilectal pronunciations (§3.6.1.5).

2.1.3 Key phonological rules

The main phonological process affecting vowel segments is vv-Contraction as in /kà ē/ (‘with’ plus nominal article) becoming kà = ā.

Most other nontonal phonological processes are stem-internal morphophonological shifts. These include denasalization of vowels to form plural nouns (§4.1.2.3).

The most important tone-sandhi process is that M drops to L before H (§3.6.2.2). Many verbs shift tones between Pfv on the one hand and base=Ipfv on the other (Chapter 10). The article ē (dropping to è before H-tone) is often elided, but leaves behind a tonal trace if its tone differed from that of the preceding syllable.

2.2 Linear order of clausal constituents

2.2.1 Ordinary main clause with SVO order

A typical clause has the form S-Infl-V(-O), i.e. SVO with a postsubject (or preverbal) slot for from zero, one, or two inflectional particles. (7) illustrates with a single preverbal inflectional particle (Ipfv). Examples like this that are from texts are given with the dialect, the text number, and a time marker.

(7)	*donc*	má=	à	lā^{n}-à^{n}-ʃūʔū	[Ø	nā-fō]
	so	2Sg	Ipfv	advise.Ipfv-Ipfv-give.Ipfv	[Art	guest.Pl]

‘So you guide the visitors.’ (Fl, 2017-11 @ 01:00)

Additional adverbial adjuncts may be added at the end of the clause, and various complementizers and discourse markers (including Fr *donc* and *bon*) may occur initially before the subject.

A consequence of SVO order is that the article ē is often clearly audible in subject NPs, but is elided in non-subject NPs. We transcribe the article as Ø when the article has no separate segmental manifestation. If it leaves a souvenir in the form of a contour tone on the preceding syllable, this is indexed by = as in (7).

2.2.2 Progressive clauses

The progressive construction (§10.2.4) has distinctive constituent order. The subject is followed by kō ‘be’ or a form of the verb ‘stay, remain’, then an (O)V sequence (note object preceding verb!) plus nī. The latter is etymologically the locative postposition, but is labeled “Prog” in this construction. In other words, the Tiefo-D phrasing that means ‘X be eating meat’ is derived from “X be [[meat-eat(ing)] in].” The verb must end with an H-tone, which is diachronically explained as a trace of an original verbal noun suffix *-ní preceding the locative postposition. An example is (8). The preverbal third animate singular pronominal functions as object, but here it takes its proclitic form (identical to subject and possessor proclitics), not the enclitic form =(y)ò that it has as a postverbal object.

(8)	bó	pìɛ̀^{n}	[[ɔ̀^{n}	ɲɔ́^{n}]	nī],
	3AnSg	remain.Pfv	[[3AnSg	look.at.**Prog**]	**Prog**]

‘She kept looking at her.’ (Bi, 2017-08 @ 03:37)

2.3 Noun phrase (NP)

NPs are of course headed by nouns, which precede most modifiers: adjective, numeral, determiner, ‘all’ (in that order). The noun is normally preceded either by a possessor or, in its absence, the article ē. We follow Winkelmann in using the term “article” for this vocalic proclitic, although the morpheme in question does not mark definiteness or number. Unless clause-initial (or otherwise postpausal), the article either contracts with the final syllable of the preceding word or is elided entirely.

A simple NP (Art-N-Adj) is (9).

(9) è kláʔá tù-tùʔù
Art shell big
‘a big shell’ (cf. Ji, 2017-04 @ 02:40)

There is no synchronic noun-class marking, other than animate/inanimate marking in singular third person pronouns, and in plural focalizing and indefinite markers.

There is no structural case marking (distinguishing subject from object) for noun-headed NPs. Therefore ‘(the) small children’ (9) may occur in any grammatical function (subject, object, complement of postposition, possessor). However, third person pronominals do have special object enclitic forms when they follow verbs. An example is inanimate postverbal object =nì, which is phonologically unrelated to the usual 3Inan proclitic à which occurs in other functions. Distinctions like that between =nì and à are based on linear position rather than case as such. 3Inan object is expressed as =nì after the verb in most clause types, but as à before the verb in the progressive.

2.4 Adpositions

2.4.1 Postpositions

Tiefo-D has numerous postpositions in typical adpositional functions, mostly spatiotemporal (‘in’, ‘inside’, ‘under’, etc.). Using X for the complement NP, these include X bàʔà ‘chez’ (§8.1.1) which is also the dative postposition with ‘say’, and general locative X nī (§8.3.2.1). There are several composite postpositions, often transparently based on a noun, as in [X úⁿʔúⁿ] nī ‘on X’, slightly grammaticalized from ‘on the head of X’.

2.4.2 Prepositions

There are two prepositions. One is instrumental or comitative kà ‘with’ (§8.2), as in kă= [Ø bàʃíⁿʔíⁿ] ‘with a/the knife’ from /kà [ē bàʃíⁿʔíⁿ]/. kà is also the regular NP-conjunctive particle, as in [X kà Y] ‘X and Y’ (§7.1.1).

The other preposition is dative ɔ̀ⁿ (§8.1.2), which precedes indirect objects after ditransitive ‘give’ and ‘show’, and after ‘be pleasing’. (10) illustrates with ‘give’.

(10) nó ʃìʔɛ̀ [Ø ná] [ɔ̀ⁿ zàkí]
1Sg give.Pfv [Art cow] [**Dat** Z]
‘I gave a cow to Zaki.’

Although we analyse dative ɔ̀ⁿ syntactically as a preposition, it is a vowel and therefore often contracts with the final vowel of the preceding word.

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2.5 Verbs and clause-level inflections

Each verb has three stems that we call **perfective** (Pfv), **base** (following Winkelmann), and **imperfective** (Ipfv). We use abbreviations Pfv and Ipfv only for morphological categories, versus spelled out "perfective" and "imperfective" for constructions. We also abbreviate labels for inflectional morphemes: à Ipfv, á PfvNeg, má IpfvNeg. We spell out "perfective" and "imperfective" when referring to constructions, functions, and contexts.

We often cite verbs in all three stems in the order just given, as in lɛ̀^{n}/lɛ̄^{n}/lī^{n} 'drive out, chase away' and lɛ̄^{n}/lɛ́^{n}/lɛ́^{n} 'stand, stop'. Note that the base of 'drive out' is homophonous to the Pfv of 'stand'. 'Drive' out' has three phonologically distinct stems, 'stand' has identical base=Ipfv distinct from Pfv, and still other verbs like klè/klè/klè 'do' are invariant. Aspect and other VP- or clause-level inflectional categories are expressed by constructions consisting of a choice of one of the three stems, plus up to two postsubject inflectional particles.

The perfective positive construction is unmarked (i.e. it has no inflectional particle), but morphologically the Pfv verb stem is often "marked" (having more segments) than the other two stems. The perfective negative has postsubject particle á plus the base (N.B. not the Pfv!) verb stem. The imperfective positive construction has a postsubject particle à followed by the Ipfv verb stem. The imperfective negative construction has postsubject inflectional particle má followed by the Ipfv stem.

There are two future positive constructions, respectively with nà and bè as preverbal particles. The nà future uses the base stem of the verb, while the less common bè future uses the Pfv (!) or less often the Ipfv. The respective negatives are má plus Pfv verb stem, and má bè plus Pfv verb stem.

The main indicative constructions are schematized in (11). X is the subject. The distribution of the Ipfv stem is straightforward, correlating nicely with imperfective clausal aspect. The Pfv stem and the base stem have more idiosyncratic distributions but together make up the non-imperfective categories.

(11)

	positive	negative
perfective	X Vb.Pfv	X á Vb.Base
imperfective	X à Vb.Ipfv	X má Vb.Ipfv
future (nà)	X nà Vb.Base	X má Vb.Pfv
future (bè)	X bè V Vb.Pfv	X má bè Vb.Pfv

In narratives, perfective positive clauses are often replaced by an "infinitival" construction with morpheme kō preceding the verb (in base form), with or without a subject NP preceding kō. Similarly, imperfective positive clauses may be replaced by /kō à/ with Ipfv particle à, pronounced [kā̀] or [kāà] and transcribed k-ā̀.

Deontics (imperatives and hortatives) have dedicated positive and negative constructions including special inflectional particles. The verb generally takes the base stem, but the Ipfv stem is an option in positive hortatives (§10.4.2.1).

2.6 Focalization

A non-verb constituent (NP or adjunct) is focalized by adding a focus particle such as tóʔó in nó tóʔó 'I/me [focus]'. We underline the focalized constituent in free translations and add "[focus]" for clarity. The focalized constituent usually remains *in situ* but can be fronted or "resumed" by a preclausal demonstrative as in (12). The position of the focalized constituent is moot in the case of subjects, which are already clause-initial.

(12)	[bè	tóʔó]	ŋ́	nà	wō	[bè	dərìⁿʔíⁿ]
	[Dem.Def	Foc]	1Sg	Fut	sing.Base	[Dem.Def	song]

'that song [focus] is what I will sing' (Bi, 2017-07 @ 01:02)

2.7 Relative clauses

A relative clause contains a head NP which ends in a relative marker such as singular jə̀rɔ́ⁿ. As with focalized constituents, the head NP may remain *in situ* (13) or it may be fronted.

(13)	ɔ̀ⁿ=	Ø	wō	[dərìⁿʔíⁿ	jə̀rɔ́ⁿ]
	3AnSg	Ipfv	sing.Ipfv	[song	Rel]

'the song that she would sing' (Bi, 2017-07 @ 01:11)

2.8 Multiverb constructions

Tiefo-D has a range of multiverb constructions. Here we merely highlight one distinctive constructional pattern. It begins with an intransitive 'come' or 'go' clause, followed immediately by an open-ended infinitival VP (implying same subject), resulting in e.g. 'X came/went [(and) ate a meal]'. The usual Tiefo-D phrasing involves a copy of 'come' or 'go' as initial in a verb-verb compound in the infinitival VP, hence 'X came [(and) came-ate a meal]]' or 'X went [(and) went-ate a meal]'. The second motion verb is usually distinct in phonological form from regular 'come' and 'go' verbs, due to phonological contraction or even full suppletion. In addition, 'come' often merely frames the following VP as interesting or focal in some way, without implying actual centripetal motion.

The doubling of 'come' and 'go' is probably the most distinctive typological feature of Tiefo-D discourse. See §15.2.3 for details, including dialectal variation in the forms of the second 'come' or 'go' verb.

3 Phonology

We use lower-case v rather than capital V in formulae like CvCv since this makes it easier to add tone diacritics (Cv́, Cv̀, etc.).

3.1 Internal phonological structure of stems and words

3.1.1 Syllables

Stems and words may have one, two, or more syllables. “v” in the following formulae represents any short vowel other than schwa. Cv with short vowel is prototypical. The onset may be extended with l as Clv (§3.1.1.4). CvC with a coda consonant is rare (§3.1.1.8). Long-voweled Cvv is also rare (§3.1.1.3), except as the result of vv-Contraction (§3.4.6). The initial C position in “Cv,” “Cvv” etc. may be vacant stem-initially in some dialects, and in grammatical particles in all dialects, i.e. there are some vowel-initial syllables. Syllabic nasals are very rare except in pronominal proclitics (§3.1.1.9).

With v = any short vowel, sequences transcribed as glottalic Cvʔv (§3.1.1.6), as Cərv with schwa and tap r, and as diphthongal Civ and Cuv are analytically problematic: one syllable, two syllables, or one-and-a-half syllables?

3.1.1.1 Short-voweled Cv syllables

Most syllables (initial, medial, and final) have short vowels {i e ɛ a ɔ o u} as nuclei, with a consonantal onset but with no additional coda. Examples of monomoraic stems and grammatical morphemes of Cv shape with unnasalized short vowel are in (14).

(14)	form	gloss
	ʃí	‘stalk (stem)’
	ɲī	‘see’ (Base)
	sé	‘rag on head’
	kpē	‘weep’ (Pfv)
	sɛ̀	‘gravelly soil’
	ɲɛ̀	‘see’ (Ipfv)
	nɔ́	‘cows’
	bà	‘come’ (Pfv, Base)
	pɔ̄	‘ladle’
	sɔ́	‘jab’ (Base)
	sǒ	‘pig’
	tó	‘assemble’ (Base, Ipfv)

bú	‘money’
dú	‘sow (v), plant (v)’

Examples of Cvⁿ with nasalized vowels are in (15). There is no distinction between eⁿ and ɛⁿ, or between oⁿ and ɔⁿ, except to a limited extent in Bi dialect. We write the neutralized nasal vowels as ɛⁿ and ɔⁿ (§3.3.4).

(15)	form	gloss
	díⁿ	‘peer (n)’
	klìⁿ-	‘lend, borrow’ (compound initial)
	kɛ̌ⁿ	‘pal’
	kpɛ́ⁿ	‘sprout’ (Base, Ipfv)
	sáⁿ	‘three’
	dǎⁿ	‘boundary’
	kàⁿ	‘five’
	lāⁿ	‘advise’ (Base, Ipfv)
	jɔ̄ⁿ	‘two’
	cɔ̄ⁿ	‘spend night’ (Base, Ipfv)
	sǔⁿ	‘medication’
	júⁿ	‘dance’ (Ipfv)

The vast majority of nouns, and all other lexical stems (adjectives, numerals, adverbs, verbs) begin with consonants. Many multisyllabic stems consist entirely of Cv syllables (oral or nasalized). Uncompounded quadrisyllabic examples are rare but attested: kórókótó ‘boat’ and kánásɔ̀ɣɔ̀ ‘tree sp. (*Flueggea*)’.

3.1.1.2 Vowel-initial syllables

Grammatical morphemes lacking an initial consonant are in (16).

(16)	à	imperfective (positive)
	à	3Inan proclitic pronoun
	á	perfective negative
	ɔ̀ⁿ	third person animate singular proclitic pronoun
	ɔ̀ⁿ	dative preposition (with ditransitive verbs)
	ē	article before nouns
	ò	plural marker before numerals ‘2’ to ‘9’
	é ~ ó	1Pl proclitic pronoun

In addition, some Cv morphemes optionally elide the consonant in certain phrasal combinations, especially in allegro speech (17). Both the vocalic morphemes in (16) above, and the elided forms of morphemes in (17) below, can contract with the final vowel of the preceding word. Of the morphemic homophonies secondarily created by elision, that between à ‘come’ as compound initial (17) and Ipfv à (16) is most troublesome in parsing textual data.

This is because both morphemes may follow infinitival kō in multiverb constructions. We transcribe kā = à- when the second element is ‘come’, and k-ā when the second element is Ipfv.

(17)	full form	elided form	gloss/category
	bà	à	‘come’ (as compound initial in infinitives)
	yíʔí	í ~ á ~ ó	‘go’ (as compound initial in infinitives)
	kà	à	‘with; and’
	yá	á	‘this, that’ (inanimate)
	kō ~ gō ~ wō	ō	‘be’ or infinitival morpheme

A small number of noun stems begin dialectally with vowels, most systematically in Ji and often in Bi. Other dialects (Fl Ma) usually have an initial semivowel {y w} in the relevant words.

(18)	form	gloss	dialect
a.	íɲàʔà	‘whatchamacallit’	Ji
b.	ɛ̀ʔɛ́	‘thing’	Bi Ji
	yɛ̀ʔɛ́	"	Fl Ma
c.	ānàʔà	‘face’	Ji
	ānà^{n}ʔà^{n}	"	Bi
	wānàʔà	"	Fl
	n̄nàʔà	"	Ma
d.	ā-wā^{n}ʔā^{n}	‘baby’s hat’	Ji
	á-wà^{n}ʔá^{n}	"	Bi
e.	ɔ̀ʔɔ́	‘arm’	Ji
	wɔ̀ʔɔ́	"	Bi Fl Ma
f.	ǔ^{n}	‘rope’	Bi Ji
	wǔ^{n}	"	Fl Ma
g.	ú^{n}	‘village’	Bi Ji
	wú^{n}	"	Fl Ma
h.	ú^{n}ʔú	‘head’	Bi Ji
	wū^{n}ʔú^{n}	"	Fl
	wù^{n}ʔú^{n}	"	Ma

When the article ē precedes a vowel-initial noun in Bi or Ji dialect, there is no clearly articulated epenthetic consonant (glottal stop or semivowel).

Among verb stems, invariant yé 'walk' was heard with initial y in most dialects (not always clearly articulated) but as é ~ wé in Biton. A verb meaning '(place) be hot' referring to ambient temperature is óʔó (Ji), and with initial semivowel wòʔó (Ma) and wōʔó (Fl).

The noun ɛ̀ʔɛ́ ~ yɛ̀ʔɛ́ 'thing' (18b) has initial y in Fl and Ma dialects, but not in Bi and Ji dialects. As a participial suffix or compound final it is usually -ɛ̀ʔɛ̀ in all dialects (§4.5.4, §5.1.1.1, §5.1.10.2).

3.1.1.3 Apparent long-voweled Cvv syllables

When a Cv syllable has a contour tone (Cv̂, Cv̌), it is phonetically prolonged and sounds like a long vowel. Contour-toned syllables are uncommon in Tiefo-D. Excluding contractions across morpheme boundaries, the only grammatical morphemes with contour tones are those in (19a-b). Prohibitive mâ has a variant má-nà which is probably the source of the contour tone. The unusual noun in (19c) seems to include some sort of negative marker. It can also be an adjective 'unfortunate, calamitous, evil.' As a noun it is obscurely related to an equally problematic synonym kè-má-kò and variants, see (461).

(19)	a.	mâ	prohibitive	§10.4.1.2	cf. IpfvNeg má
	b.	nǎ	past habitual		
	c.	(ē) mâ-kúʔó	'misfortune'	Bi Ji	cf. má kò =ʔ 'is not good'
		(ē) mâ-kūʔó	"	Fl	

Another source of contour tones is the progressive construction, which involves addition of nī (originally a locative postposition). The preceding verb must end in H-tone. If it is already H-toned in the base form, it is not lengthened. If it is monosyllabic and has a nonhigh tone in the base form, it appears with LH tone in the progressive (§10.2.4.2). These LH-toned syllables are distinctly prolonged: [bǎ:], [gbɛ̌:].

(20)	a.	ɔ̀^{n}	kō	[bǎ	nī]		
		3AnSg	be	[come.**Prog**	Prog]		
		'He/She/It (animate) is coming.' (< bà)					
	b.	ɔ̀^{n}	kṑ=	[[[Ø	bú]	gbɛ̌]	nī]
		3AnSg	be	[[[Art	money]	get.**Prog**]	Prog]
		'He/She is getting money.'					

Two special cases are in (21). Seemingly long-voweled wúú 'death' (21a) is best analysed as diphthongal, parallel to Pfv wūō 'died' but with final u instead of o. Both wūō and wúú are pronounced by prolonging the initial semivowel, i.e. they are close to [w:ō] and [w:ú]. In (21b), one dialect has lost a medial *l, resulting in a contour-toned final syllable whose duration is similar to that of the original bisyllabic sequence.

(21)		form	gloss	dialect	comment
	a.	(è) wúú	‘death’	various	cf. wūō/wú/wí ‘die’
		(è) wú-ní	"	various	verbal noun
	b.	tərě [tərèɛ́]	‘slide (v)’	Ji	< Jula
		tərɛ̀lɛ́	"	Bi Fl	

Another conspicuous contour tone is in the compound initial ǒ- pronounced dialectally [òó], which occurs in two compounds denoting implements with curved or undulating blades (i.e., snake-like). It may be a reflex of *wùʔó ‘snake’. Other dialects have wō- or wó- in ‘sickle’.

(22) a. (ē) ǒ-ɲàʔà Ji Ma ‘sickle’
b. (ē) ǒ-gà^{n}ʔà^{n} Ji ‘walking stick with undulating blade’

The fact that these nouns are vowel-initial (dialectally) adds to the potential for prolonging the initial vowel, as the awkward vowel combination /eo/ is often contracted to o. The few other nouns that begin with vowels also often absorb the article ē, creating what sounds like a long vowel. This is the case in (23), where /ēà/ can contract to [āà].

(23) (ē) à-bì^{n}ʔɛ́^{n} Bi Ji ‘leaf’

To the handful of examples like ‘leaf’ can be added the large number of combinations of adjectives with inanimate classifier á (§4.5.3.1-2), as in (è) á sɔ́^{n}-sɔ̀^{n}ʔɔ́ ‘long one’ (Ji) and dialectal variants.

The bottom line is that there are no clear examples of lexical long vowels in native Tiefo-D vocabulary. We will transcribe contour tones as Cv̂ and Cv̌ and attribute the lengthening to a low-level phonetic process motivated by the need to give both tone segments clear expression.

3.1.1.4 Clv syllables

Cv may be expanded by adding the lateral l after a noncoronal C_1, which may be velar {k g}, labial {p b m f}, or labial velar {kp gb}. Examples are in (24). There are no attestations of coronal consonant preceding l.

(24) (Jinejan)

a. velar plus l

wāklàʔà	‘roselle’ (cultivated crop)
klè (invariant)	‘do; be done, become’
glō/glú/glú	‘exit (v)’

b. labial plus l

plɛ̀ʔɛ̀	‘soda ash’
plē/pló/pló	‘pound (in mortar)’ or ‘dig’
blíʔí	‘night’
blè (invariant)	‘skin (an animal)’
mlàⁿʔāⁿ	‘fight (n), combat’
mlɔ̄ⁿ/mɔ́/mlúⁿ	‘(wound) fester, become infected’

c. labial velar plus l

kplìⁿ/klùⁿ/klùⁿ	‘weed (v)’
gblɛ̀ⁿʔɛ̀ⁿ	‘sorghum’
gblɛ̀/gbɛ̄/gblī	‘take, pick up’

Cl onsets cannot be combined with following diphthongs : #Cluo/ɔ/a, #Clie/ɛ/a, etc. This prohibition extends to glottalic #Cluʔo/ɔ/a, #Cliʔe/ɛ/a. This restriction indicates that l in Cl onsets fills the same slot filled by u or i in diphthongal Cuv, Civ.

Some verbs like ‘fester’ (24b) and ‘pick up’ (24c) have alternations of initial Clv versus Cv depending on the morphological category (Pfv, base, Ipfv). In other words, these verbs have an intrusive lateral in certain forms. There are other verbs that have a structurally similar intrusive r. For the morphology, see §10.1.2.10 and §10.1.5.4-5.

Our Bi speaker often pronounces Clv as [Cəɺv] with an alveolar lateral tap, IPA [ɺ]. The schwa is due to the aerodynamic requirements of taps. For example, blè/bē/blī (and further variants) ‘become tired’ (and other senses) is pronounced [bəɺè/bē/bəɺī] by this speaker. ɺ is not easily distinguishable from rhotic tap [ɾ], at least to our ears, but our Bi speaker rejects our (mis-)pronunciations with the rhotic.

Some or all cases of Clv may have syncopated from *Cvlv, via *Cəlv with the same reduction to schwa as in Cərv. However, there is no concrete synchronic evidence for an underlying syncopated vowel in any specific Tiefo-D stem.

3.1.1.5 Diphthongal syllables Civ and Cuv

Diphthongal syllables are of the form Civ or Cuv with an initial consonant. Diphthongs are transcribed with initial i or u, but could alternatively be transcribed with initial y or w, or as desyllabified i̯ or u̯. Phonetically, the glide is part of the syllable onset. This is particularly noticeable in cases like yíé and wūō whose pronunciation is close to [j:é] and [w:ō] with lengthened semivowel.

The attested diphthongs are {ie iɛ ia iɔ io} and {ui ue uɛ ua uɔ uo}. The nucleus is most often a mid-height vowel {e ɛ ɔ o}. When {ui ue uɛ} follow {y j c ɲ}, the back rounded diphthongal onset u is sandwiched between a palatal consonant and a palatal (front unrounded) vowel, and the u is fronted to ɥ (§3.2.1.8). #iu is unattested as a diphthong. Examples of diphthongal Civ and Cuv monosyllabics are in (25).

(25)		form	gloss	dialect	comment
a.	ie	bīē	‘whistle (Pfv)’	Fl Ji	
	iɛ	fìɛ̀^{n}	‘press’ (Pfv)	Bi Ji Ma	Fl fɛ̀^{n}ʔɛ̀^{n}
	ia	mìá	‘tree sp. (*Holarrhena*)’	Bi Fl	
	iɔ	pàtìɔ̀	‘anus’	Fl Ji	
	io	ʃíó	‘fortune-teller’	Fl Ji	
	iu	—	—		
b.	ui	jɥ́í	‘quarrel’ (Base, Ipfv)	Bi Ji	Fl gbí
	ue	jɥ̀è	‘belch’ (invariant)	Fl Ma	Ji gbè
	uɛ	sūɛ̄^{n}	‘chew lightly’ (Pfv)	Bi Ma	Fl ʃɥ̄ɛ̄^{n}, Ji fīɛ̄^{n}
	ua	ɲúá(^{n})	‘scoop’ (Base, Ipfv)	(all)	
	uɔ	ɲùɔ̀(^{n})	‘drink’ (Pfv)	(all)	
	uo	kùò	‘hit’ (Pfv)	(all)	

These diphthongs occur in simple stems, but their numbers are increased by plurals of nouns (with final o or ɔ) and by Pfv forms of some verbs (with final mid-height vowel).

Syllables like wɛ and yo with no preceding consonant are not considered to be diphthongs.

In some verb stems, an expected sequence of velar stop {k g} plus diphthongal {ui ue uɛ} is compressed into a labial velar plus the nuclear vowel, e.g. /kui/ → /kwi/ → kpi (§3.4.2.6-7).

There are no stems of the shape #Cliv or #Cluv, i.e. with both a lateral and a diphthong following an initial consonant. This suggests that l and the diphthongal onsets occupy the same position in syllables. There are likewise no #Cəriv or #Cəruv stems. For glottalic Ciʔv and Cuʔv stems, see §3.1.1.6 just below.

Some verbs have bases like Cuɔ but Pfv’s like Ciɛ, with the entire diphthong fronted. This is the case with like ʃìʔè/sūʔɔ̄/sūʔū ‘give’ and variants in all dialects. For three other verbs including ‘chew on (lightly)’, only Ji dialect fronts the entire diphthong in the Pfv (26).

(26) ‘chew on (lightly)’

fīɛ̄^{n}	súá^{n}	súá^{n}	Ji
sūɛ̄^{n}	súá^{n}	súá^{n}	Bi Ma
ʃɥɛ̄^{n}	ʃúá^{n}	ʃúá^{n}	Fl

wúú ‘death’ has the appearance of a long-voweled Cvv stem (§3.1.1.3), but may really be a diphthongal Cuv stem with “v” taking the form u.

For metathesis of the type /wiɛ/ to /ywɛ/, realized as yɥɛ, see §3.4.5.1.

3.1.1.6 Glottalic Cvʔv (one or two syllables?)

Tiefo-D has a very large number of Cvʔv sequences, both stem-initially and -finally. Winkelmann points out that in some stems the Tiefo-D glottal corresponds to g in Tiefo-N especially as spoken in Numudara (1998: 85).). There are so many cases of Cvʔv in Tiefo-D that the glottal likely originated from more than one supraglottal consonant. In particular, nasalized Cv^{n}ʔv^n stems may reflect *Cvŋv with a velar (or other) nasal.

The analytical dilemma is this. On the one hand, especially in careful speech Cvʔv is pronounced with two vocalic pulses separated by a glottal, and total duration considerably exceeds that of Cv. These details suggest bisyllabicity. However, constraints on the sequence of vocalic segments, on tones, and on nasality are identical to constraints on the single vowel of Cv and diphthongal Civ/Cuv, pointing to (structural) monosyllabicity. This paradox was noted by Winkelmann (1998: 85). One might argue that Cvʔv is sesquisyllabic (one-and-one-half syllables).

In substantially all cases, the vocalic segments flanking the glottalic pulse either have identical quality features, or are sequences of a high segment {i u} plus a nonhigh segment (usually mid-height, less often a). This is the same pattern seen with nonglottalic syllables: Cv, Civ, Cuv. Moreover, either both vocalic segments are phonetically nasalized, or neither is (with some exceptions for Bi dialect). This is true even for subphonemic (allophonic) nasalization of the vowel(s) in Nvʔv stems with a nasal consonant N. An example is ɲàʔá 'ax', heard as [ɲà̰ʔá̰].

The identical-vowel type is illustrated in (27). As usual, we write ɛ^n and ɔ^n for the mid-height nasalized vowels, which merge [±ATR] values.

(27)	stem	gloss	dialects
a. Ciʔi			
	ʃì^{n}ʔí^n	'tree (any)'	(various)
	dī^{n}ʔī^n	'stir, mix' (Pfv)	Ji (variant)
b. Ceʔe			
	tè-tèʔè	'waterjar'	Bi Ji
	tì-tèʔè	"	Fl Ma
c. Cɛʔɛ			
	tàpɛ̀ʔɛ̀	'winnowing van'	Bi Fl Ji
	cɛ̄^{n}ʔɛ̄^{n}	'fight' (Pfv)	Bi Fl Ji
d. Caʔa			
	làʔà	'hunger'	(all)
	cá^{n}ʔá^n	'fight' (Base, Ipfv)	Bi Ji
e. Cɔʔɔ			
	(w)ɔ̀ʔɔ́	'arm; wing'	(all)
	cɔ̀^{n}ʔɔ̀^{n}	'scold' (Base, Ipfv)	(various)
f. Coʔo			
	klòʔó	'road'	(all)

g. Cuʔu

lá-fùʔù	‘disease’	Fl Ji Ma
dú^{n}ʔú^n	‘stir, mix’ (Base/Ipfv)	Bi Ji

Examples of high vowel plus nonhigh vowel in a Cvʔv sequence are in (28). These can be analyzed as glottalic diphthongs. We have no examples of Cuʔi or Ciʔu with distinct high vowels separated by the glottal stop. The pronunciations in (28) are those of Bi and Ji dialects (see below for Fl and Ma).

(28) a. Ciʔe

-ʃìʔé	‘manner’	(various, possessum or compound final)

b. Ciʔɛ

tìʔɛ́	‘hole, pit’	Bi Ji

c. Ciʔa

míʔá	reflexive	Bi Ji

d. Ciʔɔ

dī^{n}ʔɔ̄^{n}	‘firewood’	Bi

e. Ciʔo

tīʔō	‘honey’	(various)

f. Cuʔo

gùʔó	‘breath’	Bi Ji

g. Cuʔɔ

ʃí-pùʔɔ́	‘millet stalk’	Ji

h. Cuʔa

jùʔá	‘intestine’	Bi

i. Cuʔɛ including Cʯʔɛ

jʯ̀ʔɛ́	‘God’	Bi Ji

j. Cuʔe including Cʯʔe

cʯ̀ʔé	‘palm leaflets’	Bi Ji

Our Fl and Ma speakers often slightly delay the glottal pulse for these diphthongal Cvʔv stems. Examples of relevant noun stems are in (29), in some cases showing rhotic plurals (§4.1.2.1) as well as singulars.

(29)	singular	plural	dialect	gloss
a.	tìèʔɛ́	tə̀-rɛ̀-ʔɛ́	Fl Ma	‘hole’
b.	cìɛ̀ʔɛ́	—	Ma	‘hip, waist’
	cīɛ̄ʔɛ́	cə̄-rɛ̄-ʔɛ́	Fl	
c.	fù-fùɔ̀ʔɔ̀	—	Ma	‘froth’
	"	fù-fə̏-rɔ̀-ʔɔ̀	Fl	
d.	gùɔ̀ʔɔ́	gù-rɔ̀-ʔɔ́	Ma	‘biting fly’
	"	gə̀-rɔ̄-ʔɔ́	Fl	

The rhotic plurals are of the same infix-like type observed in these two dialects with monophthongal CvʔV stems, e.g. Fl dialect kɛ̀ʔɛ́ ‘tree sp. (*Gardenia*)’, plural kə̀-rɛ̀-ʔɛ́. We take this to mean that the singulars in the left column of (29) show low-level adjustment of the location of the main glottal pulse, and that this is disregarded in rhotic plural formation.

There is some intraindividual variation in articulation of Cvʔv sequences. They are sometimes heard as [Cy̰y̰] with a long glottalized (more or less creaky) vowel. Since true Cvv with level-toned long vowel is rare, duration in [Cy̰y̰] may be a cue of glottalization. Our Ji speaker deglottalizes more than our other speakers, especially at the end of longer words, e.g. CvCvʔv heard at least optionally as CvCv(v). In addition, Cvʔv nouns are sometimes shortened to Cv- as compound initials, as in dà^{n}-mìɔ̀ ‘ember, hot coal’ from dà^{n}ʔá^{n} ‘fire’, and as in pō-kà varying with pōʔō-kà ‘wild animal’ from pòʔó ‘the bush’.

3.1.1.7 Cərv (one syllable or two?)

Another sequence that raises questions about syllabicity is Cərv, where as previously “v” denotes any short vowel. The tap r is preceded by a brief schwa. The only other cases of schwa in Tiefo-D are in Cəɣv stems borrowed from Jula.

When -rv is a suffix (or infix), we can determine the quality of the underlying vowel segment that is reduced to schwa. Some verbs have a rhotic extension in the Pfv stem, as with də̀rè/dē/dē ‘wade across’. One possible underlying form for the Pfv is /dè-rè/, which then reduces the pre-rhotic vowel to schwa. But /drè/ with intrusive rhotic is another possible underlying form.

There are two types of noun that have rhotic plurals. First, several nonglottalic noun stems have them, as with sò ‘horse’, plural sə̀-rò. Here schwa arguably derives from the first o in /sò-rò/. Second, glottalic Cvʔv singular nouns are pluralized as Cə-rv or dialectally as Cə-rv-ʔv. In effect, either the glottal is replaced by r, or a rhotic segment is infixed before the glottal. In either case, the vocalic segment preceding r is overt in the singular. In sàkpèʔè ‘donkey’, plural sàkpə̀-rè or dialectally sàkpə̀-rè-ʔè, schwa derives from e, identical to the stem-final vocalic segment. In ʃí-cūōʔó (Fl) ‘stomach’, structurally equivalent to ʃí-cúʔó, the plural is ʃí-cə̄-rō-ʔó, and this time schwa derives from a high vocalic segment (diphthongal onset).

When Cərv is internal to a stem, i.e. in bisyllabic Cərv stems and longer stems like CvCərv, there is no clear evidence that schwa derives from any specific short vowel, unless we assume arbitrarily that schwa is reduced from an underlying vowel segment identical to the stem-final vowel segment.

Whether or not schwa is transparently lenited from a specific short vowel, the Cərv sequence has the same ambiguous syllabic status as Cvʔv. It sounds bisyllabic, even though there is an asymmetry between the reduced first "syllable" and the fuller second one. However, like Cvʔv, Cərv has the same tonal possibilities as single syllables (Cv, diphthongal Civ/Cuv). And, again like Cvʔv, subphonemic nasality spreads from an initial nasal consonant across the rhotic to the end, as in singular ná-náʔá [ná̰ná̰ʔá̰] 'tiny thing' and its plural ná-nə́-rá [ná̰nərá̰]. The schwa itself is not noticeably nasal due to its brevity. The dialectal plural variant ná-nə́-rá-ʔá [ná̰nərá̰ʔá̰] is also nasal to the end. This suggests that Cvrv and even CvrvʔV function as extended versions of single syllables, rather than as syllable sequences.

Cvrv and Cvrvʔv likewise have the same tonal possibilities as single syllables, especially diphthongal Civ and Cuv. The tone pattern can be level H, M, or L, or a simple contour like LH. A tonal minimal trio is in (x30x1).

(30)	a.	tə̀rɔ́^{n}	'blood'	
	b.	tə́rɔ́^{n}	'iron, metal'	
	c.	tə̀rɔ̀^{n}	'profit'	(< Jula)

We know of one noun that has a dialectal variant ərv without an initial consonant (31). It is a Jula borrowing.

(31)	ə̀rá	'currency unit'	Fl(var) Ji
	wə̀rá	"	Bi Fl(var)

The possibility that Cərv is simply a phonetic realization of /Crv/ can be considered. The idea would be that the schwa is epenthetic, providing aerodynamic support for the tap. In this analysis, tə̀rɔ́^{n} 'blood' is structurally /trɔ̌^{n}/, and when schwa is introduced it draws the initial L-tone segment onto itself.

One minor but suggestive piece of evidence for this is the unusual pairing of singular pàŋɛ̄ʔɛ́ 'hairy-tailed mouse' with its plural pà^{n}gə̄-rɛ̄-ʔɛ́ in Fl dialect. The idea here is that /ŋr/ require an intrusive g.

Clv syllables, discussed in §3.1.1.4 above, may have originated historically from *Cvlv via *Cəlv, but there is no clear synchronic evidence of this.

3.1.1.8 CvC syllables with stem-final consonant

Each of three dialectally variable stems has a variant with a final sonorant (single or geminated) and one or more variants with an additional final short high vowel. These are presumably cases of apocope diachronically (the short vowel was lost). In the case of 'ten', the apocopated variant támm is in general use while an older and fuller form subsists in Bi. támm ends in an otherwise unattested final geminated nasal mm, due to the coalescence of

/mw/ following apocope. Likewise, ‘taste (n)’ is usually dá(^{n})-ní [dáni] but has a variant dá-nn.

(32) a. ‘gold’

sánú	Ji
sání	Fl
sán	Bi Ma

b. ‘ten’

támwú	Bi
támm	Fl Ji Ma

c. ‘taste (n)’, verbal noun of adjectival verb dá^{n} ‘be pleasant, delicious’

dá(^{n})-ní	Bi Fl Ji
dá-nn	Ma

3.1.1.9 Syllabic nasals

In m̯̄-pù^{n}ʔɔ́^{n} (Fl Ji) ‘grass, herb’, the initial is a syllabic m. This is the only such example in our lexicon. The lips are closed throughout the articulation of this initial, so we transcribe m̯̄ rather than ū^{n} in spite of their acoustic similarity. Our Fl assistant theorizes that the m̯̄ is onomatopoeic for grunting (as when laboriously weeding a field).

Pronouns have Cv or longer shapes in most contexts. However, 1Sg nó has a reduced proclitic variant ŋ́ (§4.3.1.6.1). 2Sg mó likewise has a proclitic variant ŋ̀ (§4.3.1.6.2). 1Sg reflexive possessor (§18.1.1) is ŋ̀ proclitic to the possessed noun. These nasal proclitics can be at least quasi-syllabic when they immediately follow a pause. However, they do not have the duration of normal syllables even when postpausal. They usually occur noninitially in clauses, where they are syllabified with the preceding Cv. The nasal proclitics are also subject to place assimilation to the following consonant.

3.1.1.10 Pre-resumption nasal after mid-sentence interruption

In the recordings, what would ideally surface as a smoothly pronounced prosodic group (set off from the next one by a prosodic boundary or pause) is interrupted by a hesitation, followed by a resumption of the remainder of the group.

In this case, an L-toned nasal often appears as a kind of warm-up to the resumption. This happens whether or not there is a nasalized syllable before or after the interruption. The pre-resumption nasal is glossed only as parenthesized “(nasal)” in interlinears. One of many examples is (33).

(33)	[[bì	tóʔ=]	à—	ŋ̀	ʃì-à-bɔ́^{n}	mó^{n}
	[[Dem.Def	Foc]	Ipfv—	(nasal)	rescue.Ipfv	2Sg

‘That [focus] saves you-Sg.’ (Bi, 2017-06 @ 01:45)

Some speakers have a nasalized [ḭ] as a hesitation filler.

3.2 Consonants

3.2.1 Consonant phonemes

In the array of consonant phonemes in (34), parentheses enclose marginal phonemes.

(34) Consonants

	1	2	3	4	5	6	7	8	9	10
labial	p	b	m	f	(v)		w	(w^n)		
alveolar	t	d	n	s	(z)	l	r			
alveopalatal	c	j	ɲ	(ʃ)	(ʒ)		y			
velar	k	g	(ŋ)	(ɣ)						
labial velar	kp	gb	(ŋm)							
laryngeal									ʔ	(h)

key to columns: 1. voiceless stops; 2. voiced stops; 3.nasals, 4. voiceless fricatives (including sibilants); 5. voiced fricatives (including sibilants); 6. laterals; 7-8. oral then nasalized sonorants; 9-10. laryngeals

Our j is IPA [ɟ], our y is IPA [j], our r is tap [ɾ]. kp, gb, and ŋm are labial velars, i.e. unit phonemes, though we omit the ligatures. Comments on marginal segments and oppositions are in the following subsections.

3.2.1.1 ɣ

The voiced velar fricative occurs in a few loanwords from Jula. In Jula it is an allophone of g when flanked by two a vowels or by two ɔ vowels (aɣa, ɔɣɔ). Examples of these loanwords are yágbəɣá 'jaw' and ɲɔ̀ɣɔ̀ 'peer, equal (of sth)'.

The first vowel in Cvɣv sequences is reduced to schwa in some of these loanwords, resulting in Cəɣv (specifically, Cəɣa and Cəɣɔ). The reduced syllable can bear its own tone, as in fə̀ɣá^n 'aluminum, cheap metal'. Reduction to schwa did not occur in ɲɔ̀ɣɔ̀ 'the equal (of sth)' in a textual occurrence.

3.2.1.2 s and ʃ

s and ʃ pattern in part as allophones of a single phoneme, but there is some unpredictability, suggesting that they are splitting into distinct phonemes. Especially before u there are intermediate articulations.

ʃ occurs most often before i, including diphthongs like iɛ and io. In Fl dialect, ʃi greatly outnumbers si, the exceptions being probably interdialectal or Jula borrowings. For other dialects, ʃi is common but there are a number of cases of stable si. Some of the si cases may reflect recent vocalic mutations that preserve the original sibilant, and/or paradigmatic leveling (faithfulness) pressures. This may be the case in Ji Ipfv verbs with i-vowels that correspond to nonhigh vowels in other dialects, see ‘rub’ and ‘shape (v)’ in (35b). Reduplicative harmony may be involved in ‘pile of earth’ (35b), which has si even in Fl, the idea being that the schwa forces s and then the reduplicative syllable copies this s. We will see below that ʃ does not occur before schwa, even when the latter is reduced from i.

(35)	form	gloss	dialect	comment
a. ʃi				
	ʃì	‘life, age’	(various)	
	ʃìⁿʔíⁿ	‘tree’	(all)	
	ʃìʔé	‘manner’	(all)	
	ʃīɛ̄	‘behind’	(all)	postposition
	ʃìè/ʃī/ʃī	‘give birth’	(all)	
	ʃīɛ̄ⁿ/ʃíⁿ/ʃíⁿ	‘weave’	(all)	
b. si				
	Jinejan Ipfv’s with i *vowel*			
	sɛ̄ʔɛ̄/sáʔá/síʔí	‘rub; replaster’	Bi Ji	Fl Ipfv sāʔá ~ sīʔí
	sə̀rɛ̀/sɛ̄/sī	‘shape (v)’	Ji	elsewhere Ipfv sē
	Jinejan i *corresponding to* u *elsewhere*			
	sìŋmɛ̀ʔɛ̀	‘stone’	Ji	Fl Ma sùŋmɛ̀ʔɛ̀
	reduplication and schwa			
	sì-sə̀ràʔà	‘pile of earth’	(all)	

A few items vary dialectally between si and ʃi with Fl reliably in the ʃi camp (36). Intermediate articulations also occur.

(36)	form	gloss	dialect	comment
a.	sícùʔò	‘middle’	Ji	
	sícùòʔò	"	Ma	
	ʃícùòʔò	"	Fl	
	cícùʔò	"	Bi	
b.	bí-sīɔ̄ⁿ	‘child’	Ji Ma	
	bí-ʃīɔ̄ⁿ	"	Bi Fl	

There are some s ~ ʃ alternations within nominal paradigms (37). The nouns have ʃ before i and s before e or schwa. The schwa in ‘trees’ is a reduced vocalic segment triggered by the tap r. See also the nouns related to ‘red’, discussed below.

(37)	singular	‘your’	plural	gloss	dialect
a.	ʃì^{n}ʔí^{n}	—	sə̀-rí^{n}	‘tree’	(all)
b.	sē	ʃī-à	ʃì-ó	‘father’	(all)

Diphthongal syllables ʃie etc. are attested and have only a faint i, so in effect the palatalization of the sibilant is the strongest indicator of the presence of the i.

There are some examples of apparent ʃ before ɛ, and dialectally (especially Fl) before u. We have no examples of #ʃe, #ʃo, #ʃɔ, or #ʃa.

The cases of apparent ʃɛ are basically limited to the adjective ‘red’ and its offshoots, where [ʃɛ] is an optional pronunciation of ʃiɛ. (38) shows simple and reduplicative forms of ‘red’ followed by related vocabulary. In the reduplicated forms (38b) both base and reduplicant have the same articulation.

(38) ‘red’ word-family

a. basic modifying forms for ‘red’

postnominal Sg	ʃìɛ̀^{n}	Bi Ji
	ʃìɛ̀^{n}ʔɛ̀^{n}	Fl Ma
postnominal Pl	sə̀-rɛ̀^{n}	(all)
animate Sg	kā ʃìɛ̀^{n}	Ji
	kā sɛ̀^{n}	Bi Fl Ma
animate Pl	kā ʃìò	Bi Ji
	kā sə̀-rɛ̀^{n}	Fl Ma
inanimate Sg	á ʃìɛ́^{n}	Ji
	á ʃīɛ̄^{n}ʔɛ́^{n}	Fl
	á ʃìɛ̀^{n}ʔɛ́^{n}	Fl
	á ʃī^{n}ʔɛ̄^{n}	Bi
inanimate Pl	á sə̀-rɛ́^{n}	Ji Ma
	á sə̄-rɛ́^{n}	Fl
	á sə̄-rɛ̄^{n}	Bi

b. optional reduplicative modifying forms for ‘red’

postnominal Sg	ʃìɛ̀^{n}-ʃìɛ̀^{n}ʔɛ̀^{n}	Fl
postnominal Pl	sɛ̀^{n}-sə̀-rɛ̀^{n}	Fl

One of the terms for ‘chili pepper’ is obscurely related to the ‘red’ word-family (39). The singular is collective in sense. The morphological plural is not in common use, which may explain why ʃ was recorded even before schwa in the plural. A different term is used in Bi dialect.

(39) ‘chili pepper’

singular	ʃí-ʃɛ̀^{n}ʔɛ̀^{n}	Fl Ji Ma
plural	ʃí-ʃə̀-rɛ̀^{n}-ʔɛ̀^{n}	Fl Ma

The term for ‘white (=European) person’ includes a slightly irregular reduplication of ‘red’ (40).

(40)	‘white person’		
	singular	kā ʃɛ̀ⁿ-ʃɛ̀ⁿʔɛ́ⁿ (all)	kā ʃɛ̀ⁿ-ʃɛ̄ⁿʔɛ́ⁿ (Fl)
	plural	kā sɛ̀ⁿ-sə̀-rɛ́ⁿ (Bi Ji Ma)	kā sɛ̀ⁿ-sə́-rɛ́ⁿ(-ní) (Fl)

The other known cases of ʃɛ are in (41). ‘Mid-day’ is related to ‘red’ through its association with the blazing sun. ‘Saliva’ is not semantically connected to ‘red’ but its consonantism may be influenced by the segmentally identical ‘chili pepper’ (39), which differs only tonally.

(41)		
	ʃì-ʃɛ́ⁿʔɛ́ⁿ	‘saliva’
	dè-ʃɛ̀ⁿ-dàʔà (Ji)	‘mid-day’ (with sun beating down)

ʃu occurs in several lexical items in Fl dialect. Other dialects have su (or fu). Most examples of Fl ʃu are in verbs. This includes some verbs with intrusive u in the Pfv stem. Fl ʃu is realized as ʃɥ before a front vowel (42d-e), see §3.2.1.8. Several paradigms show ʃ/s alternations in Ma and less often in Ji (42c-e,f). There are also some verbs that begin with invariant ʃ(u/ɥ) in Fl (42c-f). Forms of ‘give’ all begin with ʃi or ʃu in Fl (42g).

(42)	Pfv	Base	Ipfv	dialect
a. ‘take (sth given)’				
	ʃùò	sō	ʃī	Fl
	sùò	"	"	Bi Ji
b. ‘light (a fire)’				
	ʃūɔ̄	sɔ́	só	Fl
	sūɔ̄	"	"	Ma
	sūā	"	"	Bi
	sūɔ̄	"	sú	Ji
c. ‘catch’				
	ʃūōʔō	ʃūʔú	ʃūʔú	Fl
	fūōʔō	fùʔú	fùʔú	Ma
	sūʔō	súʔú	súʔú	Bi Ji
d. ‘chew (lightly) on’				
	ʃɥ̄ɛ̄ⁿ	ʃúáⁿ	ʃúáⁿ	Fl
	sūɛ̄ⁿ	súáⁿ	súáⁿ	Bi Ma
	fīɛ̄ⁿ	"	"	Ji
e. ‘do cooking’				
	ʃɥ̀èⁿʔèⁿ	ʃūɔ̄ⁿʔɔ̄ⁿ	ʃūɔ̄ⁿʔɔ̄ⁿ	Fl
	sùⁿʔɛ̀ⁿ	sūⁿʔɔ̄ⁿ	sūⁿʔɔ̄ⁿ	Bi

fìⁿʔɛ̀ⁿ	"	"	Ji
fìɛ̀ⁿʔɛ̀ⁿ	sūɔ̄ⁿʔɔ̄ⁿ	sūɔ̄ⁿʔɔ̄ⁿ	Ma

f. ‘do, perform (work)’

ʃùɔ̀ⁿ	sɔ̄ⁿ	ʃīⁿ	Fl
sùɔ̀ⁿ	"	"	Bi Ji

g. ‘give’

ʃìɛ̀ʔɛ̀	ʃūɔ̄ʔɔ̄	ʃūʔū	Fl
fìɛ̀ʔɛ̀	fūɔ̄ʔɔ̄	fūʔū	Ma
ʃìʔɛ̀	sūʔɔ̄	sūʔū	Bi Ji

In nouns, Fl has slightly more cases of su (43a) than ʃu (43b). There is probably some variability in the Fl articulation of these words. As usual, Fl ʃu corresponds to su in the other dialects.

(43) a. Fl nouns with su

sú	‘domestic mouse’	
sǔⁿ	‘medication’	
súáⁿ	‘Guinea worm’	Ji súɔ́ⁿ
sùɔ́ⁿ	‘shea (karité) tree’	
sùɔ̀ⁿʔɔ́ⁿ	‘ashes’	Ma ʃùɔ̀ⁿʔɔ́ⁿ
sùŋmɛ̀ʔɛ̀	‘stone, rock’	
súmá-klàʔà	‘maize’	interdialectal borrowing?
mlúⁿsúⁿ	‘slender mongoose’	
jùⁿsúⁿ	‘cotton; thread’	Ji jùsúⁿ

b. Fl nouns with ʃu (all known examples)

kē-ʃùⁿʔɔ̀ⁿ	‘work (n)’	cf. ʃùɔ̀ⁿ/sɔ̄ⁿ/ʃīⁿ ‘do (work)’
ɲù-ʃūōʔō	‘mediator’	cf. ʃūōʔō/ʃūʔú/ʃūʔú ‘catch’
ʃúáⁿ-	compound initial in:	
ʃúáⁿ-tɔ̀ʔɔ́	‘sesame’	
ʃúáⁿ-jēʔē	‘savanna monitor lizard’	
ʃúáⁿ-kìɛ̀ʔɛ́	‘zebra mouse’ (*Lemniscomys*)	

3.2.1.3 ʒ

We might expect ʒ as an offshoot of z before front vowels, parallel to ʃ. However, z is not a regular consonant in any Tiefo-D variety. Except for the probably borrowed zɔ̀ⁿ-zɔ́ⁿ (Fl dialect) ‘freshwater shrimp’, cf. sɔ̀ⁿ-zɔ́ⁿ in other dialects, there are no known stems beginning with z.

Instead, ʒ has developed in Ma dialect as a reflex of yi in front-vowel diphthongs at the beginning of stems. The known examples have Ma ʒie, often heard as nondiphthongal [ʒe], corresponding to yie in some or all other dialects. The likely phonetic development is *yie → *yi̯e → ʒie. The known examples are in (44).

(44)	a.	**ʒìè**-flō	‘fill’ (Pfv)	Ma (variant)
		yìè-fló	"	(all)
	b.	**ʒìè**-dā	‘jump over’ (Pfv)	Ma
		yìè-dā	"	Bi Fl
		yìè-dà^n	"	Ji
	c.	**ʒīēʔē**	‘go’ (Pfv)	Ma
		yīēʔē	"	Fl
		yīʔē	"	Bi Ji
	d.	**ʒíé**	‘name (n)’	Ma
		yíé	"	Fl Ji
		wé	"	Bi

In the case of ‘jump over’ (44b), the ʒ can spread into base and Ipfv stems although they are nondiphthongal (ʒī-dā, ʒī-à-dā).

3.2.1.4 w and w^n

w is a regular semivowel consonant, as in klɔ́-wì ‘sorceror’, sāwɔ̀ ‘small hatchet’ (Fl, dialectal for sāyɔ̀), and wáʔá ‘dry spell’.

What we write as w^n is a variant of desyllabified dative preposition ɔ̀^{n} or the homophonous third person animate singular proclitic. These forms can be heard as =ẁ^n after {a ɔ o} at the end of the preceding word.

The term for ‘lungfish’ is Bi jáẁ^n, versus Fl Ji jáŋù and the strangely pronounced Ma jâm^w.

3.2.1.5 Labial velars {kp gb ŋm}

Many languages of the area, especially in the far south extending into Côte d’Ivoire, have labial velar phonemes. We write kp, gb, and ŋm without ligatures.

ŋm is attested in a single noun stem (45). Bi dialect has ^{n}gb, and it is unclear which pronunciation is older.

(45) ‘stone, rock’

sùŋmɛ̀ʔɛ̀	Fl Ma
sìŋmɛ̀ʔɛ̀	Ji
sù^{n}gbɛ̀^{n}ʔɛ̀^{n}	Bi

ŋm can potentially arise secondarily in Bi dialect when a word ending in a nasalized vowel is followed by gb.

kp and gb occur in a modest number of stems. Most occurrences are stem-initial. Nouns, adjectives, and numerals with these segments, usually as onsets but sometimes medially, are in (46). Verbs are covered separately below.

(46)	stem	gloss	dialect	comment
a. kp				
initial				
	kpà-[mɛ́-mɛ́]	‘butterfly’	Fl Ji	
	kpá-[kpláʔá]	‘bamboo; raffia palm’	(all)	
	kpàʔà-ní	‘difficulty, lack’	(various)	
	kpăⁿ	‘twenty’	(various)	
	kpàⁿʔáⁿ	‘squash’	(various)	
	[kpɛ̀-kpɛ̀]-sə̀ró	‘tree sp. (*Grewia*)’	Bi Fl	
	kpɛ̀ⁿ	‘tree sp. (*Carapa*)’	Fl Ji	
	kpɛ̀ʔɛ̀-nɔ̀	‘pauper’	Fl Ji	
	kplè	‘wrist/ankle joint’	Bi	
	kplé-sɛ̀ⁿ	‘grass mouse (*Arvicanthis*)’	Fl Ji	
	kpò	‘Senegal parrot’	(various)	
	ɲátɛ́ⁿ-kpóʔó	‘Adam’s apple’	Ji	
	kpó	‘liana sp. (*Landolphia*)’	(various)	
	kpɔ́ʔɔ́	‘fortune-teller’s bell’	(various)	
noninitial				
	sàkpèʔè	‘donkey’	(various)	
	tákpóʔó	‘carp (fish)’	Fl Ji (Bi tákpòʔó)	
	tàkpóʔó	‘tree sp. (*Terminalia*)’	(various)	
b. gb				
initial				
	gbàflàʔà	‘hat’	(various)	
	gbàⁿ	‘ball, globe’	Bi Ji	
	gbáⁿ-gbàⁿʔáⁿ	‘lion’	(all)	
	gbátá	‘shed, stall’	(all)	
	gbàʔá	‘thigh’	(all)	
	gbè-gbè	‘chest (body)’	Bi Fl Ma (Ji gbì-gbì)	
	gbéné	‘cassava’	Fl Ji	
	gbèⁿgé	‘gunpowder’	(various)	
	gbə̀rèká	‘calabash cover’	Fl Ji	
	gbɛ́sɛ́	‘chewstick’	Fl Ji (< Jula)	
	gbìɛ̀-[báⁿ-pɔ̀ⁿ]	‘flying beetle sp.’	Bi	
	gbīⁿʔīⁿ	‘peanuts’	(all)	
	[gbíⁿ-gbíⁿ]-ɛ̀ʔɛ̀	‘heavy’ (participle)	Bi	
	[gblē-gblē]-kàʔà	‘mussel’	Fl Ji	
	gbléʔé	‘bell’	Ji	
	gblɛ̀ⁿʔɛ̀ⁿ	‘sorghum’	(all)	
	gblì ~ gblìⁿ	‘ridge in plowed field’	Fl Ji	

gblàʔà	‘flank, side’	Fl Ji	
gbó	‘aquatic beetle’	Bi Fl	
[gbó-gbó]-nàʔà	‘snail’	(various)	
gbɔ̀^{n}sɔ̀^{n}	‘grasshopper sp. (*Acrida*)’	Bi	
gbɔ̀^{n}ʔɔ́^{n}	‘tree sp. (*Pterocarpus*)’	(various)	
gbú^n-gbərú^n	‘hedgehog’	Ma	(Bi Fl Ji glú^n-glú^n)
tì-tá^n-gbɔ̄	‘grasshopper sp. (*Zonoceros*)’	Ji	
ú^n(ʔú^n)-gblɔ̌	‘head louse’	Bi	
medial			
kəràⁿgbá^n	‘body louse’	Fl Ji	
nígbó	‘short’	(various)	
ɲàgbá^n	‘whip’	(various)	
tùgbɛ̄^{n}ʔɛ̄^{n}	‘giant millipede’	Fl Ma	
tògbòʔò	‘tree sp. (*Cola*)’	Fl Ma	
wógbɔ̀^{n}ʔɔ̀^{n}	‘tree sp. (*Cassia*)’	(various)	
yágbəɣá	‘jaw’	(various)	

c. kp varying dialectally with gb

gbə̀-rà-ʔà	‘fleas’	Ma	
gbə̀-rà	"	Ji	
kpə̀-rà-ʔà	"	Bi Fl	Sg kpàʔà (Bi)

The data in (46a-b) show that kp and gb may precede a wide range of vowels in non-verb stems. Except for gbú^n-gbərú^n ‘hedgehog’ (Ma dialect variant), u does not follow labial velars, and there are only two examples of Ci and Cli combined.

Verbs can begin with kp or gb. In (47), the initial labial velar occurs throughout the stem paradigm.

(47) a. kp throughout

adjectival verb				
kplō	—	—	‘be short’	
regular verbs				
kpɛ̀^{n}ʔɛ̀^{n}	kpà^{n}ʔà^n	kpì^{n}ʔì^n	‘nail (v)’	(various)
kpɛ̀^{n}ʔɛ̀^{n}	kpɛ̄^{n}ʔɛ̄^{n}	kpɛ̄^{n}ʔɛ̄^{n}	‘twist’	(all)
kpɛ̄^{n}	kpɛ́^{n}	kpɛ́^{n}	‘ring (bell)’	(various)
kpɛ̄^{n}	kpɛ́^{n}	kpɛ́^{n}	‘(plant) sprout’	(all)
kpē	kpē	kpē	‘roll on ground’	(various)
kplɛ̀^{n}	kplà^n	kplà^n	‘tell fortunes’	(all)

b. gb throughout

adjectival verb				
—	gbāʔā	gbāʔā	‘be big’	(various)
regular verbs				
gbɛ̀^{n}ʔɛ̀^{n}	gbā^{n}ʔā^n	gbā^{n}ʔā^n	‘block, bar’	(all)
gbɛ̀ʔɛ̀	gbāʔā	gbīʔī	‘pile up’	Bi Fl
gbè	gbè	gbè	‘grind coarsely’	(all)

gbɛ̄	gbɛ́	gbɛ́	‘split (wood)’	Ji(var)
gbɛ̀^{n}	gbā^n	gbā^n	‘sew’	(various)
gbèʔè	gbòʔò	gbòʔò	‘shatter’	(various)

In other verb paradigms, kp alternates with k or c, and gb alternates with g or j. Voiceless kp occurs in the Pfv in (48a), in the Ipfv in (48b).

(48)	Pfv	base	Ipfv	gloss	dialect
a. kp in Pfv only					
	kplè	klō	klō	‘(heart) beat’	(various)
	kplè	klò	klò	‘bump’	(various)
	kplì^n	klù^n	klù^n	‘weed (v)’	Bi Ji
	kpē	kó	kó	‘weep’	(all)
	kpà	kɔ̄	kō ~ kū	‘finish’	(all)
	kpèʔè	kōʔō	kōʔō	‘succeed’	(all)
	kpɛ̄ʔɛ̄	kɔ́ʔɔ́	kɔ́ʔɔ́	‘lower (head)’	Ji
	kpɛ̀ʔɛ̀	kɔ̄ʔɔ̄	kōʔō	‘uproot’	Fl Ma
	kpɛ̄^{n}ʔɛ̄^{n}	kɔ́^{n}ʔɔ́^{n}	kɔ́^{n}ʔɔ́^{n}	‘cut up’	(various)
b. kp in base and/or Ipfv but not in Pfv					
	cɥ̀ɛ̀	kpā	kpɛ̄	‘pick (fruit)’	(various)

With the exception of gbòʔò ‘shatter’ (base and Ipfv), verbs do not show kp or gb before a back rounded vowel. This contrasts with nouns, several of which have kp or gb before such a vowel, especially {o ɔ}. The verbs in (48a) above show kp only when a back rounded vowel {o ɔ u} mutates to a front vowel counterpart {e ɛ i}. Diachronically, the mutation must have left a trace of the back rounded vowel in the form of labialization. For example, ‘weep’ is kó (base, Ipfv), but adds a final e in the Pfv. Expected #kōē is realized as kpē, likely reflecting earlier *kwē.

Voiced gb alternates with g or j in (49). The alternations pattern like those of kp with k and c described above.

(49)	Pfv	base	Ipfv	gloss	dialect
a. gb in Pfv only					
	gbà	gɔ̀	gò ~ gù	‘hit’	(all)
	gbā	gɔ́	gó ~ gú	‘draw (water)’	(all)
	gbɛ̄ʔɛ̄	gɔ́ʔɔ́	góʔó	‘dig with hands’	Bi
	gbè	gùò	gùò	‘belch’	Ji
b. gb in base and/or Ipfv but not in Pfv					
	jɥ̄ɛ̄	gbɛ́	gbɛ́ ~ jɥ́ɛ́	‘split (wood)’	(various)
	jɥ̄ē	gbí	gbí	‘fight (v)’	Fl

3.2.1.6 ŋ

The velar nasal occurs medially in a few noun and verb stems. The known intervocalic cases are in (50).

(50) a. ɲāŋāmī ‘mix, confuse’ Ma < Jula ɲágámí
ɲāɣāmī Fl Ji

b. káŋárá ‘wall’ Ji
káŋərá^{n} Fl Ma

c. dàŋərɔ̀ʔɔ̀ ‘cloud’ Fl Ji

ŋ also arises secondarily, especially in Bi dialect, when a word-final nasal syllable is followed by infinitive kō, resulting in ŋō.

1Sg proclitic ŋ́, 2Sg proclitic ŋ̀, and 1Sg reflexive possessor ŋ̀ are transcribed as velar nasals. However, they assimilate to the position of the following consonant.

3.2.1.7 v (labiodental)

We use the symbol “v” to mean any vowel in formulae like CvCv. An actual v (voiced labiodental fricative) is not part of the regular Tiefo-D consonant inventory. However, v does optionally replace initial w dialectally in a handful of stems, chiefly in diphthongal wio, wiɔ, wie. In the case of wie, Fl metathesizes as yɥe (51e-f).

(51) a. ‘winged termite sp.’
vìɔ́ ~ wìɔ́ Bi

b. ‘crocodile’
víó Bi Ji Ma
wíó Fl

c. ‘striped frog sp. (*Amnirana*)’
bá-**vìó** Ma
bá-wìó Fl Ji

d. ‘squeeze’
vīē/víó/víó Bi(var) Ji(var)
wīē/wíó/wíó Bi(var) Fl Ji(var)

e. ‘get rid of’
vīē/wé/wé Ma(var)
wīē/wé/wé Bi Ji Ma(var)
yɥ̄ē/wé/wé Fl

f. ‘put in or on’

vìè/wē/wī	Ma(var)
wìè/wē/wī	Bi Ji Ma(var)
yɥ̀è/wē/wī	Fl

wí ‘owner’ (a very common compound final) has stable w.

The diphthongal context in which w→v occurs is similar to the context for hardening of y(i) to ʒ (§3.2.1.3).

3.2.1.8 ɥ

ɥ is the IPA symbol for a high front rounded semivowel, the nonsyllabic counterpart of IPA [y] (as in German “ü”). In Tiefo-D, we use this symbol for a high front rounded vocalic segment at the beginning of a diphthong. This sound is an allophonic variant of u when flanked by palatal segments, i.e. when preceded by a consonant from the set {y c j ɲ} and followed by a front unrounded vowel {i e ɛ}, with or without a glottal. For our Fl speaker phonemic yuo can also be pronounced yɥo.

As a reminder, our y is IPA semivowel [j]. It would be possible to transcribe the relevant words phonemically with u, with the understanding that it has a fronted allophone in this position. However, the fronting is conspicuous and we prefer to acknowledge it in our transcription.

(52) presents the known examples involving jɥ and cɥ. Those with initial nasal or semivowel are treated separately below.

(52)	form	gloss	dialect	comment
a. after j				
verbs with jɥ in Pfv				
	jɥ̄ɛ̄/gbɛ́/gbɛ́ ~ **jɥ́ɛ́**	‘split (wood)’	Bi Fl	
	jɥ̀ɛ̀/jùɔ̀/jùɔ̀	‘blink’	Fl	
	jɥ̀ɛ̀^{n}/jùà^{n}/jùà^{n}	‘look down’	(various)	
	jɥ̄ɛ̄^{n}/júá^{n}/júá^{n}	‘lick’	(all)	
	jɥ̄ē/jɥ́í/jɥ́í	‘fight (v), quarrel’	Bi Ji Ma	Fl **jɥ̄ē**/gbí/gbí
	jɥ̀è/jɥ̀è/jɥ̀è	‘belch’	Fl Ma	
noun				
	jɥ̀ʔɛ́	‘God’	Bi Ji	
	jɥ̀ɛ̀ʔɛ́	"	Fl Ma	
b. after c				
verbs with cɥ in Pfv				
	cɥ̀ɛ̀/kpā/kpɛ̄ ~ kpē	‘pick (fruit)’	(all)	
	cɥɛ̀^{n}/cùà^{n}/cùà^{n}	‘measure’	(various)	
	cɥ̀ʔɛ̀/kùʔɔ̀/kùʔù	‘pick off (leaf)’	(various)	
	cɥ̄ʔɛ̄/cūʔɔ̄/cūʔɔ̄	‘peck at’	(various)	

verbs with cɥ in Ipfv		
kùò/kò/**cɥ̀ì**	‘hit’	(all)
kūō/kú/**cɥ́í**	‘cut’	(various)

The examples in (53a-c) have yɥ in the Pfv, and in the case of ‘burn, sear’ (53c) also in the Ipfv.

(53)	form	gloss	dialect	comment
	a. y-initial verb with yɥ in Pfv			
	yɥ̀ɛ̀/yūā/yūā	‘grope’	(various)	
	b. w-initial verb with yɥ in Pfv			
	yɥ̄ē/wé/wé	‘abandon’	Fl	Pfv: Bi Ji wīē
	yɥ̄ɛ̄/wúɔ́/wúɔ́	‘reap with sickle’	Fl	Pfv: Bi wɛ̄, Ji wīʔɛ̄
	c. w-initial verb with yɥ in Pfv and Ipfv			
	yɥ̀ɛ̀^{n}/wɛ̄^{n}/**yɥ̄ī^{n}**	‘burn, sear’	Fl	cf. Bi Ji in (54c)
	yɥ̀è/wē/**yɥ̄ī**	‘put in’	Fl	Pfv: Bi Ji wìè

The examples in (53b-c) show yɥ only in Fl dialect, corresponding to w-initial forms in other dialects. The explanation for this is that the relevant Fl forms have undergone Semivowel-Vowel Metathesis (§3.4.5.1) triggered by an intrusive i. For example, in other dialects ‘abandon’ is wīē/wé/wé. In Fl, the Pfv metathesizes from /wīē/ to /yūē/, which then surfaces as yɥ̄ē by fronting the /u/.

(54) presents ɲɥ at least in the Pfv.

(54)	form	gloss	dialect	comment
	a. ɲ-initial verb with ɲɥ in Pfv			
	ɲɥ̄ɛ̄/ɲúá/ɲúá	‘scoop’	(various)	
	b. w-initial verb with ɲɥ in Pfv			
	ɲɥ̀ɛ̀^{n}/wā^{n}/wɛ̄^{n}	‘(baby) suckle’	Bi	Fl Ji Pfv wɛ̀^{n}
	c. w-initial verb with ɲɥ in Pfv and Ipfv			
	ɲɥ̀ɛ̀^{n}/wɛ̀^{n}/**ɲɥ̀ì^{n}**	‘burn, sear’	Bi Ji	cf. Fl in (53c)

(54b) and (54c) correspond structurally to (53b) and (53c) above, except that the expected initial y (after Semivowel-Vowel Metathesis) surfaces as ɲ under the influence of the nasalized stem vowel (§3.4.2.2). These cases of secondary initial ɲ from /y/ are attested only in Bi and (in one case) Ji dialects.

3.2.1.9 Glottal stop ʔ

Sequences transcribed CvʔV, whether they have identical vocalic segments as in Caʔa or they have diphthongal sequences as in Ciʔe, are discussed in §3.1.1.6 above, where we point out that such sequences behave in some respects (e.g. subphonemic nasalization) like single syllables.

Glottal stop does not occur word- or stem-initially. This is one of the few phonological points on which we diverge from Winkelmann. She transcribed an initial glottal stop in what we treat as vowel-initial morphemes and stems (1998: 47-48). This is apparently not because she heard a glottal stop, rather she inferred its (underlying) presence to account for combinations that present vowel-vowel hiatus (absence of vv-Contraction).

A genuine glottal stop occurs in immediately prepausal (i.e. clause-final) negative enclitic =ʔ, which combines with another negative marker earlier in the clause such as PfvNeg á, IpfvNeg má, and ní-mā 'not be (somewhere), be absent'. Examples are scattered throughout §10.2.5. The =ʔ is omitted or at least not clearly audible in some negative clauses, both elicited and transcribed from recordings. Because of the difficulty in detecting it, our textual transcriptions should not be relied on.

A glottal stop is regular in clause-final emphatic enclitic =dɛ̄ʔ ~ =rɛ̄ʔ (§19.4.1), and frequently on the universal quantifier bíɛ́(ʔ) when in prepausal position (§6.6.1.1). It losed its glottal stop in the rare case when it is followed by another clause-final element. We have also observed a final glottal in kə́rílóʔ 'ball, spherical object' (from one speaker), and several times with the adverb kɔ́sɔ́bɛ́ʔ 'very much, greatly'.

The glottal stops for =ʔ, =dɛ̄ʔ, and bíɛ́ʔ occur only in prepausal position, i.e. clause-finally with no immediately following material.

Negation, the emphatic enclitic, and the universal quantifier all have emphatic tendencies, suggesting that the clause-final glottal stop is prosodic in nature. We occasionally hear it in clauses ending in other elements. In (Bi, 2017-08 @ 03:15) it occurs after the noun 'leaf loincloth'. In (Ji, 2017-01 @ 04:13) it occurs after nígbó 'short'.

3.2.1.10 Alternations of f with sibilants

A few verbs present an alternation of initial f with a sibilant s or ʃ in Ji and Ma dialects. The f variant is likely secondary in each case.

The Ji pattern is that verbs whose base consists of a sibilant plus u-initial diphthong {ua uɛ uɔ} form the Pfv with fiɛ, with or without glottalization (55). Other dialects retain the su or ʃu onset in the Pfv, merely mutating the final vocalic segment to ɛ.

(55)	Pfv	base	Ipfv	dialect
a. 'chew on (lightly)'				
	fiɛ̄^{n}	súá^{n}	súá^{n}	Ji
	sūɛ̄^{n}	"	"	Bi Ma
	ʃūɛ̄^{n}	ʃúá^{n}	ʃúá^{n}	Fl

b. ‘do cooking’			
fīⁿʔɛ̀ⁿ	sūⁿʔɔ̄ⁿ	sūⁿʔɔ̄ⁿ	Ji
sùⁿʔɛ̀ⁿ	"	"	Bi
ʃùⁿʔɛ̀ⁿ	ʃūⁿʔɔ̄ⁿ	ʃūⁿʔɔ̄ⁿ	Fl
c. ‘mix (with sauce)’			
fīʔɛ̄	súʔá	súʔá	Ji
sūʔɛ̄	"	"	Bi
sūɛ̄ʔɛ̄	sūāʔá	sūāʔá	Fl
"	"	sùàʔá	Ma

Two high-frequency transitive verbs that have initial s or ʃ preceding a high vocalic segment in other dialects have invariant initial f in Ma (56).

(56)	Pfv	base	Ipfv	dialect
a. ‘give; send’				
	fìɛ̀ʔɛ̀	**fūōʔɔ̄**	**fūʔū**	Ma
	ʃìɛ̀ʔɛ̀ ~ ʃɥ̀ɛ̀ɛ̀	ʃūōʔɔ̄	ʃūʔū	Fl
	ʃìʔɛ̀	sūʔɔ̄	sūʔū	Bi Ji
b. ‘catch’				
	fūōʔō	**fùʔú**	**fùʔú**	Ma
	ʃūōʔō	ʃūʔú	ʃūʔú	Fl
	sūʔō	súʔú	súʔú	Bi Ji

3.2.1.11 Alternations of l with other sonorants

An alternation of l with ɲ or with w occurs dialectally in two verbs (57a-b).

(57)	Pfv	base	Ipfv	dialect
a. ‘look (at)’				
	ɲūɔ̄ⁿ	ɲɔ́ⁿ	lúⁿ	Bi
	ɲūɔ̄	ɲɔ́	ɲú	Fl Ji Ma
b. ‘bathe’				
	wè	wō	lū	Bi Fl
	"	"	wō	Ji Ma

It is difficult to make sense of these rather opaque alternations, but the association of l with u suggests one or more long-lost phonological processes rather than suppletion.

It is unclear how, if at all, these verbal alternations relate to the pandialectal number alternation (seemingly suppletive) for ‘young woman’ (58) and similar oddities, on which see §3.4.3.3.

(58)	gloss	singular	plural
	‘young woman’	yīɛ̄	lɔ̄ (in Ji also regularized yə̄-rɔ̄)

3.2.1.12 Laryngeal h

This consonant does not occur in native vocabulary. It is attested in hɛ̄rɛ̄ ‘peace, well-being’, a Jula borrowing that occurs in greeting formulae. It occurs phonetically in some pronunciations of ɔ̀ⁿhɔ́ⁿ! ‘uh-huh’ (= ‘yes’).

3.2.2 Consonant clusters

3.2.2.1 Word- and morpheme-initial CC clusters

The productive initial CC cluster type is Cl with a noncoronal obtruent C and the lateral. For details see §3.1.1.4.

Initial Cərv is similar to Clv except for the brief schwa preceding the tap. Since the tap requires airflow on both sides for aerodynamic reasons, one could argue that the schwa is due to phonetic realization of Crv. See §3.1.1.7 on this.

Diphthongal Civ and Cuv, for example Cie and Cuo, might be analysed as Cwv and Cyv respectively. The i and u are pronounced as part of the onset (§3.1.1.5).

Recall that gb, kp and ŋm represent unit phonemes, not clusters.

3.2.2.2 Medial prenasalized voiced stop (or homorganic cluster)

Medial nasal-stop sequences are analysed here as prenasalized voiced stops rather than as clusters, though the distinction is not sharp. These are especially typical of Bi dialect. In a few words, Bi prenasalized voiced stops correspond to nasals in other dialects, as with Bi tàⁿbá and Fl Ji Ma tàmá ‘spear’ (§3.4.4.2). In other cases, a morpheme-final nasalized vowel (after a nasal or a nonnasal consonant) induces prenasalization of a following stop in Bi but not in other dialects, as in Bi nāⁿ-bɛ̀ʔɛ̀ versus Fl Ji nā-bɛ̀ʔɛ̀, the personal name of the hyena character in tales.

Prenasalized voiced stops occur in the non-Bi dialects, as well as in Bi, in some non-verb stems (nouns, adjectives).

(59)	stem	gloss	dialect
	a. ⁿb		
	yàⁿbə́ráⁿ	‘gourd’	Ji
	ɲàⁿbə́rá	"	Bi
	yàmə̄rá	"	Fl
	yàmə̀rá	"	Ma

b. ^{n}d			
	kē̄kà^{n}dí	‘tree sp. (*Bridelia*)’	Fl Ji(var)
c. ^{n}g			
	dà^{n}gó	‘blanket’	(various)
	dà^{n}gɔ́(ʔɔ́)	‘firefly; flint lighter’	(various)
	gbè^{n}gé	‘gunpowder’	(various)
	kó^{n}gó-kàɣàlá (~ -kəɣàlá)	‘pangolin’	(various)
	kó^{n}gó-klǒ	‘plantain-eater’	(various)
	má^{n}gə̀rō	‘mango’	(various)
	ɲímá^{n}gɔ̀ʔɔ́	‘trunkfish’	Fl Ji
d. ^{n}gb			
	kə̀rà^{n}gbá^n	‘body louse’	Fl Ji
e.	cà^{n}gɔ̀^{n}ʔɔ́	‘galago’ (mammal)	Bi Ji
	càgɔ̄^{n}ʔɔ́^{n}	"	Fl
	càgɔ̀^{n}ʔɔ́^{n}	"	Ma

3.2.2.3 Other medial CC clusters

Cl clusters occur medially as well as initially: Bi Fl Ji náklɔ̀ ‘rice’, nāplɔ̀^{n}ʔɔ̀^{n} ‘acacia sp.’.

3.2.2.4 Medial triple CCC clusters

There are no clearcut medial triple clusters. Bi nà^{n}gblà-cíó ‘circumcision novices’ has a prenasalized gb (unit phoneme) plus l.

3.2.2.5 Final CC clusters

There are no word- or stem-final consonant clusters, except for geminated nasals (following apocope of a short high vowel) in dialectal variants of two stems: Ma dá-nn ‘taste (n)’ versus Bi Fl Ji dá(^{n})-ní, Fl Ji Ma támm ‘ten’ versus Bi támwú. See §3.1.1.8.

3.3 Vowels

3.3.1 Oral vowel qualities

Tiefo-D has seven vowel qualities, like most other languages in southwestern Burkina (other than Toussian) and some adjacent areas.

(60) u i
o ɔ e ɛ
a

There are two high vowels u and i, and one low vowel a. The biggest concentration of vowel phonemes is in the mid-height area. The distinction in many West African languages between e and ɛ, and that between o and ɔ, is often described as +ATR versus -ATR. Whether this is articulatorily correct may depend on the language and even on the speaker, as similar formant patterns can arise from different articulations.

The seven-vowel system is reduced to five qualities in nasalized vowels except marginally in Bi dialect (§3.3.4).

Vowels are normally short, except when they bear contour tones or when they are due to contractions (§3.3.5).

3.3.2 Reduced vowel ə

As noted in §3.1.1.7 above, sequences of the type Cvrv are commonly realized as Cərv. In addition, some Jula loanwords contain the sequence Cəɣv (§3.2.1.1), and our Bi speaker often pronounces Clv as Cəɺv with a lateral tap (§3.1.1.4). The Cə segment may bear its own tone, as in relative marker jə̀rɔ́^{n}. An argument can be made that Cərv is a phonetic realization of /Crv/ via Schwa-Epenthesis (cf. §3.4.1.2), on the grounds that a tap requires some airflow before and after. In this view, the relative marker is srructurally /jrɔ̌^{n}/ before low-level phonetic adjustments.

jə̀rɔ́^{n} is unsegmentable, as are many other rhotic-containing stems such as mə́rá 'plastic', nə̀rú '(animal) fat', and sə̀ré 'shame'. However, many other stems have a rhotic suffix (or infix), plural for nouns or Pfv for verbs. In these cases, what is otherwise the stem-final vowel is replaced by schwa before the rhotic. One can then analyse the schwa as a reduced (lenited) version of that vowel. The alternative is to assume that the rhotic induces deletion of the preceding vowel, which is then "resurrected" by epenthesis. Some examples of the plural suffix are in (61).

(61)	gloss	singular	plural	dialect
a.	'man'	dɔ̌	də̀-rɔ́	(all)
b.	'hand'	kè-tɛ̀ʔɛ̀	kè-tə̀-rɛ̀	Ji
		kɛ̀-tɛ̀ʔɛ̀	kɛ̀-tə̀-rɛ̀	Bi Fl
		kì-tɛ̀ʔɛ̀	kì-tə̀-rɛ̀-ʔɛ̀	Ma

Several verbs like 'cook (sauce)' (62a) have an intrusive (nonlexical) rhotic in the Pfv stem only (§10.1.5.4). Compare the verbs in (62b), which have the rhotic in all stems.

(62)		Pfv/base/Ipfv	gloss	dialects
	a.	tə̄rɔ̄/tɔ́/tó ~ tú	‘cook (sauce)’	(all)
	b.	tə̀rɛ̀^{n}/tə̄rā^{n}/tə̄rɛ̄^{n}	‘sit’	(various)
		sə̄rɔ̄^{n}/sə́rú^{n}/sə́rú^{n}	‘descend’	(all)

Word- or stem-initial schwa is very rare. However, the term (borrowed from Jula) for the basic currency unit (equal to 5 francs CFA) has variants ə̀rá and wə̀rá. The noun meaning ‘thing’ has dialectal variants ɛ̀ʔɛ́ and yɛ̀ʔɛ́. Speakers who say ɛ̀ʔɛ́ sometimes avoid reducing the first vocalic segment to ə in the rhotic plural, and pronounce ɛ̀-rɛ́ rather than #ə̀-rɛ́. Speakers who say yɛ̀ʔɛ́ often pluralize it as yə̀-rɛ́. For all speakers, the usual compound final form is -ɛ̀ʔɛ̀ with plural -ə̀-rɛ̀.

3.3.3 ATR harmony

Some West African languages, generally near the Atlantic coast (e.g. Kru and Kwa families), have symmetrical ten-vowel systems with ATR distinctions in high and low as well as in mid-height vowels. Regardless of whether ATR is limited to mid-height or extends to high and/or low vowels, some West African languages show ATR harmony. For example, e may co-occur with o but not with ɛ or with ɔ in a stem. ATR harmony, sometimes accompanied by back/rounding harmony, may be a simple constraint on uncompounded stems of more than one syllable, or it may be a productive process, extending to derivational suffixes.

Tiefo-D does show ATR-harmonic tendencies at stem level. This is most conspicuous in vocalic ablaut in verbs. Most verbs which ablaut between front and back mid-height vowels retain the ATR value (63), i.e. with e/o and ɛ/ɔ alternations.

(63)		Pfv	base	Ipfv	gloss	dialect
	a.	də̄rē	də́ró	də́ró	‘abound’	
		dè	dò	dò	‘speak’	
	b.	cɛ̀ʔɛ̀	cɔ̄ʔɔ̄	cɔ̄ʔɔ̄	‘fear’	
		dɛ̀	dɔ̀	dɛ̄	‘sleep (v)’	Bi Ji Ma
		"	dɔ̄	"	"	Fl

Less transparent is co-occurrence of a with either [+ATR] or [-ATR] vowels. This is especially relevant to verb-stem morphology. Many verbs shift a vowel to a front vowel in the Pfv. If the starting point is a in the base, a shift to Pfv e for some verbs and to ɛ for other verbs could be diagnostic of an original ATR opposition among low vowels: [+ATR] *ɜ (alternatively written *ʌ) versus [-ATR] *a. Winkelmann made this argument (1998: 35-37).

However, in our data no verb that has a in the base has a Pfv with e. By contrast, many such verbs have ɛ in the Pfv. A few examples are in (64).

(64)	Pfv	base	Ipfv	gloss
	fɛ̀	fā	fā	‘look for’
	cɛ̀^{n}	cā^{n}	cā^{n}	‘separate (v)’
	gɛ̀ʔɛ̀	gàʔà	gàʔà	‘do first’

The only verb that has a in the base and e in another stem in our data is the highly irregular verb ‘come’. It has e not in the Pfv, rather in the Ipfv (653a). The problem is that a [+ATR] vowel e or o in the Ipfv is not diagnostic of lexical [+ATR] status. This is because there are several verbs that are overtly [-ATR] in base and Pfv, but that shift to [+ATR] precisely in the Ipfv. A few examples are in (65b). This pattern is clearest for Bi and Fl dialects, while Ji often raises o to u and e to i in these Ipfv’s. Even more telling is ‘cultivate’ (65c), which has a in the base, ɛ in the Pfv, and e in the Ipfv.

(65)		Pfv	base	Ipfv	dialect	gloss
	a.	bà	bà	bē	(all)	‘come’
	b.	gbɛ̄ʔɛ̄	gɔ́ʔɔ́ ~ gɔ̄ʔɔ́	góʔó ~ gōʔó	Bi Fl	‘dig with hands’
		pɛ̀	pɛ̄	pē	Bi Fl	‘forget’
		dərɛ̄	dɛ́	dé	Bi Fl	‘be sated’
	c.	bɛ̄	bá	bé	Bi Fl Ma	‘cultivate (crops)’

Besides ‘come’, the other example given by Winkelmann of an alternation between a and some [+ATR] vowel is the initial in the compound verb “wié-tɔ̰” (Pfv) versus “waʔá-tɔ̰” (base) meaning ‘shut’ (1998: 36). However, we consistently recorded [-ATR] ɛ rather than e in the Pfv, in spite of dialectal variation in the onset (66).

(66)	Pfv	base	Ipfv	dialect	gloss
	wīʔɛ̄-tɔ̀^{n}	ɔ́ʔɔ́-tɔ̄^{n}	wíʔ-ā-tì^{n}	Bi	‘shut’
	"	wáʔá-tɔ̀^{n}	"	Ji	"
	yʮ̄ɛ̄ʔɛ̄-tɔ̀^{n}	wāʔá-tɔ̀^{n}	"	Fl	"
	wɛ̄ʔɛ̄-tɔ̀^{n}	wàʔá-tɔ̀^{n}	wìʔ-á-tī^{n}	Ma "	

So the case for internal reconstruction of [+ATR] *ɜ (or *ʌ) versus [-ATR] *a cannot be made using verbal morphology. In the minority of nouns that present vocalic mutations in the plural, we know of no a/o alternations, as opposed to a/ɔ as in bá^{n} ‘sheep’, plural bɔ́.

The final place to look for evidence of former *ɜ versus *a is vowel sequences in non-verb stems (67). We would have to show that these stems are archaic (i.e. unborrowed), ATR-harmonic, and noncomposite.

(67) a in same stem as [+ATR] and [-ATR] vowel

a. with [+ATR] vowel

sàkpèʔè	‘donkey’	(various)
dà^{n}gó	‘blanket’	(various)

b. with [-ATR] vowel

bàkùɔ̀	‘tortoise’	(various)
bátìɛ̀ʔɛ̀ ~ bātìɛ̀ʔɛ̀	‘inundatable area’	Fl Ji
cà^{n}gɔ̀^{n}ʔɔ́^{n}	‘galago (mammal)’	(various)
dà^{n}gɔ́ ~ dà^{n}gɔ̄ʔɔ́	‘firefly; flint lighter’	(various)

While a is basically in the [-ATR] camp, high vowels i and u can combine with either [+ATR] or [-ATR] vowels in multisyllabic stems and in Civ and Cuv diphthongs (§3.1.1.5). Therefore i…e, i…ɛ, u…o, and u…ɔ are all common. Analytically, we could say either a) that high vowels are ATR-harmony-neutral, or b) that surface i conflates underlying [+ATR] i and [-ATR] ɪ, while surface u conflates underlying [+ATR] u and [-ATR] ʊ.

In any event, most verbs with bases of the shape Ci or Cu must be labeled for ATR value, depending on the Pfv vocalism with e/o or ɛ/ɔ (68). In all of the clear cases, they turn out to be [+ATR], with e or o vowel (68a,c). There are no clear counterexamples. Verbs with nasalized vowels do not count, since since nasalization neutralizes the ATR opposition (34), with limited exceptions for Bi.

(68)

Pfv	base	Ipfv	dialect	gloss
a. [+ATR] Ci base				
yìè	yī	yī	(various)	‘jump, fly (v)’
dīē	dí	dí	(various)	‘eat (meal)’
cìè	cī	cī	(various)	‘urinate’
b. [-ATR] Ci base				
[none]				
c. [+ATR] Cu base				
jūō	dú ~ dū	dú ~ dū	(various)	‘sow (v)’
būō	bú	bí	(various)	‘get’
kūō	kú	cų́í	(various)	‘cut’
wūō	wú	wí	(various)	‘die’
d. [-ATR] Cu base				
[none]				

We sum this up by saying that a is generally aligned with [-ATR], while high vowels align with [+ATR] in the absence of additional vowels or nasalization.

3.3.4 Nasalized vowels

For dialects other than Bi and to a limited extent Ma, under nasalization there is no consistent distinction in native vocabulary between [-ATR] ɛ^{n} and ɔ^{n} and [+ATR] e^{n} and o^{n}, respectively. We transcribe ɛ^{n} and ɔ^{n}, but the articulation is often intermediate. For example, the vowel of the verb sɛ̄^{n}/sɛ́^{n}/sɛ́^{n} ‘lie down’ is less open than oral ɛ.

Bi dialect does distinguish [-ATR] ɛ^{n} and ɔ^{n} from [+ATR] e^{n} and o^{n} under limited conditions. Nasalized e^{n} and o^{n} occur in Bi in many stems and grammatical elements that in other dialects have e and o following a nasal consonant. For example, Bi 1Sg pronoun nó^{n} (corresponding to nó in other dialects) is [+ATR] while Bi ɲɔ́^{n} ‘heart’ (in other dialects ɲɔ́) is [-ATR]. Bi gbé^{n}dé ‘cassava’ has [+ATR] e^{n} (in other dialects gbéné) while Bi and pandialectal ná-tɛ́^{n} ‘bile’ has [-ATR] ɛ^{n}. However, the stems that have phonemic ɛ^{n} and ɔ^{n} in other dialects have the same vowels in Bi. As a result, ɛ^{n} and ɔ^{n} are much more common in Bi than e^{n} and o^{n}. A special case is Bi mló^{n}ʔó^{n} ‘wild duck’ corresponding to mlú^{n}ʔú^{n} in other dialects.

Our Ma speaker shows weak tendencies in the direction of the Bi system. We observed some cases of 1Sg nó^{n} and 2Sg mó^{n} pronouns, resulting in prenasalization of following stops, e.g. [nó^{n}d…], and occasionally even full nasalization, e.g. [nó(^{n})n…].

The reduplicative Jula borrowing gbó^{n}-gbó ‘tin can’ (Bi Fl and perhaps other dialects) has [o̰], reinforced by the o in the second segment.

Several nouns show pandialectal alternations of stem-final singular ɔ^{n} with plural o (§4.1.2.3.1), as with ‘child’ and ‘chicken’ in (69a). There is one parallel case of singular ɛ^{n} alternating with plural e, including ‘foot’ (69b), and one with singular ɛ^{n} alternating with plural o (69c). Recall that, with exceptions for Bi dialect, ɔ^{n} is the nasalized counterpart of both o and ɔ, and ɛ^{n} is the nasalized counterpart of both e and ɛ. Denasalization of ɔ^{n} and ɛ^{n} should therefore in theory force a choice between oral o and ɔ, and between oral e and ɛ, in effect restoring an otherwise neutralized vocalic contrast. Alternations of singular ɔ^{n}/ɛ^{n} with plural o/e can be interpreted in this way, i.e. as plural denasalization revealing an underlying [+ATR] vowel. However, we know of no case where ɛ^{n} is denasalized to ɛ, and only one dialectally restricted case where ɔ^{n} is denasalized to ɔ, viz., bɔ́^{n} as dialectal variant of bá^{n} ‘sheep’, plural always bɔ́. There are no similar alternations in verbal morphology.

(69)	singular	plural	gloss	dialects
a. ɔ^{n} to o (two among several examples, §4.1.2.3.1)				
	bí-ʃīɔ̄^{n}	bí-ʃīō	‘child’	(all)
	lɔ̄^{n}	lō	‘chicken’	(all)
b. ɛ^{n} to e (only known example, §4.1.2.3.2)				
	pìɛ̀^{n}ʔɛ̀^{n}	pìè	‘foot’ (§4.1.2.6)	(all)
c. ɛ^{n} to o (only known example, §4.1.2.3.2)				
	cíɛ́^{n}	cíó	‘pond frog’	Bi Fl Ma

Our Bi speaker also conspicuously nasalizes word-final vowels following nasal consonants in some but not all relevant morphemes and stems. Examples in Bi dialect with grammatical morphemes are 1Sg nó^{n}, 2Sg mó^{n}, IpfvNeg má^{n}, and nouns like sāmɔ̀^{n} 'back (body)'. The nasalization can induce prenasalization or full nasalization on a following stop (§3.4.4.1-3). For the other dialects, we transcribe nó, mó, má, sāmɔ̀, ná, and nɔ́, with subphonemically nasalized vowel and no full nasalizing effect on following consonants. In these dialects, there is no consistent distinction between ɔ^{n} and ɔ after a nasal, or between ɛ^{n} and ɛ after a nasal.

Not all Nv syllables in Bi have nasalized vowels, however. All known monosyllabic and glottalic nasal-initial nouns for our Bi speaker are presented in (70a-d). 'Okra' and 'characin fish' have oral vowels, while the majority have nasalized vowels.

(70) N-initial monosyllabic nouns, Bi dialect

a. Nv monosyllabics

oral vowel after nasal

mɛ̀	'okra'

nasalized vowel after nasal consonant

nī^{n}	'mother'
nū^{n}	'oil'
ɲɛ́^{n}	'ring (jewel)'
ɲǐ^{n}	'breast'
ɲū^{n}	'water'
ɲɔ́^{n}	'heart, courage'

b. Niv and Nuv diphthongal monosyllabics

with oral diphthong after nasal

ɲìʔò	'characin fish'

with nasalized diphthong after nasal

mìá^{n}	'tree sp. (*Holarhena*)'
mìɔ̀^{n}	'tongue'

c. glottalized nondiphthongal Cvʔv

with nasalized v^{n}ʔv^{n} after nasal

mɔ̀^{n}ʔɔ́^{n}	'flour'
nú^{n}ʔú^{n}	'odor'
ɲɔ́^{n}ʔɔ́^{n}	'thirst'

Nonmonosyllabics are presented in (71). Bi again distinguishes postnasal oral and nasalized vowels, with nasalized more common.

(71) Nonmonosyllabic nouns with final Nv(ʔv), Bi dialect

a. with oral vowel

mò-mó	'ant sp. (*Messor*)'
pànúʔú	'tail'
tɔ́ŋɔ́rɔ́	'duck'

b. with nasalized vowel

ānàⁿʔàⁿ	‘face’
bònàⁿʔàⁿ	‘Nile monitor lizard’
dɛ̀níⁿ	‘tall grass sp. (*Andropogon*)’
díkɔ̀mɛ́ⁿ	‘bush gecko sp.’
jàjúnáⁿ	‘tree sp. (*Combretum*)’
kànàⁿʔàⁿ	‘cowpea greens’
mà-máⁿ	‘grandmother’
nùmúⁿ	‘whip (n)’
pì-náⁿ	‘herder’
tə́ráfíánáⁿ	‘square fan’
wòníⁿ	‘agouti (marsh cane rat)’

For the Bi speaker, animate Nvⁿ as well as other Cvⁿ and CvCvⁿ nouns audibly denasalize in the plural (§4.1.2.3).

(72) Plural denasalization of Nvⁿ and Nivⁿ nouns, Bi dialect

a.	náⁿ	‘cow, bovine’
	nɔ́	(plural)
b.	nɔ̌ⁿ	‘guinea-fowl’
	nɔ̌	(plural)
c.	nīⁿ	‘mother’
	nì-ó	(plural)
d.	míɔ́ⁿ	‘python’
	míó	(plural)
e.	wòníⁿ	‘agouti’
	wònì-ó	(plural)

In Bi dialect, ɲánɔ̀ⁿ ‘friend’ contrasts with its plural ɲánɔ̀ ‘friends’, but the singular is also unnasalized in the common compounds ɲánɔ̀-kɛ̀ⁿ ‘male friend’ and ɲánɔ̀-yò ‘female friend’.

See also the ‘ant’ terms in §4.1.4.4.

The phonological difference between oral and nasalized vowels is illustrated in (73). Focus morpheme tóʔó is fully nasalized to nóʔó after a nasalized vowel (§3.4.4.3), but not after an oral vowel. This nasalization of stops occurs systematically in Bi dialect, occasionally in Ma.

(73)	morpheme	gloss	focalized form
	nóⁿ	1Sg pronoun	nóⁿ nóʔó
	ē mɛ̀	‘okra’	ē mɛ̀ tóʔó ~ ē mɛ̀ róʔó

è ná^n	'cow, bovine'	è ná^n nóʔó
è nɔ́	'cows, bovines'	è nɔ́ tóʔó ~ è nɔ́ róʔó

In nó^n nóʔó, the secondarily nasalized n from /t/ does not nasalize the following vowels, thus nó^n nóʔó bà 'it was I [focus] who came' with only minimal nasalization of óʔó and none of of bà. In other words, nasalization cannot spread rightward in an unbounded manner.

Likewise, (74) shows that prenasalization (§3.4.4.1) of b occurs in Bi dialect after nasalized vowels (nó^n, ná^n) but not after oral vowels (mɛ̀, nɔ́).

(74)	morpheme	gloss	'X came'	
	nó^n	1Sg pronoun	nó^n ^{n}bà	[nó^{m}bà]
	ē mɛ̀	'okra'	ē mɛ̀ bà	
	è ná^n	'cow, bovine'	è ná^n ^{n}bà	[èná^{m}bà]
	è nɔ́	'cows, bovines'	è nɔ́ bà	

In Bi dialect and sometimes in others, vowel nasality also spreads to following vocalic inflectional morphemes á (PfvNeg) and à (Ipfv positive), which are subject to contraction with preceding vowels. This can then prenasalize a following voiced stop. (75) exemplifies with Ipfv bē 'comes'.

(75)	morpheme	gloss	'X comes'	
	nó^n	1Sg pronoun	ná^n à^n ^{n}bē	[náàmbē]
	ē mɛ̀	'okra'	ē mɛ̀ à bē	
	è ná^n	'cow, bovine'	è ná^n à^n ^{n}bē	[ènáà^{m}bē]
	è nɔ́	'cows, bovines'	è nɔ́ à bē	

3.3.5 Vowel length

Excluding Jula loanwords such as fààmá 'authority', most cases of monosyllabic Cvv with a long vowel, or at least of a vowel that is appreciably longer than modal, are attributable to one of the following: a) optional deglottalization of glottalic CvʔV (§3.1.1.6); b) phonetic prolongation required by a contoured tone (§3.1.1.3); or c) contraction of two vowels across a boundary (§3.4.6).

3.3.6 Stem- and morpheme-initial vowels

Grammatical particles may consist of a vowel, e.g. article ē before nouns and post-subject Ipfv à before VPs. A few nouns but also begin with a vowel, either short or long, in Bi and Ji dialects. Fl and Ma dialects generally avoid stem-initial vowels by adding an initial semivowel. See (18) in §3.1.1.2 above for lists of the relevant morphemes and stems.

3.3.7 Stem-final vowels

Stem-final vowels are always short, except in wúú 'death' whose nucleus is arguably a diphthong structurally (wúv with u as the final vowel). All vowel qualities, oral and nasalized, are well-attested as final vowels. Apocope of final short vowels is not productive, though there are a few cases where final short high vowel {i u} is deleted after a nasal, which in some cases then lengthens (§3.2.2.5).

3.3.8 Vocalism of verb-stem alternations

Verbs have three stems: Pfv, base, and Ipfv. Some verbs distinguish all three, some merge base with Ipfv, some merge all three, and a few have some other pattern. The morphology of these stem variations presents many lexical idiosyncracies. The alternations include vocalic and tonal shifts as well as intrusion of liquid consonants and semivowels.

Deferring details to chapter 10, we note here that the most common vocalic alternation is for the Pfv to have front-vowel {i e ɛ} vocalism, regardless of the vocalism of the base (and Ipfv). The most common correspondences between base and Pfv vowels are those in (76). The Pfv target is usually e or ɛ, but in some cases base u or i remains high as Pfv i.

(76)	base	Pfv
	a	ɛ
	ɔ, ɛ	ɛ
	o, e	e
	u, i	i, e, or ɛ

The Pfv may also add an intrusive high vowel or liquid after the first consonant (§3.4.3). Some examples involving low and back base vowels are in (77).

(77)	Pfv/base/Ipfv	gloss	dialect
	a. a to ɛ		
	klɛ̄/klá/klá	'go back'	(all)
	kplɛ̀^{n}/kplà^{n}/kplà^{n}	'tell fortunes'	(all)
	kpɛ̀ʔɛ̀/kpàʔà/kpàʔà	'be impoverished'	Fl Ji
	b. ɔ to ɛ		
	bɛ̀/bɔ̀/bɔ̀	'burn, heat (v)'	(various)
	kplɛ̀ʔɛ̀/kɔ̄ʔɔ̄/kūʔū	'uproot'	Ji
	gbɛ̄ʔɛ̄/gɔ́ʔɔ́/góʔó	'dig with hands'	Bi
	c. o to e		
	fīē/fó/fó	'pass, go past'	(various)
	kplè/klō/klō	'bump'	(various)

gbè/gùò/gùò	'belch'	Ji	
kpē/kó/kó	'weep'	(all)	
d. u to i			
kplì^{n}/klù^{n}/klù^{n}	'weed (v)'	Bi Ji	
e. u to ɛ			
kplɛ̀^{n}/klù^{n}/klù^{n}	'weed (v)'	Fl	
bə̀rɛ̀^{n}/bə̀rù^{n}/bə̀rù^{n}	'fall off/out'	Fl	
f. u to e			
blē/blú/blú	'err'	Fl Ma	(Ji blē/bló/bló)
fē/fú/fú	'fan (v); inflate'	Ji	(Bi Fl fē/fúó/fúó)

Several examples in (77a-f) have Pfv kp or gb before front vowel (with or without intervening l) in the Pfv, versus k or g before back rounded vowel in the base. These can be modeled at least diachronically as follows, using 'weep' as example and omitting tones: /ko/ → /ko̯e/ (Pfv ablaut) → kpe (rounded vowel fuses with velar stop).

While base vowels ɛ and e are usually unchanged in the Pfv, base vowel i is treated variably. It remains i in the Pfv in (78a), but drops to e in (78b). There are no authentic cases of Pfv ɛ, since cases like (78c) involve nasalization, which neutralizes the distinction between e and ɛ. Our (arbitrary) transcription of the neutralized vowel as ɛ^{n} may be confusing in this context.

(78)	Pfv/base/Ipfv	gloss	dialect
a. i remains i			
	lī/lí/lí	'shape into a ball'	Ji
b. i to e			
	lè/lī/lī	'shine'	(various)
	cə̄rē/cə́rí/cə́rí	'sneeze'	(all)
c. i^{n} to ɛ^{n} (nasalized only)			
	kɛ̄^{n}/kí^{n}/kí^{n}	'groan'	Bi Ma
	lɛ̄^{n}/lí^{n}/lí^{n}	'become cool'	(various)

In a significant minority of verbs, the Ipfv also undergoes a vocalic change in comparison to the base. In one pattern, the Ipfv shifts [-ATR] ɛ or ɔ to its [+ATR] counterpart e or o. Ji dialect often additionally raises the Ipfv vowel to i or u.

(79)	Pfv/base/Ipfv	gloss	dialect
a.	gbà/gɔ̀/gò	'hit'	Bi Fl Ma
	gbà/gɔ̀/gù	"	Ji

	b.	dɔ̄rɛ̄/dɛ́/dé	‘be sated (full)’	Bi Fl
		dɔ̄rɛ̄/dɛ́/dí	"	Ji

In a few cases, base ɛ is raised to Ipfv i in other dialects as well as Ji.

(80)	a.	mɛ̀ ~ mlɛ̀^{n}/mɛ̄/mlī^{n}	‘build’	Fl Ji
	b.	gblɛ̀/gbɛ̄/gblī	‘pick up’	(all)

Additional minor patterns in Pfv/base/Ipfv vocalic alternations are best left to chapter 10.

3.3.9 Lexicalized back-front vocalic alternations

The two economically and culturally significant palms in the zone are the oil palm and the borassus palm. Each is associated with a small word-family of unique lexical items. Of interest here are hints of vocalic mutations, with ɔ in terms denoting entire trees and a front vowel in terms denoting small, economically important products (fruits or fronds). Initial k can alternate with c (§3.4.2.3).

(81)		Sg	Pl	gloss
	a.	sɔ̀ʔɔ́	sə̀-rɔ́	‘oil palm tree (*Elaeis guineensis*)’
		sɛ̀ʔɛ́	sə̀-rɛ́	‘oil-palm fruit’
		sàʔá-ɛ̀ʔɛ̀	sàʔá-ə̀-rɛ̀	‘oil-palm frond’ (Fl)
	b.	kɔ̄^{n}ʔɔ̄^{n}	kə̄-rɔ̄^{n}	‘borassus palm tree (*Borassus aethiopum*)’
		cɥ̀ʔé	—	‘borassus-palm frond’
		cùà^{n}ʔá^{n} ~ cùá^{n}	—	‘borassus-palm fruit’
		kàɲùʔú	kàɲə̀-rú	‘strips of borassus-palm leaflets (for weaving)’
		kɔ̄mɔ̀	—	‘borassus-palm sapling’

A small number of nouns shift unexpectedly from low or back vowels in the singular to front vowels in the plural, in addition to other plural marking. Four of the five known nouns that combine regular rhotic pluralization with unexpected vowel fronting denote limbs or other bodily appendages, of which three are in (82a-c). The only one of these that has a nasalized vowel in the singular is denasalized in the plural (82b). ‘Arm’ (82c) fronts the plural vowel only in two of the four dialects.

(82)		Sg	Pl	gloss	dialect
	a.	gbàʔá	gbə̀-rɛ́	‘thigh’	(all)
	b.	ká^{n}ʔá^{n}	kə́-rɛ́	‘tooth’	Bi(var) Ji
		"	kə́-rá^{n}ʔá^{n}		Bi(var)

	kāⁿʔáⁿ	kə̄-rɛ̄-ʔɛ́	"	Fl
	kàⁿʔáⁿ	kə̀-rɛ̀-ʔɛ́	"	Ma
c.	wɔ̀ʔɔ́	wə̀-rɛ̄-ʔɛ́	‘arm’	Fl
	"	wə̀-rɛ̀-ʔɛ́	"	Ma
	"	wə̀-rɔ́	"	Bi
	ɔ̀ʔɔ́	wə̀-rɔ́	"	Ji

The remaining two nouns that front their vowels in the rhotic plural are ‘twig’ and ‘calabash’. ‘Twig’, like ‘arm’ and ‘leg’, denotes a semi-linear projection from a body. It functions semantically as diminutive of ‘stick’, and the two differ only in vocalism. Plural vowel-fronting occurs with ‘twig’ but not with ‘stick’ (83a-b).

(83)	Sg	Pl	gloss	dialect
a.	pɔ̀ʔɔ̀	pə̀-rɛ̀	‘twig’	Ji
	"	pə̀-rɛ̀-ʔɛ̀	"	Bi Fl Ma
b.	pūʔɔ́	pə̄-rɔ̄-ʔɔ́	‘stick’	Fl
	pùʔɔ́	pə̀-rɔ̀-ʔɔ́	"	Ma
	púʔɔ́	pə́-rɔ́	"	Bi Ji

‘Calabash’ denotes the most common product from the fruit of a cultivate trailing vine (84).

(84)				
	klɔ̄	kplɛ̀-ní(ⁿ)	‘calabash’	(all)
	klɔ̀-bí	kplɛ̀-bí	‘small calabash’	Ji

‘Calabash’ also has un-fronted rhotic plurals (Ji klɔ̄-rɔ̄, Ma klɔ̀-rɔ̀-ní).

Another interesting pair is ‘woman’ versus ‘young woman’. In this case the apparent diminutive fronting occurs in the singular (85).

(85)	Sg	Pl	gloss	dialect
a.	yīɛ̄	lɔ̄ (suppletive)	‘young woman’	(all)
b.	yǒ	yə̀-ró	‘woman’	(all)

While lɔ̄ in (85a) is suppletive synchronically, we do not rule out the possibility that it is ultimately related to yīɛ̄ (§3.4.3.3).

Another interesting case is the pair of stems in (86). ‘Leg’ has a vocalic shift from ɔ to ɛ in ‘leg’, while ‘foot’ which denotes a smaller appendage has front vowels in both singular and plural. For the unique ɛⁿ/e shift in ‘foot’ see §4.1.2.3.2.

(86)	Sg	Pl	gloss	dialect
a.	pɔ́	pə́-rɛ́	‘leg’	(various)
b.	pìɛ̀ⁿʔɛ̀ⁿ	pìè	‘foot’	(various)

For some speakers, the noun tɔ̀ʔɔ̀ ‘place’ has an iterative plural tɔ̀ʔɔ̀-tɔ̀ʔɔ̀ ‘various places, all over’ with distributive sense. There is an uncommon dialectal variant tɛ̀ʔɛ̀-tɛ̀ʔɛ̀ ‘places’ (known to the Ji speaker) that may be sound-symbolic. There is also a reduplicated plural tɛ̀-tə̀-rɛ̀ bíɛ́ʔ ‘everywhere, all over’ based on a plural tə̀-rɛ̀, compare the usual plural tə̀-rɔ̄ ‘places’.

The modifying adjective ‘short’ is nígbó, plural nígbə́-ró. Our Fl speaker also produced a plural noun nígbə̄rē-nígbə̄rē ‘(various) short things’ (§4.5.5) that is based on nígbə́-ró with the o’s fronted to e.

Among verbs, we can cite the forms in (87a-c), in which vocalism (best seen in the base, the second of three forms shown for each verb) is associated with nuances of force.

(87)	verb stems	dialect	gloss
a.	jɛ̄ʔɛ̄/jáʔá/jáʔá ~ jíʔí	Fl Ji Ma	‘shake off, shake hard’
b.	jēʔē/jóʔó/júʔú	Fl Ji	‘shake lightly’
c.	jɛ̄ⁿʔɛ̄ⁿ/jɔ́ⁿʔɔ́ⁿ/jɔ́ⁿʔɔ́ⁿ	Fl	‘shake sth immobile (e.g. tree trunk)’

These verbs, like many others, also front the base vowel, here from {a o ɔⁿ} to {ɛ e ɛⁿ}, to mark the Pfv stem (the first of the three forms shown for each verb). Because this Pfv vowel shift is fairly productive, and because some verbs raise mid-height vowels to high to mark the Ipfv stem, verbs do not generally lend themselves to systematic vocalic symbolism.

A superficially similar vocalic alternation occurs in focus markers, where however the distinction is animate versus inanimate. The unmarked focal marker is tóʔó, alongside animate plural tə́-ró and inanimate té (§13.1.1). This is likely a vestige of an old system of noun-classes characterized by vowel qualities. Such a system remains productive in Tiefo-N, which has three class-marking vocalic articles corresponding to the single Tiefo-D article ē.

3.4 Segmental phonological rules

3.4.1 Metrically based vocalic processes

3.4.1.1 Apocope and apheresis

3.4.1.1.1 Limited apocope of final short {u i} after nasal

There is no productive apocope (deletion of word-final segments). Monosyllabic stems (nouns, verbs, numerals) never apocopate. However, final short high vowels are subject to deletion after a nasal in grammatical morphemes and nonmonosyllabic words under limited conditions.

There are two cases where a word-final nasal plus u is pronounced as a doubled nasal. Ma dialect (à) dá-nn 'its taste' corresponds to other dialects' (à) dá-ní (§3.1.1.8). The numeral 'ten' < *támú is pronounced támm by most speakers (§4.6.1.2).

Locative postposition nī, the partially homophonous 3Inan object enclitic =nì, and verbal noun suffix -ní optionally drop their vowels. They are then pronounced n̄, =ǹ, and -ń, respectively.

3.4.1.1.2 Apheresis (rare)

There is no regular apheresis (deletion of word-initial segments). However, our Ma speaker has n̄nàʔà 'face', elsewhere (w)ānàʔà.

3.4.1.2 Epenthesis (largely absent)

No widespread cases of epenthesis, either vocalic or consonantal, have been observed in Ji or Bi dialects. There is a dialectally limited process of initial consonant epenthesis, and (if Cərv is immediately derived from /Crv/) a schwa-epenthesis rule.

Fl and Ma dialects add initial semivowels {y w} to otherwise vowel-initial stems, e.g. Fl Ma yɛ̀ʔɛ́ 'thing' versus Bi Ji ɛ̀ʔɛ́ (§3.1.1.2). In some examples the initial semivowel is probably lexicalized as part of the stem, but in the specific case of 'thing' even Fl and Ma usually have -ɛ̀ʔɛ́ without the initial y as a compound final (§4.5.4, §5.1.10.2).

We mention in §3.1.1.7 the possibility that Cərv sequences might be derived from /Crv/ by means of an epenthesis rule. The main argument in favor of this is that it brings out the parallelism between Cərv rhotic Pfv's for certain otherwise Cv verb stems on the one hand, and Clv lateral Pfv's of some other Cv verbs on the other hand (§10.1.5.4-5). The alternative is to analyse schwa as reduced from a normal short vowel.

Our Bi speaker (unlike our other speakers) articulates medial l as a tapped lateral, and usually articulates Clv as [Cəɺv] with schwa.

3.4.1.3 Lenition of short vowel to schwa

Whether a lenition process, converting a short vowel to ə chiefly before a rhotic, is needed depends on our analysis of Cərv sequences. As noted just above and elsewhere, if suffixal …Cə-rv (e.g. in plurals and in some Pfv's) derives from /…Cv-rv/ with some ordinary stem-final short vowel preceding the rhotic, there are two possible analyses: a) the stem-final vowel is deleted, and /…C-rv/ is then repaired by insertion of epenthetic schwa (needed for aerodynamic reasons), or b) the stem-final vowel is directly reduced to schwa but not deleted.

In some nouns, probably all of which are Jula loanwords (including some ultimately from Arabic), the reduction to ə does not occur, e.g. báráká '(state of) being blessed' and mɛ̀rɛ̀kɛ́ 'angel'.

In elicitation of infrequent (i.e. nonlexicalized) nominal plurals, our Ji speaker in particular tended to retain the full pronunciation of the singular vowel when the rhotic syllable was added or infixed. For example, he gave the plural of fùɔ́ 'fish' either as fə̀-ró (as in other dialects) or as unreduced fùɔ̀-rɔ́. This did not happen with high-frequency, lexicalized plurals like də̀-rɔ́ 'men' from dɔ̌.

Other sequences similar to Cərv are Cəɣa and Cəɣɔ in some Jula borrowings, and for Bi dialect only the sequence [Cəɺv] with lateral tap [ɺ] corresponding to Clv in other dialects (§3.1.1.4).

3.4.2 Processes affecting specific initial consonants

3.4.2.1 Lenition or elision of initial {k t d b} in some morphemes

There is no general process leniting stops, but certain grammatical morphemes allow lenition or deletion of an initial stop. This occurs when the morpheme in question is phonologically encliticized to a preceding word, and it does not occur postpausally.

k occurs initially in three high-frequency grammatical morphemes. They are presented in (88), which omits tonal variants. These morphemes are subject to various degrees of lenition after a vowel, though the unlenited articulation is always possible in careful speech. There are also nasalized variants ŋà and ŋō which occur especially in Bi dialect after nasalized vowels (§3.4.4.3). kō and kò are merged as kò before H-tone (§3.6.2.2).

(88)	form	gloss	lenited variants	reference
	kà	'with, and'	gà, à	§7.1.1, §8.2
	kō	infinitival	gō, wō, ō	§15.2
	kò	hortative	gō, wō, ō	§10.4.2.1.2

The vocalic variants à, ō, and ò can contract with the preceding vowel (§3.4.6).

The lenitions are especially common in Bi dialect. In particular, kà 'with, and' is usually pronounced à in this dialect.

t occurs in focalizing morphemes including tóʔó and té (§13.1.1). In allegro speech the t is sometimes lenited to a tap [ɾ] after a vowel to form róʔó etc. This tapping is most common in Bi dialect. Clause-final emphatic =dɛ̄ʔ is similarly often heard as =rɛ̄ʔ. We have not observed full deletion of the t or d in these morphemes.

The combination of infinitival kō with bà 'come (Base)' is pronounced as kō bà, except in a double 'come' construction of the schematic type 'X came and came-ate', where 'came-ate' is a verb-verb compound. In this construction, the b in kō bà- is lost and the result is contracted to [kā̀] or [kāà]. We transcribe this as kā= à- (§15.2.3.2). It is distinct structurally from a partially homophonous k=ā̀ contracted from infinitival kō plus Ipfv à, a combination that is followed by a verb in Ipfv rather than base form (§15.2.2).

3.4.2.2 Nasalization of initial y to ɲ in verb stems

In Pfv and in some cases Ipfv verb stems, /wiv/ can metathesize to /yuv/, where "v" is some front unrounded vowel. In the absence of a nasalized vowel, this occurs chiefly in Fl dialect

(§3.4.5.1). The u is then sandwiched between y and a front unrounded vowel, and in this environment it is fronted subphonemically to ɥ (§3.2.1.8).

In Bi (two examples) and Ji (one example), this metathesis occurs only in the presence of vocalic nasalization. The metathesized /y/ is then fully nasalized to ɲ (89).

(89)	Pfv	Base	Ipfv	dialect	
a.	ɲɥ̀ɛ̀(^{n})	wɛ̄^{n}	ɲɥ̄ī(^{n})	Bi Ji	‘burn, sear’
b.	ɲɥ̀ɛ̀^{n}	wā^{n}	wɛ̄^{n}	Bi	‘(infant) suckle’

One noun presents a similar y ~ ɲ alternation cross-dialectally, but both variants do not coexist in any single dialect to our knowledge (90). The nasal onset occurs in Bi dialect.

(90)	‘gourd’	Ji	Fl	Ma	Bi
		yà^{n}bə́rá	yàmə̄rá	yàmə̀rá	ɲà^{n}bə́rá

An apparently spontaneous shift *y to ɲ occurs in forms of yúó ‘people’ when it functions as a human plural classifier in numeral phrases, especially in Ji dialect. Thus ē ɲūō jɔ̄^{n} (Ji) and ē yūō jɔ̄^{n} (Fl) ‘two people’ (§4.6.1.2).

3.4.2.3 Initial c/k alternations in verb stems

A few verbs show an alternation of initial c versus k. The c variant appears when an intrusive i is inserted to produce a diphthongal syllable (§3.4.3.1). In (91a-c), this occurs in the Pfv, which has the intrusive i, in contrast to the base and Ipfv in which k is followed by a low or back vowel. The ɥ in (91b-c) is from /u/ between a palatal onset and a following front unrounded vowel (§3.2.1.8). The verbs in (91b) and (91c) are homophonous.

(91)	Pfv	Base	Ipfv	dialect	
a.	cìɛ̀	kà	kɛ̀	Bi Fl Ji	‘eat (meat)’
b.	cɥ̀ʔɛ̀	kùʔɔ̀	kùʔù	Ji	‘waste away’
	cɥ̀ɛ̀ʔɛ̀	kùɔ̀ʔɔ̀	kùʔù	Fl	
c.	cɥ̀ʔɛ̀	kùʔɔ̀	kùʔù	Bi Ji	‘pick off (leaf)’
	cɥ̀ɛ̀ʔɛ̀	kùɔ̀ʔɔ̀	kùʔù	Fl	

The verb in (92) differs in that the base and Ipfv have a front unrounded vowel. The dialects differ in showing either c/k as in the preceding examples (Fl), invariant k (Bi Ma), or invariant c (Ji).

(92)	Pfv	Base	Ipfv	dialect	
	cīɛ̄^{n}	kí^{n}	kí^{n}	Fl	‘groan’
	kɛ̄^{n}	kí^{n}	kí^{n}	Bi Ma	"
	cīɛ̄^{n}	cí^{n}	cí^{n}	Ji	"

In (93), the Pfv shows a similar palatalization, while base and Ipfv fuse *ku into labial velar kp before a front or low vowel (§3.4.2.6).

(93)	Pfv	Base	Ipfv	dialect	
	cʯ̀ɛ̀	kpā	kpɛ̄	Fl Ji Ma	‘pick (fruit)’
	cʯ̀ɛ̀	kpā	kpē	Bi	"

3.4.2.4 Initial c/t alternations in verb stems

In two homophonous verbs (94a), a shift of initial /t/ to c occurs when an intrusive u is inserted into the Pfv to form a diphthong (§3.4.3.1). Compare (94b) with stable c, and (94c) with stable t.

(94)		Pfv	Base	Ipfv	dialect	
	a.	cùɔ̀^{n}	tɔ̄^{n}	tī^{n}	(various)	‘block (v)’
		cùɔ̀^{n}	tɔ̄^{n}	tī^{n}	(various)	‘count’
	b.	cùɔ̀^{n}	cɔ̄^{n}	cī^{n}	(all)	‘spend the night’
	c.	tùʔù	tùʔù	tùʔù	Bi	‘disturb, annoy’
		tə̀rɔ̀	tɔ̄	tō ~ tū	(various)	‘hide (intr)’

3.4.2.5 Initial j/d alternations

Some verbs alternate initial j with d, the details varying by dialect and stem. In (95a-c), the j variant occurs in the Pfv before an intrusive u (§3.4.3.1), which creates a diphthong.

(95)		Pfv	Base	Ipfv	dialect	
	a.	jùɔ̀^{n}	dɔ̄^{n}	dī^{n}	(various)	‘bite’
	b.	jūā	dɔ́	dó	Bi	‘divide, share’
		dərɔ̄	dɔ́	dó	Fl Ma	"
		dərɔ̄	dɔ́	dú	Ji	"

c.	jūō	dú	dú	Bi Fl	'sow (v), plant'
	dūō	dú	dú	Ma	"
	jūō	jú	jú	Ji	"

There is one parallel case with j before intrusive i in the Pfv in Bi dialect (96).

(96)	Pfv	Base	Ipfv	dialect	
	jīē	dē	dē	Bi	'pick (cotton)'
	dē	dē	dē	Fl Ji Ma	"

In (97), d occurs before a front unrounded vowel in the Pfv (bolded), versus j before a diphthong that begins with u (arguably intrusive) in the base and Ipfv. The d/j alternation is pandialectal for 'sell' (97a). The alternation is most systematic for Ji and Fl dialects in the three glottalic stems (97b-d), where one could argue that the i in the Pfv is intrusive. 'Put (pot) up on' and 'follow' (97b-c) are homophonous except in the Pfv stem in Fl.

(97)	Pfv	Base	Ipfv	dialect	gloss
a.	**dè**	jūō	jūō	(Fl Ji Ma)	'sell'
	dē	jūō	jūō	(Bi)	
b.	**dìʔɛ̀**	jùʔɔ̀	jùʔù	Ji	'put (pot) up (on)'
	jìʔɛ̀	jùʔɔ̀	jùʔù	Bi	
	jɥ̀ɛ̀ʔɛ̀	jùɔ̀ʔɔ̀	jùʔù	Fl Ma	
c.	**dìʔɛ̀**	jùʔɔ̀	jùʔù	Ji	'follow (after)'
	jìʔɛ̀	jùʔɔ̀	jùʔù	Bi	
	dìɛ̀ʔɛ̀	jùɔ̀ʔɔ̀	jùʔù	Fl	
	jɥ̀ɛ̀ʔɛ̀	jùɔ̀ʔɔ̀	jùʔù	Ma	
d.	**dīʔɛ̄**	jūʔɔ̄	jūʔɔ̄	Bi(var) Ji	'hear, understand'
	dīɛ̄ʔɛ̄	jūɔ̄ʔɔ̄	jūɔ̄ʔɔ̄	Ma Fl	
	jīʔɛ̄	jūʔɔ̄	jūʔɔ̄	Bi(var)	

Alternations like de with juo in (97a) above, combining d/j with an intrusive u to form a diphthong, have a parallel in the relationship between the two animacy-marking nouns that function as default possessums (98a), and (with l or r instead of d) in the two animacy-marking third person pronominals following kà 'with' (98b). For d/r alternations see §3.4.2.9.

(98)	form	gloss	reference
a.	X dó	'X's' (inanimate)	§6.2.4.1
	X júó	'X's' (animate)	§6.2.4.2

b.	kà lō ~ à rō	‘with it/them’ (inanimate)	§4.3.2.4
	kà júò	‘with him/her/it/them’(animate)	

3.4.2.6 Initial kp/k alternations

Some stems have fixed initial kp that does not alternate. The relevant syllabic shape is kpv, or kplv with a lateral. Examples include nouns like kpà-[mɛ́-mɛ́] ‘butterfly’, kpɛ̀^{n} ‘tree sp. (*Carapa*)’, and kpò ‘parrot’. Some verbs also have initial kp throughout their stem paradigm (99).

(99)	Pfv	Base	Ipfv	dialect	gloss
	kpɛ̀^{n}ʔɛ̀^{n}	kpà^{n}ʔà^{n}	kpì^{n}ʔì^{n}	Bi Fl Ji	‘nail (v)’
	kplɛ̀^{n}	kplà^{n}	kplà^{n}	(all)	‘tell fortunes’

Other verbs have alternations of initial kp with k. These are probably reflexes of older alternations of the type *kE with *kuE, where *E was some front unrounded vowel. In stems with a lateral, the proto-forms may have been *kilE and *kulE, respectively. For intrusive u creating diphthongal syllables, chiefly in Pfv verb stems, see §3.4.3.1. Examples of Pfv kp versus base/Ipfv k are in (100).

(100)	Pfv	Base	Ipfv	dialect	gloss
a. kp/k					
	kpà	kɔ̄	kō ~ kū	(all)	‘finish’
	kpē	kō	kō	(all)	‘weep’
	kpèʔè	kōʔō	kōʔō	(all)	‘be good, succeed’’
	kpɛ̄^{n}ʔɛ̄^{n}	kɔ́^{n}ʔɔ́^{n}	kɔ́^{n}ʔɔ́^{n}	Bi Ji	‘cut up’
	kpɛ̄ʔɛ̄	kɔ́ʔɔ́	kɔ́ʔɔ́	Ji	‘lower (head)’
	kpɛ̀ʔɛ̀	kɔ̄ʔɔ̄	kōʔō	Fl Ma	‘uproot’
b. kpl/kl					
	kplè	klō	klō	Bi Ji Ma	‘(heart) beat’
	kplì^{n}	klù^{n}	klù^{n}	Bi Ji	‘weed (v)’
	kplɛ̀ʔɛ̀	kɔ̄ʔɔ̄	kōʔō	Ji	‘uproot’

By contrast, in (101) kp occurs in the base and Ipfv, while Pfv *kùɛ̀ has palatalized.

(101)	Pfv	Base	Ipfv	dialect	gloss
	cɥ̀ɛ̀	kpā	kpɛ̄ ~ kpē	(all)	‘pick (fruits)’

A few nouns that mutate a back rounded vowel in the singular to a front unrounded vowel in the plural with -ní (§3.3.9, §4.1.2.5.3) also show kp/k. The labial element in kp preserves a trace of the back rounded vowel.

(102)	Sg	Pl	dialect	gloss
	klɔ̄	kplɛ̀-ní	(all)	‘calabash’
	klū^{n}	kplè-ní^{n}	Bi	‘field cricket’
	kó^{n}gó-klǒ	kó^{n}gó-kplè-ní	Bi	‘plantain-eater (bird)’

3.4.2.7 Initial gb/g alternations

Alternations of initial gb/g alternations are parallel to those with kp/k described in the preceding section.

Initial gb and gbl occur before unrounded or rounded vowels in a number of nouns like gblì ‘ridge between furrows’, gbī^{n}ʔī^{n} ‘peanuts’, and gbó ‘aquatic beetle’. Some verbs have invariant initial gb or gbl before unrounded vowels (103)

(103)	Pfv	Base	Ipfv	dialect	gloss
	gbɛ̀^{n}	gbā^{n}	gbā^{n}	(various)	‘sew’
	gbɛ̀ʔɛ̀	gbāʔā	gbīʔī ~ gbēʔē	(various)	‘pile up’

Other verbs have initial gb (Pfv) versus g (base/Ipfv). The Pfv’s likely reflect diphthongal *guE with intrusive *u preceding an unrounded vowel *E. ‘Belch’ in (104a) has much dialectal variation.

(104)	Pfv	Base	Ipfv	dialect	gloss
a. gb/g					
	gbā	gɔ́	gó ~ gú	(all)	‘draw (water)’
	gbà	gɔ̀	gò ~ gù	(all)	‘hit’
	gbè	gùò	gùò	Ji	‘belch’
	gbɛ̄ʔɛ̄	gɔ́ʔɔ́	gúʔú	Ji	‘dig with hands’
b. gbl/gl					
	[none]				

‘Split (wood)’ (105a) has gb in the base in all dialects and in the Ipfv in Bi and Ji. Pfv *gūɛ̄ is palatalized to jɥ̄ɛ̄ (via *jūɛ̄) in Bi and Fl. ‘Fight’ (105b) has base/Ipfv gb only in Fl dialect.

(105)	Pfv	Base	Ipfv	dialect
a. ‘split (wood)’				
	jɥ̄ɛ̄	gbɛ́	gbɛ́	Bi
	jɥ̄ɛ̄	gbɛ́	jɥ́ɛ́	Fl
	gbɛ̄	gbɛ́	gbɛ́	Ji

b. ‘fight (v)’

jɥ̄ē	gbí	gbí	Fl
jɥ̄ē	jɥ́í	jɥ́í	Bi Ji Ma

There is one medial gb/g alternation in a noun that has a vocalic singular-plural mutation in Fl dialect.

(106)	Sg	Pl	dialect	gloss
	ʃíglòʔò	ʃígblè-ní	Fl	‘hyena’

3.4.2.8 Initial ŋm/ŋ alternations (absent)

The nasal counterpart to kp/k and gb/g alternations (preceding sections) would be ŋ/ŋm. Since ŋ and ŋm are unattested stem-initially, the usual position for the other labial-velar/velar alternations, there is no possibility of such alternations in this position.

3.4.2.9 d/r and t/r alternations

Initial d in some grammatical morphemes can be realized as tap r. The preceding morpheme always ends in a vowel, so the tapping is intervocalic. The commonly affected elements are in (107). The rhotic pronunciations appear to be most common in Bi dialect.

(107)	morpheme	rhotic version	gloss	comment
	=dɛ̄ʔ	=rɛ̄ʔ	emphatic	clause-final
	dè (Bi only)	rè	imperfective past	post-subject morpheme
	dè	rè	quotative	precedes quoted matter
	dó	ró	‘however’	subject-final morpheme

A similar process t→r is also attested especially in Bi dialect.

(108)	morpheme	rhotic version	gloss	comment
	tóʔó	ró(ʔó)	focus	at end of NP

There is reason to suspect that third person inanimate pronominal lō in kà lō ‘with it/them’, pronounced à rō in Bi dialect, derives from *kà dō or *kà dǒ (§4.3.2.4). If so, the Bi pronunciation with r is older than the pronunciation in other dialects with l.

3.4.3 Intrusive sonorants after C_1 in verbs

3.4.3.1 Intrusive semivowels and liquids

In the morphology of verb-stem paradigms, we often see an intrusive (i.e. nonlexical) semivowel u or i, or an intrusive liquid r or l, in the Pfv stem. In a smaller subset of verbs, a similar intrusive sonorant is present in the Ipfv as well. We defer details to chapter 10, but give a few examples here. (109) shows intrusive sonorants in the Pfv only.

(109)	Pfv	Base	Ipfv	dialect	gloss
a. intrusive u					
	sùò ~ ʃùò	sō	ʃī	(various)	'take, receive'
b. intrusive i					
	tīē	té	té	(various)	'put down'
c. intrusive r					
	jə̀rɔ̀	jɔ̀	jò ~ jù	(all)	'swallow (v)'
d. intrusive l					
	plɛ̀	pɛ̄	pē	(various)	'patch, stuff (v)'

For some other verbs, the intrusive element occurs in both the Pfv and the Ipfv, but not in the base. This is common for intrusive l, an example being (110a). It is rare for other intrusive sonorants, though we can cite one pandialectal case with u (fronted to ɥ), and one dialectal case with r (110b-c).

(110)	Pfv	Base	Ipfv	dialect	gloss
a. intrusive l					
	klɔ̄ⁿ	kɔ́ⁿ	**klúⁿ**	(all)	'chew (kola)'
b. intrusive u					
	kūō	kú	**cɥ́í**	(various)	'cut'
c. intrusive r					
	də̀rè	dē	**də̄rī**	Bi	'wade across'
	də̀rè	dē	dē	Fl Ji Ma	

For the verb in (111), the intrusive sonorant occurs only in the Ipfv (§15.1.7.1). Since it is always the final in a verb-verb compound, it has no Pfv.

(111)	Pfv	Base	Ipfv	dialect	gloss
	—	-pɔ̄ⁿ	**-plūⁿ**	(various)	'be able to'

3.4.3.2 Unexpected initial l in Ipfv verbs

In (112a-b) an irregular alternation ɲ/l or w/l occurs dialectally, with l initial only in the Ipfv. The l forms occur in Bi, and for 'bathe' (112a) also in Fl.

(112)	Pfv	Base	Ipfv	dialect
a. 'bathe'				
	wè	wò	lū	Fl
	wè	wō	lū	Bi
	wè	wō	wō	Ji
	wè	wò	wò	Ma
b. 'look at'				
	ɲūɔ̄^{n}	ɲɔ́^{n}	lú^{n}	Bi
	ɲūɔ̄	ɲɔ́	ɲú	Fl Ji Ma

This might have something to do, at least diachronically, with the intrusive l that occurs in some verbs (see the preceding section). The hypothesis would be that *wl and *ɲl with intrusive l dropped the initial sonorant. Intrusive l is most common in Pfv's, but does also occur in some Ipfv's, as with gblɛ̀/gbɛ̄/gblī 'pick up, take'.

3.4.3.3 Other puzzling cases of initial l

Possibly relevant to the considerations in the preceding subsections is the synchronically suppletive relationship between yīɛ̄ 'young woman' and its plural lɔ̄. yīɛ̄ itself may be an archaic diminutive of yǒ 'woman', whose regular plural is yə̀-ró. Conceivably plural lɔ̄ is truncated from an old rhotic plural from the diminutive, perhaps *yə̄-rɔ̄. Recall that tap r cannot occur stem-initially, so replacement of initial *r by l might have occurred.

Another etymological puzzle is lō, which occurs only in the combination kà lō 'with it/them (inanimate)'. Here kà is the instrumental and comitative preposition. lō functions as a third-person inanimate pronoun, but it does not phonologically resemble any other third person pronoun or any inanimate demonstrative. The animate counterpart is kà júò 'with him/her/them'.

3.4.4 Consonant nasalization and prenasalization

3.4.4.1 Prenasalization of stop after nasalized vowel

For our Bi speaker, stem-final Cv^{n} syllables, and most stems ending in a nasal syllable Nv^{n}, can prenasalize a following stop at compound and word boundaries. An example is Bi ná^{n}-dɛ̀ [ná^{n}dɛ̀] 'old person'. Other dialects have ná-dɛ̀ where the a has only the minimal nasalizaty that comes automatically with position after a nasal consonant. Similarly, 1Sg and 2Sg pronouns take the forms nó and mó in other dialects, but are more strongly nasalized as nó^{n}

and mó^{n} in Bi, where they can prenasalize a following stop, as in Bi nó^{n} dɛ̄ 'my elder sibling', pronounced [nó^{n}dɛ̄].

Nasalization spreads rightward in the course of vv-Contraction. For example, PfvNeg á and Ipfv à can fuse with a preceding nasalized vowel to form a long nasalized vowel. This can then prenasalize a following stop.

(113) /nó^{n} à bē/ → náà^{n} bē [náà^{m}bē]
1Sg Ipfv come.Ipfv
'I come.'

For full nasalization (rather than just prenasalization) of a stop across a boundary, e.g. word-initial t becoming n (rather than ^{n}t) after a nasalized vowel, see §3.4.4.2 below. This too is characteristic of Bi dialect.

For nasalization in Cvʔv syllables, see §3.1.1.6.

3.4.4.2 Alternations of medial nasal versus prenasalized voiced stop

There are a few cases where a medial prenasalized stop {^{n}b ^{n}d ^{n}j ^{n}g} varies with a simple nasal {m n ɲ ŋ}. In (114), the alternation occurs in a singular-plural pair in Fl dialect. The ^{n}g variant is conditioned by the reduction of the following vowel to schwa before a rhotic plural suffix.

(114) 'hairy-tailed fieldmouse sp.' (*Taterillus* or *Gerbilliscus*)

pàŋɛ̄ʔɛ́ (Sg)	Fl
pà^{n}gə̄-rɛ̄-ʔɛ́ (Pl)	Fl
other dialects:	Ma pàŋə̀rɛ̀ʔɛ́ (frozen Pl functioning as singular/collective) Ji gə̄rɛ̄ (Bi fɔ̀cɛ́ʔɛ́, noncognate)

The more usual situation is that Bi dialect has the prenasalized stop versus a simple nasal in other dialects (115).

(115) a. 'spear'

tà^{n}bá	Bi
tàmá	Fl Ji Ma

b. 'tree sp. (*Detarium*)'

tá^{n}bá	Bi
támá	Fl Ji Ma

c. 'tamarind'

tɔ́^{n}bí	Bi
tómí ~ tɔ́mí	Fl Ji

< Jula tómí

d. ‘cassava’

gbéⁿdé	Bi
gbéné	Fl Ji

e. ‘herb sp. (*Chrysanthellum*)’

kpàⁿdɔ̀-ʃìⁿʔɛ́ⁿ	Bi
kpànɔ̀-ʃìⁿʔɛ̀ⁿ	Fl
kpànà-ʃɛ̀ⁿʔɛ̀ⁿ	Ji

f. ‘violet turaco (bird)’

kòròⁿjó	Bi
kòròɲò	Fl Ji Ma

g. ‘tall grass sp. (*Rottboellia* and/or *Chasmopodium*)’

jùà-kūⁿbō	Bi
jùà-kōmōʔō	Fl Ma
jà-kómóʔó	Ji

h. ‘genet’ or ‘marsh mongoose’ or ‘serval cat’ (mammals)

sàⁿbɛ̀ʔɛ́	Bi
sàmɛ̀ʔɛ́	Fl Ji Ma

i. ‘gourd’ (used mainly by Fulbe)

ɲàⁿbə́rá	Bi
yàⁿbə́ráⁿ	Ji
yàmə̄rá [jàmə̄rá̰]	Fl
yàmə̀rá [jàmə̀rá̰]	Ma

3.4.4.3 Full nasalization of initial stop across a boundary (Bi)

We pointed out, e.g. in §3.3.4 above, that Bi dialect has stronger nasalization of vowels in Nv syllables than in other dialects, and that forms like 1Sg pronoun nóⁿ (Bi) can prenasalize a following stop, as in Bi nóⁿ dɛ̄ pronounced [nóⁿdɛ̄] ‘my elder sibling’, versus simple nó dɛ̄ in other dialects.

In Bi, the process can go further in allegro speech, and fully nasalize rather than just prenasalize a following stop. Most examples of full nasalization involve alveolar and velar stops at the beginning of high-frequency grammatical morphemes.

(116) Nasalization of stops (Bi)

	input forms	nasalized	morphemes
a.	nóⁿ tóʔó	nóⁿ nóʔó	1Sg plus Focus
b.	nóⁿ dè	nóⁿ nè	1Sg plus ‘said’

c.	nó^{n} bà	nó^{n} mà	1Sg plus ‘if’
d.	ɔ̀^{n} kō (~ ɔ̀^{n} gō)	ɔ̀^{n} ŋō	3AnSg plus infinitival morpheme

When such full nasalization occurs, the vocalic nucleus of the resulting Nv syllable does not itself behave as a nasalized vowel in its interaction with following elements. Therefore the final vowels in the central column in (116), e.g. mà from /bà/ in nó^{n} mà, are not strongly nasalized and have no prenasalization or nasalizing effect on any consonants farther to the right. Contrast nó^{n} mā in (116c) with 1Sg imperfective negative nó^{n} má^{n} (Bi), where IpfvNeg má^{n} has a strongly nasalized vowel. When these combinations are combined with a following dè ‘say’, (117a) has simple d while (117b) has prenasalized ^{n}d (it can also be fully nasalized as nè).

(117) a.
nó^{n} mā dè [nó(^{n})mādè]
/bà/
1Sg if say.Pfv
‘if I say’

b.
nó^{n} má^{n} dè [nó(^{n})má^{n}dè]
1Sg IpfvNeg say.Base
‘I do not say’

In the compound meaning ‘father-in-law’, Ji and Bi share prenasalized ^{n}-d across the boundary, while Fl has the nasal consonant. (118) shows singular and plural forms.

(118) ‘father-in-law’

	singular	plural	dialect
a.	dɔ́^{n}-dɔ̀	dɔ́^{n}-dɔ̀-rɔ̀	Bi, Ji
b.	dɔ́(^{n})-nɔ̀	dɔ́(^{n})-nɔ̀-rɔ̀	Fl Ma

Factors favoring this irregular fusion in Fl may have been high frequency, brevity (compared to other compounds), and fuzziness as to the identity of the second element. It was originally an L-toned form of dɔ̌ ‘man, male’. To native speakers this would be more obvious synchronically if the female equivalent were #dɔ́^{n}-yò with a form of yǒ ‘woman, female’, but the actual form is dɔ́(^{n})-nì ‘grandmother’ ending with a form of nī ‘mother’.

3.4.5 Vowel-vowel and vowel-semivowel processes

For intrusive i or u after the initial consonant in certain verb forms, see §3.4.3.1.

3.4.5.1 Semivowel-Vowel Metathesis (Fl dialect)

In chapter 10 we will see many examples of intrusive i in Pfv's, forming diphthongal syllables like Cie and Ciɛ (with or without glottalization), e.g. fīē 'pasted' (base fó). In (119), where we would expect Pfv wi(ʔ)ɛ, Fl dialect has yɥɛ. We interpret this as reflecting a metathesis process /wiɛ/ → /yuɛ/, switching the features of the initial semivowel and the following glide-like segment, while keeping the syllabic structure intact. /yuɛ/ is then regularly realized as yɥɛ, IPA [jɥɛ], as /u/ is fronted between palatal segments (§3.2.1.8).

(119)	Pfv	Base	Ipfv	dialect
a. 'reap with sickle'				
	yɥ̄ɛ̄	wúɔ́	wúɔ́	Fl
	wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	Ji
	wɛ̄	wúɔ́	wúɔ́	Bi
b. 'suck (finger), eat (rice)'				
	yɥ̀ɛ̀ʔɛ̀	wūɔ̄ʔɔ̄	wūʔū	Fl
	wìʔɛ̀	wūʔɔ̄	wūʔū	Bi Ji
	wìʔɛ̀	wūɔ̄ʔɔ̄	wūʔū	Ma
c. 'open, unlock' and 'coagulate, solidify'				
	yɥ̄ɛ̄ʔɛ̄	wūɔ̄ʔɔ́	wūɔ̄ʔɔ́	Fl
	wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	Ji
	wīʔɛ̄	wúʔɔ́	wúʔɔ́	Bi

A wrinkle on this occurs in two verbs with nasalized vowels, in one case for Bi and Ji dialects (120a) and in the other case just for Bi (120b). For both verbs we assume an underlying Pfv /wìɛ̀^{n}/, which undergoes metathesis to /yùɛ̀^{n}/, fronting to /yɥ̀ɛ̀^{n}/ as before, and then further full nasalization of /y/ to ɲ, assimilating to the nasalized diphthong (§3.4.2.2). In the case of 'burn, sear' a similar derivation from diphthongal (not long-voweled) *wìì^{n}, or else an analogical reshaping based on the Pfv, appears to have occurred in the Ipfv.

(120)	Pfv	Base	Ipfv	dialect
a. 'sear, burn on fire'				
	ɲɥ̀ɛ̀ [ɲɥ̀ɛ̰̀]	wɛ̄^{n}	ɲɥ̄ī [ɲɥ̀ḭ̀]	Bi Ji
	yɥ̀ɛ̀^{n}	wɛ̄^{n}	yɥ̄ī^{n}	Fl
b. '(infant) suckle'				
	ɲɥ̀ɛ̀^{n} [ɲɥ̀ɛ̰̀]	wā^{n}	wɛ̄^{n}	Bi
	wɛ̀^{n}	wā^{n}	wɛ̄^{n}	Fl Ji

3.4.5.2 Hiatus between vowels at boundaries

When two vowels come together across a boundary, vv-Contraction may occur. Contraction is most common when the second element is a grammatical morpheme such as article ē or imperfective à. When the second element is one of the relatively small number of vowel-initial lexical stems, speakers usually try to pronounce the two vowels separately, though there is no separator such as a glottal stop.

For example, pre-nominal article ē is usually elided segmentally when it follows another word, often leaving behind a tonal trace (§3.4.6.1). By contrast, when it precedes a vowel-initial noun that occurs after a pause or independently, there is no contraction in reasonably careful speech. Thus ē ɔ̀ʔɔ́ ‘arm’, ē ɛ̀ʔɛ́ ‘thing’, è á bī-bì ‘small one’ (with pre-adjectival inanimate á).

Fl and Ma dialects avoid hiatus in most cases by furnishing the relevant stems with an initial semivowel homorganic to the vowel, hence wɔ̀ʔɔ́ ‘arm’ and yɛ̀ʔɛ́ ‘thing’.

3.4.5.3 Diphthongization by raising mid-height to high

By diphthongization we mean the raising of a mid-height vowel {e ɛ} to i or {o ɔ} to u before a nonhigh vowel, producing one of the regular diphthongs {ie iɛ ia uo uɔ ua}. There are few morpheme combinations that satisfy the input requirements for this process.

This diphthongization does not occur in vv-Contraction where the second vowel is the onset of a word or grammatical particle. For example, when pronouns like 1Sg nó and 3Pl ò contract with Ipfv à, the usual outputs are ná= à and ò= Ø, respectively (§3.4.6.3, §4.3.3), not diphthongal #nú= à and #ù= à.

Diphthongization is therefore limited to the stem-suffix boundary. Among nouns and adjectives, it is attested with only a handful of stems. One relevant environment is when 2Sg possessive suffix -à or variant is added to a Cv stem. Diphthongization occurs pandialectally for ‘father’ (121a), likely on the model of its plural ʃì-ó. There is no diphthongization for other similar Cv nouns and adjectives (121b). For further detail on the 2Sg suffix see §6.2.5.2.

(121)		stem	gloss	with 2Sg possessor
	a.	sē	‘father’	ʃī-à (all)
	b.	dɛ̄	‘elder sibling’	dɛ̄-à (Fl)
		yǒ	‘woman, wife’	yō-à ~ yɔ̄-à (Fl Ji)
		pɔ́	‘leg’	pɔ́-à

Diphthongization also occurs in the handful of Cv nouns, adjectives, and compound finals that have a plural suffix -o ~ -ɔ (§4.1.2.4.1).

(122)

singular	gloss	plural
sē	‘father’	ʃì-ó
dɛ̄	‘elder sibling’	dì-ɔ́
ná-dɛ̀ ~ nā-dɛ̀	‘old man/person’	…-dì-ɔ̀
kā dɛ̀	‘old (animate)’	kā dì-ɔ̀

3.4.5.4 Biton ua for other dialects’ uɔ

Bi dialect presents ua in several cases where other dialects have uɔ. The latter pronunciation is undoubtedly archaic.

(123) a. color adjective (§4.5.3.1.1)

kā yùà	Bi	‘black’ (with animate classifier)
kā yùɔ̀	Fl Ji	"

b. Pfv verbs (§10.1.5.2)

jūā	Bi	‘divided, shared’
dərɔ̄	Ji Fl Ma	"
sūā	Bi	‘jabbed’ or ‘lit (fire)’
sūɔ̄	Ji Ma	"
ʃūɔ̄	Fl	"
būā	Bi	‘tied up’
būɔ̄	Fl Ji Ma	"

3.4.6 vv-Contraction

When two vowels come together at a boundary, they often contract into a long vowel. Since nearly all words end in a vowel, the environment for vv-Contraction is determined by the set of following words or particles that begin with a vowel. This set includes about eight high-frequency grammatical morphemes each consisting of just a vowel, a few additional high-frequency grammatical morphemes and basic motion verbs that elide their initial consonant under some conditions, and around ten lexical stems that have initial vowels especially in Bi and Ji dialects. An inventory is given in §3.1.1.2 above.

3.4.6.1 vv-Contraction with article ē

The prenominal article ē occurs post-pausally in its uncontracted form ē, for example in subject NPs or after an interruption in the middle of a clause. In other contexts (e.g.

postverbal subject, or complement of a postverbal PP), if the sequence is pronounced smoothly the ē disappears segmentally. (124) shows how ē bū^{n}ʔɔ̄^{n} 'dog' combines with preceding verbs that end in various vowel qualities.

(124)	preceding vowel	verb	gloss	combination with 'dog'	
	i	(à) bí	'gets' (Ipfv)	(à) bí̄ =	[Ø bū^{n}ʔɔ̄^{n}]
	e	dè	'sold' (Pfv)	dè̄ =	[Ø bū^{n}ʔɔ̄^{n}]
	ɛ	pɛ̀	'forgot' (Pfv)	pɛ̀̄ =	[Ø bū^{n}ʔɔ̄^{n}]
	a	gbà	'hit' (Pfv)	gbà̄ =	[Ø bū^{n}ʔɔ̄^{n}]
	ɔ	(kō) gɔ̀	'hit' (Base)	(kō) gɔ̀̄ =	[Ø bū^{n}ʔɔ̄^{n}]
	o	būō	'got' (Pfv)	būō	[Ø bū^{n}ʔɔ̄^{n}]
	u	(kò) bú	'get' (Base)	(kò) bú̄ =	[Ø bū^{n}ʔɔ̄^{n}]

On a closer look the M-tone of ē leaves a tonal trace on the surviving vowel. The relevant formulae are summarized in (125), where "v" denotes any vowel.

(125) Tonal traces of contracted M-toned ē

input	contracted with ē	surface tone
Cv́	Cv́̄=	<HM>
Cv̄	Cv̄	M
Cv̀	Cv̀̄=	<LH>

That is, the tone of the contracted vowel moves toward the M-tone of the deleted ē. This results in contour tones <HM> and <LM> unless the preceding vowel is already M-toned. We index the tonal interaction by means of the = boundary. As noted elsewhere, v́̄ is not the technically correct IPA diacritic for <HM>, since IPA has no diacritic for this combination.

In theory, a Cv̌ stem could contract with ē as an <LHM> syllable. However, we cannot find a plausible example. The issue is that there are no Cv̌ verb stems or prepositions, the forms that normally precede NPs. Even were it possible to find such a combination, the Cv̌ stem might just level to Cv̄, as often happens in compound initials.

Before its elision, ē undergoes the tone sandhi process M#H-to-L#H when it is followed by an H-tone. Thus M-toned ē in ē bū^{n}ʔɔ̄^{n} 'dog' and ē ʃì^{n}ʔí^{n} 'tree', but L-toned è in è bá^{n} 'sheep.Sg'. The L-toned è disappears segmentally under contraction just like M-toned ē, but its tonal traces are different (126). Angled brackets <…> enclose contour tones on single syllables.

(126) Tonal traces of contracted L-toned è

input	contracted with è	surface tone
Cv́	Cv̂ =	<HL>
Cv̄	Cv̄̀ =	<ML>
Cv̀	Cv̀	L

Now it is input H and M that surface with contour tones, moving toward L, while already L-toned inputs preserve their tone.

An example of how M#H-to-L#H interacts with contraction is kà 'with, and' (127).

(127)		underlying	surface	gloss
	a.	/kà ē bū^{n}ʔɔ̄^{n}/	ka᷅= [Ø bū^{n}ʔɔ̄^{n}]	'with a/the dog'
		/kà ē sò/	ka᷅= [Ø sò]	'with a/the horse'
	b.	/kà ē bá^{n}/	kà [Ø bá^{n}]	'with a/the sheep'

In (127a), L-toned kà becomes <LM> toned as it moves toward the M of the deleted ē. In (127b), first ē is dropped to è before the H-toned noun, resulting in /kà è bá^{n}/. Then contraction of the two L-toned vowels occurs.

In kà [Ø bá^{n}] 'with a/the sheep', the contracted vowel is short for most speakers. By contrast, in ka᷅= [Ø bū^{n}ʔɔ̄^{n}] 'with a/the dog' and ka᷅= [Ø sò] 'with a/the horse', the contour tone requires additional duration, and the contracted vowel is lengthened.

Winkelmann (1998: 133) argued that an H- or L-toned noun shifts to phonetic M-tone when the article is segmentally zero. Her three key examples are reproduced in (128) below. In each of (128a-c) the top line is based on Winkelmann's phonetic transcription (1998:133) with the addition of Ø to mark the position of the elided article and also in (128b-c) to mark an elided Ipfv à. Her idea was that nábíó 'people' drops from H to M, dɛ̀ 'field' raises from L to M, and the first (reduplicative) syllable of tè-tèʔè 'pot' raises from L to M, absorbing the underlying M-tone of the article ē.

(128)						
	a.	ʔò	lè	[Ø	nābīō]	
		3Pl	show.Pfv	[**Art**	people]	
		'They showed (it) to the people.'				
	b.	ʔò	Ø	bí	[Ø	dɛ̄]
		3Pl	Ipfv	cultivate.Ipfv	[**Art**	field]
		'They cultivate the field.'				
	c.	ʔò	Ø	dù	[Ø	tētèʔè]
		3Pl	Ipfv	buy.Ipfv	[**Art**	pot]
		'They buy a pot.'				

We did not observe any notable tonal effects of the deleted article on the noun, as opposed to the preceding word. Our transcriptions for these combinations are either ō lè [Ø ná-bíó] or ō le᷅= [Ø nà-bíó] depending on the dialect, the latter variant with <LM> le᷅ ; ò= Ø bi᷄= [Ø dɛ̀] with <HM> bi᷄, or dialectally (with the same tones) ò= Ø be᷄= [Ø dɛ̀]; and ò= Ø dū [Ø tè-tèʔè] with no contour tone, or dialectally (with the same tones) ò Ø dō [Ø tè-tèʔè].

Some of our recordings with older female speakers show a tendency to preserve the article ē without contraction even when directly following a verb or preposition. See texts 2017-12 to 2017-20 for examples.

Another caveat is that the article is sometimes just omitted, so that even the expected tonal trace fails to appear. In post-pausal position, where the presence or absence of the article is very clear, the article is optional when the noun is followed by a demonstrative or by bíɛ́(ʔ) ‘all’. When such a modified NP occurs medially in a clause, we cannot be sure whether it is underlying present or absent unless there is a clear tonal trace. Textual transcriptions are therefore unreliable. Predicate NPs following kō ‘be’ omit the expected tonal trace systematically in uninterrupted speech, hence kò [Ø bá^n] ‘is a sheep’ for expected #kō= [Ø bá^n]. However, the article reappears after a hesitation: kō, [è bá^n].

In texts, we tend to normalize transcriptions in favor of the tonal traces, even when (as usual in allegro speech) the contour tones are not clearly audible.

3.4.6.2 vv-Contraction with pre-numeral morpheme ò

The other article-like morpheme is plural ò, which precedes numerals from ‘2’ to ‘9’ when preceded by a noun (§4.6.1.2). In reasonably careful speech it is separately audible, as in [ē wə̀-rú] [ò jɔ̄^{n}] ‘two houses’. In allegro speech style, however, it can be reduced to a tonal trace, as in [ē wə̀-rû=] [Ø jɔ̄^{n}]. This reduction is favored by the fact that most plural animate nouns end in o or ɔ, and by the fact that ò contributes no unrecoverable semantic information.

ò is, however, often audible after nouns that end in a vowel other than {u o ɔ}. This is systematic with frequently quantified nouns dè ‘day’ (literally ‘sun’, not morphologically pluralized) and fə̂-rè ‘months’. Contraction is not obligatory, but if it does occur, it is e that drops.

(129)	a.	[ē	fə̂-r=]	[ò	sá^n]
		[Art	month-Pl]	[Pl	three]
		‘three months’ (Ma, 2018-04 @ 00:03)			
	b.	[ē	d=]	[ò	sá^n]
		[Art	sun]	[Pl	three]
		‘three days’ (women, 2017-14 @ 00:43)			

With other nouns that are less regularly quantified, we have heard contractions similar to those with article ē, where ò disappears segmentally and leaves behind a tonal trace, as in [ē sə̀-rî^n=] [Ø sá^n] ‘three trees’ alongside uncontracted [ē sə̀-rí^n] [ò sá^n].

In addition to the rather common resulting <HL> and <ML> contracted syllables, when a Cv̌ noun like (ē) sǒ ‘pig’ combines with ò, the result might contract as <LHL>. This might happen in dialects where [ē sǒ] [ò sá^n] (Fl) ‘three pigs’ and [ē kɛ̌] [ò sá^n] ‘three cowpea plants’. However, the full pronunciation is always possible and we have no clear examples of this contraction.

3.4.6.3 vv-Contraction with post-subject particles á and à

PfvNeg á and (positive) Ipfv à particles do not systematically contract with the final vowel of a preceding nonpronominal subject (i.e. a full NP). They do contract with most pronominal subject proclitics. All combinations except those with 3Inan subject proclitic à involve a clash of vowel quality features. The a quality of the particles prevails over the o of the Co proclitics in (130a), or at least shifts o to ɔ (halfway in the direction of a). The contracted vowel is long. The simple 1Pl proclitic may avoid contraction, or at most shifts o to ɔ (130b). The diphthongs in the longer 1Pl form (identical to the independent pronoun form) and in the 2Pl form lose the final vocalic segment before the particles (130c).

The simple third person (3AnSg, 3Inan, and 3Pl) proclitics in (130d) diverge from the phonological pattern in (130a) in that the quality of the pronominal prevails over that of the particle, and the contracted vowel is not lengthened. However, the particle has a tonal effect.

(130)	category	pronoun	PfvNeg (á)	Ipfv (à)	comment
a.	1Sg	nó	ná= á ~ nɔ́= á ~ nó á	ná= à ~ nɔ́= à ~ nó à	
	2Sg	mó	má= á ~ mɔ́= á ~ mó á	má= à ~ mɔ́= à ~ mó à	
	LogoSg	bó	bá= á ~ bɔ́= á ~ bó á	bá= à ~ bɔ́= à ~ bó à	
	LogoPl	bùò	bù= á bù= à		
b.	1Pl	ó ~ é	ó á ~ ɔ́= á	ó à ~ ɔ́ à	see also (c)
c.	1Pl	é-yùò	é-yù= á	é-yù= à	see also (b)
	2Pl	bùò	bù= á	bù= à	
d. [the contracted vowel is not lengthened]					
	3AnSg	ɔ̀ⁿ	ɔ̌ⁿ= Ø	ɔ̀ⁿ= Ø	
	3Inan	à	ǎ= Ø	à= Ø	
	3Pl	ò	ǒ= Ø	à = Ø	

Contracted third person perfective negative ɔ̌ⁿ, ǎ, and ǒ are not subject to LH#H-to-L#H (§3.6.2.3). That is, they retain their rising tone even when followed by an H-toned verb. Therefore they are always distinct from corresponding (positive) imperfective ɔ̀ⁿ, à, and à.

The pronunciations shown for the non-third-person imperfective combinations are those that precede a verb beginning with H- or M-tone, i.e. those that require the L-toned form of Ipfv à. When not contracted, the Ipfv morpheme is raised to ā before an L-tone (§3.6.2.1) as in (131c). This is also reflected in the tone of the contracted vowel in non-third-person combinations, like 1Sg ná= ā sə̀rà. However, third person proclitics that fuse with Ipfv à remain L-toned, as in ɔ̀ⁿ= Ø sə̀rà (131c).

(131)	Vb tone	Ipfv verb	gloss	1Sg Ipfv	3Pl Ipfv
a.	H	à klá	‘returns’	ná= à klá	ɔ̀ⁿ= Ø klá
b.	M	à lɔ̄	‘coughs’	ná= à lɔ̄	ɔ̀ⁿ= Ø lɔ̄
c.	L	ā sə̀rà	‘pays; advises’	ná= ā sə̀rà	ɔ̀ⁿ= Ø sə̀rà

For verbs like klè ‘do’ that have the same L-toned form in Pfv and Ipfv stems, the tonal treatment of third person subject problicits permits an indirect distinction. Thus ā klè ‘it did’ (perfective) versus à= Ø klè ‘it does’ (imperfective). This is because the third person subject proclitics are raised from L to M when immediately preceding an L-toned Pfv verb, but are not raised when followed by the Ipfv particle. For more examples and discussion, see discussion around (175) in §3.6.2.1 below.

3.4.6.4 vv-Contraction with intercalated Ipfv -à- in compounds

In verb-verb compounds, the two verbs Vb$_1$ and Vb$_2$ are adjacent in the Pfv and base, but in the Ipfv they have the form à Vb$_1$-à-Vb$_2$, with a second copy of the Ipfv particle intercalated between them. Since Vb$_1$ always ends in a vowel, the intercalated -à- is subject to contraction with the preceding vowel. Pronunciation of Ipfv combinations is variable, as speakers do not take pains to clearly articulate the intercalated particle. If the verb is nonmonosyllabic, its final vowel if from the set {ɛ ɔ a} may be elided before -à-. Unelided {e o}, for example in monosyllabic verbs, are usually lowered to {ɛ ɔ} before -à-, and the result can be a diphthongal {ɛa ɔa}, or it can contract further to {ɛ ɔ}. The intercalated -à- is nasalized after a nasalized vowel, whether or not the latter is elided.

(132) Verb compounds

base	gloss	Ipfv
a. Vb$_1$ is monosyllabic		
bɔ́-súʔú	‘grip, hold’	à bɔ́-à-súʔú
ló-dá^{n}	‘change direction’	à lɔ́-à-dá^{n}
kà^{n}-tó	‘pile up’	kà^{n}-à^{n}-tó
tì^{n}-gbɛ̄	‘move over’	tì^{n}-à^{n}-gblī
b. Vb$_1$ is nonmonosyllabic		
kpɛ̀^{n}ʔɛ̀^{n}-ló	‘slip’ (Bi)	ā kpɛ̄^{n}ʔ-à-ló
cə́ró-té	‘hang up’ (Bi)	ā cə́ró-à-té ~ ā cə́rɔ́-à-té
páʔá-lɛ́^{n}	‘lean on (wall)’	à páʔ-à-lé^{n}
pɔ́^{n}ʔɔ́^{n}-bà	‘come in a hurry’	à pɔ́^{n}ʔ-à^{n}-bē
c. Vb$_2$ is L-toned		
ɲɔ́^{n}-sò	‘envy (v)’ (Bi)	à lú^{n}-ā^{n}-ʃì

The intercalated -à- can even be raised to -á- (not just -ā-) in Fl and Ma dialects. This happens when V$_1$ is a glottalic stem that is H-toned Cv́ʔv́- in Bi and Ji dialects, but MH-toned Cv̄ʔv́- in Fl and LH-toned Cv̀ʔv́- in Ma with the pitch peak at the end. Cv̄ʔ-á- (Fl) and Cv̀ʔ-á- (Ma) are the only outputs that give expression to the H-tone. These outputs can be thought of as reduced from idealized /Cv̄ʔv́-ā-/ and /Cv̀ʔv́-ā-/. The dialectal divergence is observed in (133a-b).

(133) ‘spit on’

	base	Ipfv	dialect
a. intercalated Ipfv realized as -ā- before L			
	ʃíʔé-pɛ̀	ʃíʔ-ā-pè	Bi
	ʃíʔí-pɛ̀	ʃíʔ-ā-pì	Ji
b. intercalated Ipfv raised to -á- by tonal fusion with é			
	ʃīʔé-pɛ̄	ʃīʔ-á-pē	Fl

3.5 Cliticization

Tiefo-D belongs to the set of languages that have a) fixed word order, b) numerous grammatical particles, and c) no stress or accent shifts due to addition of a morpheme. In such languages, it can be difficult to distinguish cliticization from simple linear juxtaposition.

In our normal transcription, we do not overtly indicate proclisis, so we simply separate possible proclitics from following words by spaces: ē dɛ̀ ‘(the) field’ rather than ē= dɛ̀, and ɔ̄^{n} bà ‘he/she came’ rather than ɔ̄^{n}= bà. For such proclitics, the = symbol is used only in cases of vv-Contraction, as in ɔ̀^{n}= Ø bē ‘he/she comes’ where Ø represents the Ipfv particle à.

By contrast, enclitics are regularly shown with the = symbol on their left. Examples include the third person object enclitics =nì (inanimate), =(y)ò (animate singular), and =wò (animate plural).

3.5.1 Proclitics

Candidates for status as proclitics are those in (134).

(134)

a.	ē	article before nouns		§4.4.1.1
	ò	morpheme preceding numerals ‘2’ to ‘9’		§4.6.1.2
b.	kà	‘and’ conjunction; ‘with’ preposition		§7.1.1, §8,2
	ɔ̀^{n}	dative preposition after ‘give’ and ‘show’		§8.1.2
c.	kō	infinitival morpheme		
	kò	hortative		
d.	some pronouns (subjects, possessors, with postposition)			§4.3.1-2
	ŋ́	1Sg	but not nó	
	ŋ̀	2Sg	but not mó	
	é ~ ó	1Pl	but not é-yùò	
	ɔ̀^{n}	3AnSg		
	à	3Inan		
	ò	3Pl		

e. some pronouns as reflexive possessors §18.1.1

ŋ̀	1Sg
ó ~ ò	plural (all persons)
ɔ̀^{n}	3AnSg

An article or similar morpheme (134a) immediately precedes the associated noun or numeral. A preposition (134b) immediately precedes an NP or pronoun. The infinitival morpheme (134c) is immediately followed by a verb. A pronominal proclitic (134d-e) in any of the grammatical functions indicated is followed by the relevant host (noun, verb, postposition).

There is no indication that any of the morphemes in (134) moves syntactically into the relevant positions, as opposed to being base-generated there. Clear evidence for proclisis therefore should involve either a) a specifically proclitic form that is segmentally distinct from the independent and/or enclitic forms, or b) some "irregular" phonological interaction between proclitic and host (i.e. other than routine phonological processes or regular tone sandhi).

Special proclitic forms distinct from independent and enclitic (direct object) forms are found in third person pronominals. The proclitics are common as subjects of verbs, possessors of nouns, and complements of postpositions.

(135)

category	independent	proclitic	enclitic (object)
3AnSg	bó	ɔ̀^{n}	=(y)ò
3Inan	bè	à	=nì
3Pl	bùò	ò	=(w)ò

In addition, the bipartite 1Pl independent pronoun é-yùò (cf. yúó 'people' and -yùò plural agentive) is simplified to é ~ ó as proclitic (subject etc.).

Some dedicated reflexive possessor forms also diverge from, and are arguably reduced from, regular pronouns (§18.1.1).

(136)

category	ReflPoss	independent	subject
1Sg	ŋ̀	nó	nó ~ ŋ́
1Pl	ó ~ ò	é-yùò	é ~ ó
2Pl	"	bùò	bùò
3Pl	"	bùò	ò

The phonological interaction that is specific to proclitic-host interactions is raising of L-toned proclitics to M-toned before an L-tone (§3.6.2.1). Examples are in (137). However, pre-numeral ò does not raise: ò kà^{n} 'five'.

(137) L-toned proclitic raised to M-tone before L-tone

prepositions

kà → kā	kā zàkí	'with Zaki'
ɔ̀^{n} → ɔ̄^{n} (dative)	ɔ̄^{n} zàkí	'to/for Zaki'

pronouns

ɔ̀ⁿ → ɔ̄ⁿ	ɔ̄ⁿ bà	'He/she came.'
à → ā	ā bà	'It came.'
ò → ō	ō bà	'They came.'
bùò → būō	būō bà	'You-Pl came.'

3.5.2 Enclitics

Enclitics are clitics that follow the host. Some of the enclitics in Tiefo-D are classic phonological clitics, morphemes that function syntactically as words or as free particles but that are pronounced as add-ons to the preceding word. Other "enclitics" are essentially prosodic in nature. They occur clause-finally or otherwise prepausally. They either add a sharp final glottal stop, or prolong the preceding word-final vowel with a specific tonal target, with or without a change in vowel quality. The enclitic =rɛ̄ʔ fits into both of these categories. finally, there is a possible category of subject-final enclitics.

One set of candidates for enclitic status are in (138). The boundary = cliticization or phonological interaction with the preceding word.

(138)		form	category	reference	comment
	a.	=á	demonstrative (InanSg)	§4.4.2.2	reduced < yá
	b.	=rè	demonstrative (InanPl)	"	reduced < íɲɔ̀rè ~ érè
		=rɛ̄	'even'	§19.1.6	reduced < ɛ̀rɛ̄
		=rɛ̄ʔ	clause-final emphatic	§19.4.1	tapped < =dɛ̄ʔ

Postnominal demonstrative variant =á (138a) is an optional reduction of yá. The unreduced form yá can occur postnominally or independently. The enclitics in (138b) begin with tap r, which does not occur word-initially. Of these, =rɛ̄ʔ is a variant of =dɛ̄ʔ, which is phonologically intact. Inanimate plural demonstrative enclitic =rè can replace fuller forms like Fl íɲèrè, which occur both postnominally and independently.

Other morphemes that we transcribe as enclitics are in (139).

(139)	a.	=ʔ	negative	§10.2.5.1
		=ā	polar interrogative	§13.2.1.1, §13.2.2.1
		=(y)à	'it is'	§11.2.1.1
	b.	=nì	3Inan object (Bi =nìⁿ)	§4.3.2.3
		=(y)ò	3AnSg object	"
		=wò	3Pl object	"
		=mì	2Sg object (Bi =mìⁿ)	§4.3.1.3

Negative =ʔ is a clause-final complement to a negative morpheme which occurs in post-subject position, as in zàkí á bà =ʔ 'Zaki didn't come' with PfvNeg á. The glottal stop is always syllabified with the final syllable of the preceding word. This is clearly a prosodic "enclitic." It also occurs with bíɛ́ʔ 'all', and it could be teased out of enclitic =dɛ̄ʔ ~ =rɛ̄ʔ. Polar interrogative =ā prolongs the preceding vowel, either with its own vowel quality or shifting toward a, and with a pitch target slightly below that of modal M-tone. This too deserves to be considered a prosodic "enclitic."

The pronominals in (139b) are analysed as enclitics because they occur only as object pronominals in immediately postverbal position. In addition, their forms diverge from those of independent and proclitic (e.g. subject) forms of the same pronominal categories. This divergence between enclitic and proclitic is sharp in the singular categories, less so in the plural. For example, the corresponding subject proclitics are 3Inan à, 3AnSg ɔ̀^{n}, 3Pl ò, and 2Sg ŋ̀ (independent form mó).

Additional morphemes that might be classified as enclitics are in (140). However, we consider the 2Sg possessor (the only pronominal possessive marker that is not proclitic) to be a suffix. As for locative postposition nī, in spite of some enclitic-like properties, we transcribe it as a separate postposition, except when it optionally apocopates to =n̄ and must be pronounced as coda of the preceding syllable.

(140)	-à	2Sg possessor	§6.2.5.2
	nī	locative postposition	§8.3.2.1

The particle dé ~ dó (§19.3.8) 'however' occurs at the end of the subject NP. Semantically, it is a pragmatic modifier with clausal scope. It might therefore be considered a post-subject syntactic enclitic that is not naturally generated inside the subject NP.

This raises the question whether post-subject inflectional particles (past markers, PfvNeg á, Ipfv à, future nà or bè, and various negative morphemes) might likewise be considered enclitics to the subject NP (in main clauses) and to the infinitival morpheme.

3.5.3 Post-subject inflectional morphemes as clitics

The morphemes in (141) occur in the position following the subject and preceding the predicate (which normally begins with a verb, except in the progressive construction). This linear position allows three possibilities: a) enclisis to the subject, b) proclisis to the predicate, and c) neither of the above.

(141) Post-subject grammatical morphemes

á	perfective negative between subject and verb	§10.2.5.2
à	imperfective between subject and verb	§10.2.2.1
bà ~ mà	'if' particle between subject and verb	§16.1.1

Their phonological behavior provides some support for both proclisis and enclisis. Evidence for proclisis to the following verb is that the two L-toned forms, Ipfv à and the 'if' particle bà ~ mà, are raised to M-toned before an L-tone (§3.6.2.1). This tonal dissimilation is typical of proclitics.

(142) a. imperfective
à → ā   zàkí ā bà   ‘Zaki comes.’

b. ‘if’
bà → bā   ŋ̀ bā bà   ‘if you-Sg come’ (Fl)
(dialectally mà → mā)

Evidence for enclisis to the preceding subject is that á and à fuse with preceding third person subject pronouns (§4.3.3). For example, 3AnSg ɔ̀^{n} combines with á and à as phonetic [ɔ̰̌] and [ɔ̰̀], respectively. We transcribe these combinations as ɔ̌^{n}= Ø and ɔ̀^{n}= Ø, respectively. Fusion with Ipfv à prevents third person subject pronominals like ɔ̀^{n} from raising to M before an L-toned verb.

3.6 Tones

There are three tone levels, H[igh], M[id], and L[ow]. None of these can be reduced to an allophone of one of the others. There is no evidence in favor of an accentual interpretation of tones.

Contour tones on individual syllables, other than those due to vv-Contraction across boundaries. are <HL> and <LH>. <MH> is predictably disallowed since M would drop to L before H by the tone sandhi rule M#H-to-L#H (§3.6.2.2). <HM> syllables would not run afoul of tone sandhi, but are not attested in uncompounded stems. Likewise, in simple bisyllabic and sesquisyllabic stems H.L and L.H are allowed (L.H being much more common). These comments apply mainly to non-verb stem-classes since verbs (other than compounds and Jula borrowings) have level-toned stems.

Although M-tone is distinct from H and L, M-toned stems can arise from leveling of original *LH, either on one syllable or on a bi- or sesquisyllabic stem. This diachronic process has left clear traces in some paradigms. For example, sē ‘father’ has a plural ʃì-ó, suggesting that original singular *sě flattened to sē. However, several other Cv̌ nouns have a stable rising tone, as with bɔ̌ ‘elephant’, so there is no fully productive leveling process.

Glottalic Cvʔv sesquisyllables (§3.1.1.6) interact with H-tone in a dialectally complex fashion. Cv́ʔv́ in Bi and Ji usually corresponds to Fl Cv̄ʔv́ and to Ma Cv̀ʔv́, with the tone of the first vocalic segment dropped to M (Fl) or to L (Ma). See §3.6.1.5 on this point.

In §3.6.1 just below, we focus on tones at the level of stems. In §3.6.2 we turn to tone sandhi, i.e. tonal processes involving two adjacent words or stems.

3.6.1 Lexical tones of stems

Verbs differ from all non-verb stem-classes in that each verb form (excluding Jula loans) has level tone (all-H, all-M, or all-L), but for many verbs the Pfv is one tonal notch lower than the base and Ipfv. Non-verb stems including nouns, adjectives, and numerals can have either level tones, or rising or falling tone patterns such as LH and (infrequently) HL. Plurals of nouns ordinarily preserve the tone pattern of the corresponding singulars.

Tonal processes limited to nominal compounds are covered in chapter 5.

3.6.1.1 Lexical tone melodies for verbs

Forms of uncompounded verbs (other than borrowings) have level tones. However, many verbs have segmental and/or tonal differences from Pfv to base to Ipfv stems. The segmental differences are lexically idiosyncratic and it is not always possible to justify a single underlying representation from which all three stems can be derived. However, the base has the strongest claim, and we often use it in citation forms.

Leaving segmental differences aside, uncompounded native Tiefo-D verbs have a lexical choice among six tonal paradigms (plus one irregular verb with a sixth tonal pattern). They can be represented by formulae like MHH where the first letter represents the tone of the Pfv, the second that of the base, and the third that of the Ipfv. Three of the regular tonal paradigms have a single invariant tone (143a). All of the HHH verbs have invariant form segmentally as well as tonally. Many of them are borrowings, deadjectival statives, or expressive verbs. Some MMM and LLL verbs show segmental variation across stems. The great majority of verbs that show tonal variation have the Pfv one notch lower than the base and Ipfv (143b), hence LMM or MHH. Four irregular verbs have LLM with only the Ipfv a notch higher (143c), and one irregular verb has LML (143d). The forms shown in (143) omit predictable dialectal variation in glottalic stems.

(143)	tonal type	example	gloss	dialect
a. invariant tones				
	HHH	ɲíʔɛ́	‘become sour’	(various)
		tə́ríʔí	‘rub against’	(various)
	MMM	jīɛ̄^{n}	‘broadcast’	(various)
		dīʔɛ̄/jūʔɔ̄/jūʔɔ̄	‘hear’	(all)
	LLL	ɲɛ̀ʔɛ̀	‘wake up’	(various)
		bɛ̀ʔɛ̀/bàʔà/bìʔì	‘sling over shoulder’	Fl Ji
b. Pfv one notch lower than Base/Ipfv				
	MHH	lɛ̄^{n}/lɛ́^{n}/lɛ́^{n}	‘stop’	(all)
		bɛ̄/bá/bé	‘cultivate’	(various)
	LMM	mɛ̀ ~ mlɛ̀^{n}/mɛ̄/mlī^{n}	‘build’	(various)
		lè/lī/lī	‘shine’	(various)
c. Ipfv one notch higher than Pfv/Base (all known examples)				
	LLM	bà/bà/bē	‘come’	(various)
		mɛ̀/mà/mīɛ̄	‘laugh’	(various)
		nɛ̀/nà/nīɛ̄	‘stone-grind’	(various)
		dɛ̀/dɔ̀/dɛ̄	‘sleep (v)’	Bi Ji Ma (not Fl)
d. base one notch higher than Pfv/Ipfv (only known example)				
	LML	ɲà/ɲī/ɲɛ̀	‘see’	(various)

No verb has a mix of H- and L-toned stems (except in compounds as the result of tone sandhi).

3.6.1.2 Lexical tone melodies for unsegmentable noun stems

Noun stems have few restrictions on tone melodies, allowing both level and contour tone melodies.

3.6.1.2.1 Monosyllabic noun stems

Plural nouns, whether or not segmentally distinct from corresponding singulars, almost always preserve the tone melody of the singulars unless the default plural suffix -ní is present. However, some monomoraic Cv̄ nouns have bimoraic plurals with rising tone (Cv̀-v́ or Cv̀-rv́).

We begin with Cv stems. Many have level L, M, or H tone. A minimal trio is (144).

(144)	singular	plural	gloss	dialect
	dɛ̀	də̀-rɛ̀	‘field’	(various)
	dɛ̄	dì-ɔ́	‘elder sibling’	(various)
	dɛ́	də́-rɛ́	‘body’	(various)

There are many H- and L-toned Cv and Clv nouns. They do not present analytical difficulties and will not be further discussed here; see (192a) and (192e) in §4.1.1.1 for lists. M-toned Cv and Clv nouns do raise some issues. It is likely that ‘elder sibling’ in (144) originally had a rising tone (*dɛ̌) to judge by the rising tone pattern of its plural. A full list of M-toned monomoraic nouns with rising-toned plurals is (145). The plurals in (145b) are not in common use and were difficult to elicit.

(145)	singular	plural	gloss	dialect
a. kinship				
	dɛ̄	dì-ɔ́	‘elder sibling’	(various)
	nī	nì-ó	‘mother’	(all)
	sē	ʃì-ó	‘father’	(all)
b. other				
	blō	blə̀-ró	‘rain (n)’	Bi
	nū	nə̀-rú [nə̀ɾṵ́]	‘oil, butter’	(various)
	ɲū	ɲə̀-rú [ɲə̀ɾṵ́]	‘water’	(various)

For more on these alternations, see §3.6.2.4.

Several other M-toned monomoraic Cv or Clv stems have rhotic plurals that are also M-toned (146). This shows that the flattening of LH to M in the preceding examples is not automatic.

(146)	singular	plural	gloss	dialect
	a. rhotic plural			
	bɔ̄^{n}	bə̄-rɔ̄^{n} ~ bə̄-rō	‘granary’	Bi Ji; cf. bō (147b) below
	gɔ̄	gə̄-rɔ̄	‘falcon’	(all)
	kɔ̄	kə̄-rɔ̄	‘day’ (specific)	Fl
	lē	lə̄-rē	‘home; village’	Fl Ji (Ma plural lə̀-rè-ní)
	pō	pə̄-rō	‘ladle’	(various)
	sō	sə̄-rō	‘tomb’	Bi
	b. other plural suffixes			
	có	cə́-ré-ní	‘francolin (bird)’	Fl Ji Ma
	cō	cə̀-rè-ní	"	Bi
	klū^n	klū(^{n})-nī	‘field cricket’	Ji(var) Ma

Some additional M-toned Cv and Clv noun either lack an attested plural (147a), or have a monomoraic plural that would not be expected to reveal a latent LH tone pattern (147b).

(147)	singular	plural	gloss	dialect
	a. no plural attested			
	cī	—	‘millet’	(all)
	jū	—	‘eyes’	(all)
	kā	—	‘manner’	(all)
	lī^n	—	‘guts; interior’	(all)
	nī	—	‘time, instance’	(all)
	sɛ̄	—	‘sifting residue’	(various)
	sɔ̄^{n}	—	‘salt’	(all)
	tē	—	‘tea’	(various)
	wū	—	‘straw shed’	Fl Ji
	b. monomoraic plural with vocalic mutation			
	bɔ̄^{n}	bō	‘granary’	Fl Ma, cf. (146a) above
	lɔ̄^{n}	lō	‘chicken’	(various)

This concludes our treatment of level-toned (H, M, and L) monomoraic nouns. The known contour-toned monomoraics are listed in (148). Only <LH> is common.

(148)	singular	plural	gloss	dialect
a. <LH>				
	bɛ̌^{n}	—	‘peace, harmony’	(all)
	bɔ̌	bə̀-rɔ́	‘elephant’	(all)
	bɔ̌	bə̀-rɔ́	‘tree sp. (*Khaya*)’	Bi
	cǐ^n ~ kǐ^n	—	‘loan, credit’	(various)
	cǒ	cə̀-ró	‘tree sp. (*Ceiba*)’	Bi
	cɔ̌^{n}	cə̀-rɔ́^{n}	‘sycamore fig’	Bi
	dǎ^n	—	‘boundary (in fields)’	(various)
	dɔ̌	də̀-rɔ́	‘man’	(all)
	dɔ̌	—	‘sleep (n)’	(all)
	dɔ̌^{n}	—	‘mild pain’	(all)
	gbɔ̌	—	‘bamboo’	Fl
	jɔ̌	jə̀-rɔ́	‘fetish (animist)’	(various)
	kě	kə̀-ré	‘matter, issue’	(all)
	kɛ̌	—	‘cowpeas’	(all)
	kɛ̌^{n}	kə̀-rɛ́^{n}(-ní)	‘pal’	(various)
	kǒ	—	‘beaded jewel’	(various)
	lǎ^n	—	‘beer’	(all)
	mǔ	—	‘voice’	(various)
	mǔ	—	‘price’	(various)
	nɔ̌	nǒ	‘guinea-fowl; Mossi’	(all)
	ɲǐ	ɲə̀-rí	‘breast’	(all)
	sǒ	sə̀-ró	‘pig’	(all)
	sǔ^n	sə̀-rú^n [sə̀ɾṵ́]	‘medication’	(all)
	tɔ̌	—	‘ground, earth’	(various)
	tɔ̌^{n}	—	‘mental calmness’	Ji
	(w)ǔ^n	wə̀-rú^n	‘rope’	(various)
	yǎ	yə̀-rá	‘year’	(all)
	yǒ	yə̀-ró	‘woman’	(all)
	yǔ	yə̀-rú	‘frog (*Ptychadena tellinii*)’	Bi
b. <HL>				
	kɛ̂^{n}	—	‘(the) fellow’	Fl

The single <HL> toned monomoraic in (148b), kɛ̂^{n} ‘(the) fellow’, used in discourse as a loose anaphor, is obscurely related to kɛ̌^{n} ‘pal’ in (148a). See §4.1.4.1 on these forms.

3.6.1.2.2 Sesquisyllabic (Cvʔv, Cərv) and diphthongal noun stems

Glottal Cvʔv, rhotic Cərv, and diphthongal nouns can be level-toned H, M, or L or can have rising LH pattern. The known level-M nouns of these shapes are in (149). Addition of plural suffix -ní, which is possible for a few of these stems, drops the stem tone to L by regular tone sandhi in Bi dialect (‘fly’, ‘giraffe’). For Fl and Ji, the suffixed plural is tonally level in some cases: cə̄rē-nī, yērō-nī.

(149)	singular	plural	gloss	dialect
a.	blāʔā	—	‘pond, water body’	(all)
	blōʔō	—	‘dust; bran’	Fl Ji
	bū^{n}ʔɔ̄^{n}	būʔō	‘dog’	(all)
	cɥ̄ēʔē	—	‘borassus palm’	Fl
	dī^{n}ʔɔ̄^{n}	də̄-rɛ̄^{n}	‘firewood’	Bi
	gbī^{n}ʔī^{n}	gbə̄-rī^{n} ~ gbə̄-rī^{n}-ʔī^{n}	‘peanut’	(all)
	kɔ̄^{n}ʔɔ̄^{n}	kə̄-rɔ̄^{n}	‘borassus palm’	Bi
	plɛ̄^{n}ʔɛ̄^{n}	plɛ̄^{n}ʔɛ̄^{n}-nī	‘gourmet’	Fl Ji
	"	plɛ̀^{n}ʔɛ̀^{n}-ní	"	Bi
	tēʔē	tə̀-rè-ní	‘tree sp. (*Annona*)’	Bi
	tīʔō	—	‘honey’	Bi Ji
	tīōʔō	—	"	Fl Ma
b.	cə̄rɔ̄	cə̄rɛ̄-nī	‘fly (n)’	(Fl Ma)
	"	cə̀rɛ̀-ní	"	Bi
	gə̄rɛ̄	gə̄rɛ̄-nī	‘fieldmouse sp.’	Ji (uncommon Pl)
	yə̄rō	yə̄rō-nī	‘giraffe’	Fl Ji
	"	yə̀rò-ní	"	Bi
c.	ʃīē	—	‘rear, behind (n)’	(all)
	yīɛ̄	yə̄-rō	‘young woman’	Ji
	yīɛ̄	lɔ̄	‘young woman’	all

Array (150) gives one example each of level H, level L, and rising LH for each syllabic type. The H-toned glottalic type Cv́ʔv́ lowers its initial tone in Ma and Fl dialects (not shown here).

(150)	singular	plural	gloss	dialect
a.	dáʔá	—	‘time’	Bi Ji
	tàʔà	tə̀-rà-ʔà	‘plot, garden’	Fl
	bàʔá	—	‘farming (n)’	(all)
b.	cə́rí	cə́rí-ní	‘stingless bee’	Bi Ji
	sə̀rù^{n}	sə̀rù^{n}-ní	‘Parkia (nére) tree’	(all)
	cə̀rú	—	‘millet or rice cakes’	(all)
c.	yíé	—	‘name’	Fl Ji Ma
	(pìɛ̀^{n}ʔɛ̀^{n})	pìè	‘feet (pl)’	(all)
	dìɛ́	—	‘sauce’	(all)

d.	yúó	—	‘person’ or ‘people’	(all)
	fùɔ́	fɔ̀-rɔ́	‘fish’	(all)
	(-nɔ̀)	-yùɔ̀	(agentive plural)	(all)

3.6.1.2.3 Bisyllabic and longer noun stems

Uncompounded nouns of two or more full syllables may be monotonal (H, M, L), bitonal (LH, HL), or rarely tritonal. For monotonal M we can cite the few examples in (151).

(151)	singular	plural	gloss	dialect
	āwā^{n}ʔā^{n}	—	‘baby’s head covering’	Ji
	sāwāʔā	sāwə̄-rā	‘rattle (n)’	Bi
	ʃō-ʃōʔō	ʃō-ʃə̄-rō	‘cave bat’	Ji
	tē-tə̄rā^{n} ~ tī-tə̄rā^{n}	—	‘truth’	(various)

Level L and level H are common. We illustrate them here with one example each.

(152)	singular	plural	gloss	dialect
a.	gbátá	gbátə́-rá	‘shed, stall’	(all)
b.	kàcù	—	‘red sorghum’	(all)

Of the bitonal types, LH is the most common. A small sample is in (153). As these data suggest, in trisyllabic and longer stems the tone break may be either at the leftmost or rightmost syllable boundary.

(153)	singular	plural	gloss	dialect
a. CvCv and similar				
	jùsú^{n} ~ jù^{n}sú^{n}	—	‘cotton; thread’	(all)
b.	nàsə̀rá	nàsə̀rà-ní	‘white person’	(various)
	ɲìfə́rí	—	‘tree sp. (*Parinari*)’	(various)
	wàtítə́ró	—	‘dove’	(various)

Bitonal HL has fewer nonmonosyllabic stems than LH but is well represented. The known examples are in (154).

(154)	singular	plural	gloss	dialect
a. CvCv and similar				
	ɲánɔ̀	ɲánò	‘friend’	Fl Ji
	sákà	—	‘large vulture sp.’	Bi Ji
	náklɔ̀	—	‘rice (crop)’	(various)
b. CvCvʔv and similar				
tone break at first syllable boundary				
	bácùⁿʔɔ̀ⁿ	—	‘arrows’	Fl Ji
	bátìɛ̀ʔɛ̀	bátə̀-rɛ̀	‘floodplain’	Fl
	bítùʔù	—	‘nearby field’	(various)
	bóbùʔù	—	‘spider’s web’	Bi
	dínàʔà	dínə̀-rà	‘black emperor scorpion’	Ji
	kátɛ̀ⁿʔɛ̀ⁿ	kátə̀-rɛ̀ⁿ-ʔɛ̀ⁿ	‘small serving basket’	Fl Ji
	sícùʔò	—	‘middle’	(various)
tone break at final syllable boundary				
	táʔáfɔ̂	táʔáfə̂-rɔ̀	‘mid-sized bat sp.’	(various)
c. CvCərv				
tone break at first syllable boundary				
	básə̀rɔ̀	—	‘piapiac (bird)’	Ji
tone break at final syllable boundary				
	[none]			
d. trisyllabic				
tone break at first syllable boundary				
	fácìɛ̀nà	—	‘bulbul (bird)’	Fl Ji
tone break at final syllable boundary				
	tɔ́ɣɔ́mà	—	‘name-mate’	(various)
e. quadrisyllabic				
	kánásɔ̀ɣɔ̀	—	‘tree sp. (*Flueggea*)’	Fl Ji
	sámìɲɔ̀ɣɔ̀	—	‘village weaver (bird)’	Bi Ji

It is unclear from these data where the preferred tone break is on the longer HL stems. We observe a lack of #Cv́Cv́ʔv̀ and #Cv́Cə́rv̀ shapes with the fall carried out inside a final sesquisyllable. (By contrast, rising-toned final sesquisyllables in trisyllabic noun are common.) Factoring this out, there appears to be a preference for a tone break near the left edge. All analyses of tones of long stems are subject to the caveat that the stems may be (or may have originated as) compounds. This is especially true for quadrisyllabics

Excluding compounds and reduplications, we have the ML nonmonosyllabics in (155).

(155)	singular	plural	gloss	dialect

a. CvCv			
kɛ̄mɛ̀	—	‘man, guy, fellow’	(various)
kɔ̄mɔ̀	—	‘borassus palm sapling’	Fl
lā^{n}lɛ̀^{n}	—	‘hunger for meat’	Fl
sāmɔ̀	—	‘back (body)’	(various)
sāyɔ̀ ~ sāwɔ̀	sāyə̀-rɔ̀ ~ sāwə̀-rɔ̀	‘small hatchet’	(various)
b. CvCiv			
dɔ̄bìɔ̀^{n}	—	‘tree sp. (*Piliostigma*)’	(various)
ɲū^{n}dìè	—	‘tiger beetle larva’	Bi
c. CvCvʔv			
(w)ānàʔà	(w)ānə̀-rà(-ʔà)	‘face’	(various)
kāgɛ̀^{n}ʔɛ̀^{n}	—	‘flute’	Fl J
kāpɔ̀ʔɔ̀	kāpə̀-rɔ̀(-ʔɔ̀)	‘spoon’	(all)
nājɔ̀ʔɔ̀	—	‘umbrella-like termitary’	Ji
(w)āklàʔà	—	‘roselle’	(various)
d. other			
tāmīōʃìà	—	‘acacia sp.’	Ji

We know of no bitonal HM stems in Fl, Ji, or Ma dialects, if compounds are discounted. However, our Bi speaker produced the HM (156a) and the LHM (156b). The final M-tones correspond to H-tones in other dialects. Bi singular àtítə̄rō undergoes M#H-to-L#H before the H-toned plural suffix -ní.

(156)	singular	plural	gloss	dialect	other dialects
	bíklī^{n}ʔī^{n}	—	‘top of house’	Bi	Ji bíklí^{n}ʔí^{n}
	àtítə̄rō	àtítə̀rè-ní	‘dove’	Bi	Fl Ji Ma wàtítə́ró

The lexical tones of noun stems are subject to modification as initials or finals of some types of compounds (§5.1.1).

3.6.1.3 Lexical tone patterns for modifying adjectives

Core modifying (attributive) adjectives are those that can occur postnominally and/or can combine with a preceding classifier, animate kā or inanimate á. Some core adjectives are obligatorily reduplicated (initial syllable). See §4.5.3.1-2 for paradigms.

The postclassifier forms typically show tone overlays, with much dialectal variation in the inanimate combination after classifier á. If we focus on the postnominal (singular) forms, we get a better fix on lexical tone. All-L is predominant, all-M is absent, and there are three examples of all-H. Two stems have falling contours, one HL and the other (reduplicated) H-M. Many adjectives end in a glottalic sesquisyllable, at least in the postnominal form. The usual rule that H-toned Bi Ji Cv́ʔv́ corresponds to Fl Cv̄ʔv́ and Ma

Cv̀ʔv́ (§3.6.1.5) is partially valid for adjectives. In (157), minor segmental differences among dialects, unrelated to lexical tone, are omitted.

(157)	postnominal	gloss	dialect
a. all-H			
	fú ~ fúʔú	‘hot’	(various)
	lɔ́ⁿ	‘cold’	(various)
	nígbó	‘short’	(various)
b. all-M			
	[none]		
c. all-L			
	yùàʔà	‘black’	(various, with slight variants)
	fìàʔàⁿ	‘white’	(various, with slight variants)
	ʃìⁿʔɛ̀ⁿ	‘red’	(various, with slight variants)
	blìʔì	‘wet’	Fl Ma
	fɔ̀ⁿʔɔ̀ⁿ ~ fùⁿʔɔ̀ⁿ	‘new’	Fl Ji
	dìʔɛ̀	‘old’	Fl Ji
	kòʔò	‘good’	(all)
	bàⁿʔàⁿ	‘other’	Fl Ji
	dɔ̀ⁿ	‘delicious’	Fl Ji
reduplicative			
	tù-tùʔù	‘big’	(all)
	bɛ̀-bɛ̀ʔɛ̀	‘wide’	(various)
	pà-pàʔà	‘flat’	Fl Ji
	sɔ̀ⁿ-sɔ̀ⁿʔɔ̀ⁿ	‘long’	(various)
d. HL			
	dígɔ̀ʔɔ̀	‘other; each other’	Fl Ji
e. H-M			
reduplicative			
	bí-bī	‘small’	(various)

3.6.1.4 Lexical tone patterns for numerals

The uncompounded numerals are ‘1’ through ‘5’, ‘10’, ‘20’, and the rather noun-like ‘thousand’, numbering eight in total. ‘2’ through ‘9’ are preceded by a plural morpheme ò used only with numerals. ‘1’ and numerals ‘10’ and up take the regular article ē. ‘20’ has a different segmental and tonal form when used for multiples of twenty (‘40’ to ‘100’). jɔ̄ⁿ ‘2’ and wūⁿʔɔ̄ⁿ ~ ŋūⁿʔɔ̄ⁿ ‘4’ become LH-toned after kplē-, with a drop in the onset tone likely reflecting an original plural ò that has left only a tonal trace.

(158)

gloss	monosyllabic	sesquisyllabic
a. all-H		
‘3’	sá^{n}	
b. all-M		
‘2’	jɔ̄^{n}	
‘4’		wū^{n}ʔɔ̄^{n} ~ ŋū^{n}ʔɔ̄^{n}
‘20’ (in compounds)	kplē-	
c. all-L		
‘5’	kà^{n}	
d. LH, sometimes flattening to M		
‘1’		dɛ̀^{n}ʔɛ́^{n}
‘20’ (uncompounded)	kpǎ^{n} ~ kpā^{n}	
‘thousand’		wùʔɔ́ ~ wɔ̀ʔɔ́ (Bi Ji Fl)

3.6.1.5 Tones in glottalic syllables (Flaso and Masaso dialects)

In H-toned stems consisting of or ending in Cv́ʔv́ (pronounced as such in Bi and Ji dialects), the glottal has a lowering effect on the first vocalic segment in the Fl and Ma dialects. For Fl, the output is approximately Cv̄ʔv́ with M-toned initial syllable (no other dialect has any uncompounded MH-toned stems). For Ma it is approximately Cv̀ʔv́ with L-toned initial syllable.

(159) ‘night’

blíʔí	Bi Ji
blīʔí	Fl
blìʔí	Ma

Both the Fl and Ma speakers were capable of accommodating to the Cv́ʔv́ in other dialects, especially in group elicitation sessions.

Uncompounded H-toned Cv́Cv́ʔv́ noun stems are rare, but show Cv̄rv̄ʔv́ (Fl) and Cv̀rv̀ʔv́ (Ma). Ji cə́rɔ́ʔɔ́ ‘softshell tortoise’ corresponds to Fl cə̄rɔ̄ʔɔ́ and Ma cə̀rɔ̀ʔɔ́.

The question arises whether and to what extent these pitch changes are phonologized. In other words, does Fl Cv̄ʔv́ behave like structural MH, and does Ma Cv̀ʔv́ behave like structural LH? There are three domains within which these questions can be studied. First, the effect on preceding morphemes. Second, whether Fl Cv̄ʔv́ and Ma Cv̀ʔv́ behave like H-toned or rising-toned stems when they are followed by an H-tone. Third, whether the all-H tones are restored in rhotic plurals of nouns.

The data suggest that morphemes preceding the affected stems do take the surface tones (or pitches) into consideration. The relevant processes that apply to the preceding morphemes are M#H-to-L#H and LH#H-to-L-H, which lower a mid or rising toned morpheme to L by dissimilation to the following H (§3.6.2.2-3).

Consider the dialectal pronunciations of ‘shoulder’, expressed as a compound of LH-toned (w)ɔ̀ʔɔ́ ‘arm/hand’ plus H-toned (w)úⁿʔúⁿ ‘head’. In (160a), ‘head’ remains H-toned in Bi and Ji dialects, and this triggers LH#H-to-L-H in ‘arm/hand’, which drops from LH to L. In (160b), the first syllable of ‘head’ drops to M (Fl) or to L (Ma), and this allows the LH contour of ‘arm/hand’ to surface.

(160) ‘shoulder’	dialect
a. LH (w)ɔ̀ʔɔ́ dropped to L (w)ɔ̀ʔɔ̀- before H	
(w)ɔ̀ʔɔ̀-úⁿʔúⁿ	Bi Ji
b. (w)ɔ̀ʔɔ́ remains LH before M or L	
wɔ̀ʔɔ́-wūⁿʔúⁿ	Fl
wɔ̀ʔɔ́-wùⁿʔúⁿ	Ma

Consistent with this, the prenominal article ē drops to è before H-tone but not before M- or L-tone. The noun ‘head’ combines with the article as in (161). The Fl and Ma forms shown reflect the typical (basilectal) pronunciation of these dialects. As noted above, our Fl and Ma speakers are also capable of accommodation to the Bi/Ji pattern when in mixed company.

(161) ‘head’ with article

è úⁿʔúⁿ	Bi Ji
ē wūⁿʔúⁿ	Fl
ē wùⁿʔúⁿ	Ma

Infinitival morpheme kō behaves in the same way. It drops to kò before H-tone but not before M- or L-tone.

(162) Infinitival kō plus yíʔí ‘go (Base)’ and variants

kò yíʔí	Bi Ji
kō yīʔí	Fl
kō yìʔí	Ma

Another relevant context is verb-verb compounds where Vb1 is M-toned and Vb2 is a glottalic stem with H-tones in Bi and Ji dialects. An example is /klɛ̄-yíʔí/ ‘went back’, which is realized as klɛ̀-yíʔí in Bi and Ji, but as klɛ̄-yīʔí in Fl and as klɛ̄-yìʔí in Ma.

The second test is whether Fl Cv̄ʔv́ and Ma Cv̀ʔv́ are treated as all-H or as rising (MH, LH) when they themselves are followed by an H-toned morpheme. The relevant process is again LH#H-to-L#H, this time applied to the glottalic stem. In particular, we want to see whether Ma Cv̀ʔv́ corresponding to Bi/Ji Cv́ʔv́ drops to Cv̀ʔv̀ before H-tone. We will also check whether Fl Cv̄ʔv́ also drops to Cv̀ʔv̀, but we note that there are no true MH-toned stems (i.e. with MH tones pandialectally) that could be compared phonologically to Fl Cv̄ʔv́. We use the combination of ‘head’ as in (161) above with H-toned IpfvNeg particle má(ⁿ).

(163) ‘the head is not good’

a. [è úⁿʔúⁿ] máⁿ kò =ʔ Bi
[è úⁿʔúⁿ] má kò =ʔ Ji

b. [ē wūⁿʔúⁿ] má kò =ʔ Fl
[ē wùⁿʔúⁿ] má kò =ʔ Ma

We see here that the tones of ‘head’ are unaffected by placing it before an H-toned morpheme, not only in Bi and Ji (163a) but also in Fl and Ma (163b).

So far we have seen that the pre-glottal pitch decline in Fl and Ma dialects does affect how tone-dissimilation processes apply to preceding morphemes, but that this decline is disregarded when the tone-dissimilation processes apply to the glottalic stems themselves. The third test is what happens when a glottalic noun or adjective that has dialectal forms Cv́ʔv́ (Bi, Ji), Cv̄ʔv́ (Fl), and Cv̀ʔv́ (Ma) forms a rhotic plural. A difficulty in performing this test is that rhotic pluralization is usually carried out in two different ways depending on dialect, with Bi and Ji substituting plural r for singular ʔ, while Fl and Ma infix a rhotic syllable before the glottal pulse. (164) exemplifies the regular pattern.

(164) ‘dark fieldmouse sp.’ with article

	singular	plural	
a.	è jóʔó	è jə́-ró	Bi, Ji
b.	ē jōʔó	ē jə̄-rō-ʔó	Fl
	ē jòʔó	ē jə̀-rò-ʔó	Ma

Here we see that the plural reproduces the (surface) tones of the singular, whether H as in (164a) or rising as in (164b). Moreover, in (164b) we see that the tone break (from M or L to H) occurs after the glottalic pulse, in the plural as in the singular. It is also noteworthy that the pre-rhotic initial syllabic in the plural does not move back to H in (164b), even though it is no longer in contact with the glottalic pulse.

However, several adjectives have rhotic plurals that do not carry over the glottal from the singular in Fl and Ma dialects. The most relevant forms are singular and plural of adjectival forms following animate kā.

(165)

singular	plural	gloss	dialect
kā sɔ̀ⁿ-sɔ̄ⁿʔɔ́ⁿ	kā sɔ̀ⁿ-sə́-rɔ́ⁿ	‘long’	Fl
kā sɔ̀ⁿ-sɔ̀ⁿʔɔ́ⁿ	kā sɔ̀ⁿ-sə̀-rɔ́ⁿ	"	Ma

These data suggest a basic tone pattern L-H for Fl but L-LH for Ma. For Fl, the basic pattern is observed in the plural, but is subject to the tonal effect of the glottal in the singular. For Ma, the L-LH pattern is observed in both singular and plural.

The overall conclusion is that the depressed M-tones in Fl and Ma are only partially phonologized.

3.6.2 Tone sandhi processes

3.6.2.1 L#L-to-M#L (several proclitics)

Certain L-toned grammatical morphemes raise to M-toned before another L-tone, with some morphological restrictions. The effect of this tonal dissimilation is that the first morpheme has a pitch level higher than that of the first syllable of the following word. Future morphemes nà and bè, the 'if' morpheme bà ~ mà, imperfective past dè and dialectal variants, and hortative kò, do not allow a preceding morpheme to raise in this way. In addition, in a sequence of tonal type L-M-H, when the M-tone drops to L to dissimilate from the following H-tone, this does not create an environment for raising the initial L-toned morpheme. For example, /ɔ̀^{n} sē má bà =ʔ/ is normally realized as ɔ̀^{n} sè má bà =ʔ 'his/her father did not come', not as #ɔ̄^{n} sè má ba =ʔ.

Some diachronic speculations might be made based on the data presented below. One is that the L-toned morphemes that can raise to M, and/or the L-toned morphemes that block raising of a preceding morpheme, were originally M-toned and have drifted down to to L-tone in most environments.

The morphemes that raise from L to M when there is no blocking factor are a subset of L-toned proclitics, both pronominal and inflectional (166a). Those that never raise are in (166b).

(166) a. morphemes that raise from L to M before L-tone

third-person proclitic pronominal (§4.3.2.1)	
ɔ̀^{n}	3AnSg
à	3Inan
ò	3Pl
inflectional	
à	imperfective positive (§10.2.1.1)
bè	future (§10.2.2.2)
bà ~ mà	'if' (§16.1.1)
preposition	
kà	'with' (§8.2)
quotative	
dè	quotative particle (§17.1.2.1)

b. morphemes that remain L-toned before an L-tone

inanimate pronoun or discourse-definite demonstrative	
bè	(§4.3.2.1, §4.4.2.1)
nonproclitic pronominal (stable form)	
é-yùò	1Pl pronoun (§4.3.1.1)
bùò	3Pl, also logophoric (§4.3.2.1)
bùò	2Pl pronoun (§4.3.1.1)

inflectional	
nà	future (§10.2.3)
dè, yì, è	imperfective past (§10.3.1.8)
preposition	
ɔ̀ⁿ	dative with ditransitives (§8.1.2)
other	
ò	pre-numeral morpheme with ‘2’ to ‘9’ (§4.6.1.2)

Raising of L-toned third-person pronominal proclitics 3AnSg ɔ̀ⁿ, 3Pl ò, and 3Inan à is illustrated in (167). These become M-toned in subject function before Pfv verbs that begin with L-tone (167a). They become M-toned in possessor function before nouns and postpositions that begin with L-tone (167b-c). They do not raise before L-toned base stems of verbs (as in jussive complements) (167d), or before L-toned topicalizers (167e). We will see later that they also fail to raise before certain post-subject inflectional particles.

(167) a. ɔ̄ⁿ / ō / ā bà
3AnSg/3Pl/3Inan come.Pfv
‘He-or-she/They/It came.’ (Fl Ji)

b. ɔ̄ⁿ / ō / ā dɛ̀
3AnSg/3Pl/3Inan field
‘his-or-her/their/its field’ (Fl Ji)

c. ɔ̄ⁿ / ō / ā bàʔà
3AnSg/3Pl/3Inan chez (or dative after ‘say’)
‘at/among him-or-her/them/it’ (Fl Ji)

d. nó dè ɔ̀ⁿ / ò / à bà
‘I said’ 3AnSg/3Pl/3Inan come.Base
‘I told him-or-her/them/it to come.’

e. ɔ̀ⁿ / ò / à kɔ̀nì/kə̀rɔ̀ⁿ
3AnSg/3Pl/3Inan
‘as for him-or-her/them/it’

The raising in (167a) is blocked if the third person subject pronominal has fused with Ipfv particle à. For examples and analysis see (175) below.

The other subject pronouns that end in L-tone are 2Pl bùò and the optional full 1Pl form é-yùò. They remain L-toned before another L-tone (168).

(168) bùò / é-yùò dɛ̀ⁿ
2Pl / 1Pl arrive.Pfv
‘You-Pl / we arrived.’ (various)

There are three L-toned inflectional (i.e. tense-aspect-negation) morphemes. Two of them, (positive) Ipfv à and future bè, raise to ā and bē before an L-toned verb (169a-b). An ‘if’ morpheme bà ~ mà, which occurs in the same linear position, also raises to bā ~ mā (169c). However, future nà does not raise (169d).

(169)	a.	[ē	sò]	ā	klè	=nì
		[Art	horse]	**Ipfv**	do.Ipfv	3InanObj
		‘The horse does it.’				
	b.	[ē	sò]	bē	klè	=nì
		[Art	horse]	**Fut**	do.Base	3InanObj
		‘The horse will do it.’				
	c.	[ē	sò]	mā	klè	=nì
		[Art	horse]	**if**	do.Base	3InanObj
		‘if/when the horse does it’				
	d.	[ē	sò]	nà	klè	=nì
		[Art	horse]	**Fut**	do.Base	3InanObj
		‘The horse will do it.’				

The tone-raising to M before L-tone does not depend on the final tone of the preceding word. This is illustrated in (170), where the subject nouns end in various tones. The only factor relevant to Ipfv à is the initial tone of the following verb.

(170)	[ē	sò / bú / dɛ̄]	ā	klè	=nì
	[Art	horse / money / elder.sib]	**Ipfv**	do.Ipfv	3InanObj
	‘The horse/money/older sibling does it.’				

Raised Ipfv ā in such examples remains lower in pitch than PfvNeg á. In addition, the two are followed by different stems of the verb (Ipfv and base, respectively), and negative clauses normally end in a glottal enclitic =ʔ. (171a-b) show that the two can be distinguished even for verbs that have the same base and Ipfv form.

(171)	a.	[ē	sò]	ā	dàⁿ	
		[Art	horse]	**Ipfv**	arrive.Ipfv	
		‘The horse arrives/will arrive.’ (various)				
	b.	[ē	sò]	á	dàⁿ	=ʔ
		[Art	horse]	**PfvNeg**	arrive.Base	**Neg**
		‘The horse did not arrive.’ (various)				

Unlike the other post-subject inflectional morphemes, Ipfv à occurs twice in compound verbs. Specifically, a second occurrence is intercalated between the two verbs. We transcribe the intercalated occurrence affix as -à-, raising to -ā- before L-tone; see §3.4.6.4 for more details. In (172), focus on the “Ipfv” column.

(172)	Pfv	Base	Ipfv	gloss
a.	klɛ̀-lò	klà-lò	ā klà-**ā**-lò	‘have fun, play’
b.	kplè-dà^{n}	klò-dà^{n}	ā klɔ̀-**ā**-dà^{n}	‘approach (and arrive)’
c.	mlɛ̄-tɔ̀^{n}	mɛ́-tɔ̀^{n} ~ mí-tɔ̀^{n}	à mlí^{n}-**ā^{n}**-tì^{n}	‘release; throw (v)’

vv-Contraction involving the intercalated Ipfv morpheme and the final vowel of the first verb can be a complicating factor. The forms shown above are uncontracted. See §3.4.6.4 above for details about contractions.

As mentioned briefly in §3.4.6.3, the raising of third-person subject proclitics from L to M before L-toned Pfv verbs allows a back-door distinction between perfective and imperfective constructions even for verbs whose Pfv and Ipfv stems are identical. This is because when a third-person proclitic fuses with Ipfv à, resulting in 3AnSg ɔ̀^{n}= Ø, 3Pl ò= Ø, and 3Inan à= Ø, the pronominals are locked into their lexical L-tone and cannot undergo raising to M. Before Pfv verbs that have M or H tone, the pronominals have the same surface form in perfective and imperfective constructions, though the Ø in our transcriptions expresses the difference orthographically. In speech, this puts the burden on verbal morphology to distinguish the two aspectual constructions. For the many verbs that distinguish Pfv from Ipfv segmentally and/or tonally, there is no ambiguity (173).

(173) a. perfective construction with third person pronominal subject

ɔ̄^{n} / ō / ā **yīʔē / glō**
3AnSg / 3Pl / 3Inan go.Pfv / exit(v).Pfv
‘He-or-she/They/It went/exited.’

b. like (a) but imperfective

ɔ̀^{n}= / ò= / à= Ø **yíʔí / glú**
3AnSg / 3Pl / 3Inan Ipfv go.Ipfv / exit(v).Ipfv
‘He-or-she/They/It (will) go/exit.’

For invariant verbs, verb-stem morphology by itself cannot distinguish perfective from imperfective constructions with these third-person pronominal subjects. If the invariant verb is M or H toned, there is no escaping the ambiguity. This is the case with já ‘leave, let’, which has invariant form in dialects other than Bi. The perfectives in (174a) are indistinguishable in speech from the imperfectives in (174b).

(174) a. perfective construction with third person pronominal subject

ɔ̄^{n} / ō / ā já =nì mā
3AnSg / 3Pl / 3Inan leave.Pfv 3InanObj there.Def
‘He-or-she/They/It left it there.’

b. like (a) but imperfective

ɔ̀^{n}= / ò= / à= Ø já =nì mā
3AnSg / 3Pl / 3Inan Ipfv leave.Ipfv 3InanObj there.Def
‘He-or-she/They/It (will) leave it there.’

However, if the invariant verb is L-toned, listeners are in luck, since third-person proclitics raise from L to M before L-toned Pfv verbs, but cannot raise when they are fused to the Ipfv particle, even though the latter is seemingly zeroed. (175a) and (175b) are distinguished only by the tones of the pronominals. This is notable since, in the absence of a third-person subject proclitic, Ipfv à also raises before klè, as in zàkí ā klè 'Zaki does'.

(175) a. perfective construction with third person pronominal subject
ɔ̄ⁿ / ō / ā   klè   =nì
3AnSg / 3Pl / 3Inan   do.Pfv   3InanObj
'He-or-she/They/It did it.'

b. like (a) but imperfective
ɔ̀ⁿ= / ò= / à=   Ø   klè   =nì
3AnSg / 3Pl / 3Inan   Ipfv   do.Ipfv   3InanObj
'He-or-she/They/It (will) do it.'

L#L-to-M#L applies only to the finite set of proclitic-like morphemes listed above in (166a) above. However, even these morphemes fail to raise before L-toned future bè or nà (176a-b), before bà ~ mà 'if' (176c), and before imperfective past dè or its dialectal variants (176d).

(176) a. ɔ̀ⁿ / ò / à   bè   dīʔɛ̄
3AnSg/3Pl/3Inan   **Fut**   hear.Pfv
'He-or-she/They/It will hear.'

b. ɔ̀ⁿ / ò / à   nà   yíʔí
3AnSg/3Pl/3Inan   **Fut**   go.Base
'He-or-she/They/It will go.'

c. ɔ̀ⁿ / ò / à   bà   yíʔí
3AnSg/3Pl/3Inan   **if**   go.Base
'if he-or-she/they/it go(es).'

d. ɔ̀ⁿ / ò / à   dè   sə́rúⁿ
3AnSg/3Pl/3Inan   IpfvPast   descend.Ipfv
'He-or-she/They/It used to go down.' (Bi)

Future bè and bà ~ mà 'if' themselves do raise to bē and bā ~ mā before another L-tone (177a-b). This suggests the possibility that these morphemes were originally M-toned and have become L-toned through usage, following in the footsteps of many grammatical morphemes in African tonal languages. This would explain, at least diachronically, why bè and bà ~ mà do not allow a preceding L-toned morpheme to raise to M.

(177) a. ɔ̀ⁿ / ò / à   bē   klè   =nì
3AnSg/3Pl/3Inan   **Fut**   do.Pfv   3InanObj
'He-or-she/They/It will do it.'

b. ɔ̄ⁿ / ò / à   bā/mā   klè   =nì
3AnSg/3Pl/3Inan   **if**   do.Base   3InanObj
'if he-or-she/they/it do(es) it.'

However, the other future particle nà does not raise to #nā before another L-tone (178a). The same is true of imperfective past dè and variants (178b). This in spite of the fact that nà and dè block raising of a preceding L-toned morpheme (176b,d), as do future bè and bà ~ mà 'if'. We conclude that there is no evidence that nà or dè were originally M-toned.

(178) a) ɔ̄ⁿ / à / ò   nà   klè   =nì
3AnSg/3Pl/3Inan   **Fut**   do.Base   3InanObj
'He-or-she/They/It will do it.'

b) ɔ̄ⁿ / à / ò   dè   klè   =nì
3AnSg/3Pl/3Inan   **Fut**   do.Base   3InanObj
'He-or-she/They/It used to do it.'

3.6.2.2 M#H-to-L#H

In compounds and other tightly-knit combinations, an M-toned stem or other morpheme drops to L by polarizing dissimilation to a following H-tone. This is consistent with a constraint against morpheme-internal MH sequences and against <MH> syllables. We will see in the following section that rising-toned morphemes also drop to L before H.

Infinitival kō combines with the base stem of following verbs of various tones as shown in (179). It drops to kò before H-tone (179c). In Fl and Ma dialects, where Cv́ʔv́ is realized as Cv̄ʔv́ (Fl) or Cv̀ʔv́ (Ma), the lowering of the tone (or pitch) of the first vocalic segment allows a preceding M-toned kō to surface (179d).

(179) a. before L

kō	bà	'come'
kō	tàʔà	'post, affix'
kō	sɔ̀mɔ́	'wound (v)' (Fl)

b. before M

kō	bē	'become tired'
kō	tə̄rāⁿ	'sit'
kō	sūʔɔ̄	'give'

c. before H

kò	bá	'cultivate'
kò	cə́rí	'be/do a long time'
kò	fúó	'breathe; fan (v)'

d. before MH from HH with glottal (Fl dialect)

kō	yīʔí	‘go’
kō	ʃūʔú	‘catch’

kō is also the ‘be’ predicate (§11.2.2.1-2) and in that function it behaves similarly.

Since some L-toned grammatical morphemes are raised to M before another L-tone (§3.6.2.1), the M-toned kō in (179a) by itself could in theory have been derived from either M or L lexical tone. However, kō before M-tone in (179b) confirms that M-toned kō is basic. As a result, the L-toned kò in (179c) must be due to a rule dropping M to L before H.

The ubiquitous nominal article ē is M-toned before M- or L-tone, but drops to è before an H-tone. It therefore behaves tonally exactly like kō.

(180) a. before L

ē	dɛ̀	‘field’
ē	dàⁿgó	‘blanket’

b. before M

ē	dɛ̄	‘elder sibling’
ē	lē	‘village’

c. before H

è	dɛ́	‘body’
è	lá-fùʔù	‘disease’

d. before MH from HH with glottal (Fl dialect)

ē	fūʔú	‘heat, hot weather’	compare:	è fúʔú (Ji)
ē	dāʔá	‘time’		è dáʔá (Bi Ji)
ē	dərīⁿʔíⁿ	‘filth’		è dəríⁿʔíⁿ (Bi Ji)

Compounds of an M-toned noun plus an H-initial noun are realized as L-H (§5.1.1.2).

(181) a. kā ‘way, manner’

(bè-)kà-tó	‘thus-Foc’
kà-díⁿ	‘manner’

b. ɲū ‘water’

ɲù-sə́rúⁿ	‘gutterspout on roof’’

c. klɔ̄ ‘calabash’

klɔ̀-gbáʔá	‘worn-out calabash’

d. lɔ̄ⁿ ‘chicken’

lɔ̀ⁿ-úⁿʔúⁿ	‘chicken head’

M-toned nouns drop to L before H-initial adjectives. The major H-initial adjectives are nígbó ‘short’ and bí-bī ‘small’.

(182)	a.	lɔ̄ⁿ	‘chicken’
		lɔ̀ⁿ nígbó	‘short chicken’
	b.	sāwāʔā	‘rattle (n)’
		sàwàʔà bí-bī	‘small rattle’

In such combinations, the tone of the article ē is often dragged down by the drop in tone of the immediately following noun. This is an issue when the whole NP is in postpausal position, as in subject NPs and in citation forms. Thus ē lɔ̄ⁿ ‘chicken’ but è lɔ̀ⁿ nígbó ‘short chicken’, è lɔ̀ⁿ bí-bī ‘small chicken’. Since other pronunciations are possible, we normalize transcriptions showing only the noun tone-dropped, hence ē lɔ̀ⁿ nígbó. This is obscured by the elision of articles in non-postpausal (i.e. medial) position.

Verbal nouns with suffix -ní are added to the base of the verb stem, the second of the three forms shown in our full representations of verbs (§4.2.1.1). If that form is M-toned, the verb is dropped from M to L before -ní (183a).

(183)		VblN	gloss	verb (Pfv/Base/Ipfv)	gloss
	a.	bè-ní	‘fatigue’	bè/bē/blē ~ blī	‘become tired’
		tɔ̀ⁿ-ní	‘count (n)’	cùɔ̀ⁿ/tɔ̄ⁿ/tīⁿ	‘count (v)’
	b.	fɛ̄-nī	‘greeting (n)’	fɛ̄ (invariant)	‘greet’

Exceptionally, ‘greeting’ (183b) spreads the M-tone of the stem into the suffix (183b). an archaic pronunciation occurs as compound final in ē cùⁿʔùⁿ-[fɛ̀-ní] ‘morning greeting’ and ē dɔ̀ʔɔ́-[fɛ̀-ní] ‘evening greeting’. For more examples of -ní, see §4.2.1.1.

Compounds of two verbs drop M before H, as in nominal compounds. This leads to unusual tonal patterns when the initial is an MHH or LMM verb, i.e. when the tone of the Pfv starts out one notch lower than that of the other two major verb forms (184).

(184)	Pfv	base	Ipfv	gloss	comment
a. MHH verb as initial before H-tone					
	mɛ̄ʔɛ̄	máʔá	míʔí	‘roll’	Ji
	mɛ̀ʔɛ̀-súʔú	máʔá-súʔú	máʔá-à-súʔú	‘roll up’	Ji
b. LMM verb as initial before H-tone					
	gblɛ̀	gbē	gblī	‘take, pick up’	(all)
	gblɛ̀-sə́rɔ́ⁿ	gbè-sə́rɔ́ⁿ	gblī-à-sə́rɔ́ⁿ	‘take down’	(various)

In ‘roll up’ (184a), the M-toned stem of the initial is dropped to L in the Pfv, while its H-toned base stem remains H in the base. The base of the initial extends into the Ipfv, as in many verb compounds. The result is a surface LHH pattern for the initial, which does not correspond to any attested pattern with uncompounded verbs.

In ‘take down’ (184b), M-toned base gbē drops to L before H-tone in both the base of the compound, so both Pfv and base have L-H tones. In Ipfv gblī-à-sə́rɔ́ⁿ, the intercalated Ipfv morpheme separates initial from final, and prevents application of M#H-to-L#H, so gblī- remains M-toned. The result is a surface LLM pattern for the initial, a very rare pattern in uncompounded verbs.

There are a few verb-verb compounds where the initial has a structurally different tone from what the (apparently) same stem has as an uncompounded verb. In (185), assuming that the initial of 'move on out' can be identified as 'pass, go past', the initial in the base and Ipfv of the compound behaves as underlying M-toned fō-, as seen clearly in the Ipfv. It therefore drops to L-toned before the H-toned já in the base of the compound. As simple verb, the form is H-toned fó.

(185)	Pfv	base	Ipfv	gloss	comment
	fīē	fó	fó	'pass, go past'	(all)
	fìè-já	fò-já	fō-à-já	'move on out'	Fl Ji

A warning: in careful speech, our speakers sometimes failed to drop M-toned forms to L before H-tones in combinations where the morphemic identity of the M-toned form was transparent. In allegro speech, and in cases where the morphemic identities are not transparent, the tone-dropping was regularly applied.

3.6.2.3 LH#H-to-L#H

The dropping of M to L before H (preceding section) is part of a more general tonal dissimilation to following H's that also applies to uncompounded LH stems and grammatical morphemes. Examples are the nominal compounds indented in (186), where an LH initial is followed by an H-initial final.

(186)	compound	stem gloss	compound gloss	dialect
a.	tɔ̌	'earth'		
	tɔ̀-ɲɔ́		'underground (n)'	Fl Ji
b.	ʃì^{n}ʔí^{n}	'tree; wood'		
	ʃì^{n}ʔì^{n}-[bá^{n}-sɔ̀^{n}]		'rope squirrel' (lit. "tree-squirrel")	Bi
c.	jɥ̀ʔɛ́	'God'		
	jɥ̀ʔɛ̀-ɲɔ́		'sky'	Ji
	jɥɛ̀ʔɛ̀-ɲɔ́		"	Fl
	jɥ̀ʔɛ̀-wɛ́^{n}		'star' ("God-egg")	Ji
	jɥ̀ɛ̀ʔɛ̀-wɛ́^{n}		"	Fl
	jɥ̀ʔɛ̀-[bá-pɔ̀^{n}]		'longhorn beetle' ("God's ram")	Ji
	jɥ̀ʔɛ̀-[bá^{n}-pɔ̀^{n}]		"	Bi
	jɥɛ̀ʔɛ̀-[bá^{n}-pɔ̀^{n}]		"	Fl Ma

Examples involving LH nouns followed by H-initial adjectives are in (187).

(187) a. ʃìⁿʔíⁿ ‘tree; wood’
ʃìⁿʔìⁿ nígbó ‘short tree’

b. wùʔú ‘house
wùʔù bí-bī ‘small house’

Suffix -ní (default plural for nouns, verbal noun for verbs) is a common trigger for this process. For more examples see (261c) in §4.2.1.1.

(188) a. nàsərá ‘white person’
nàsərà-ní ‘white people’

b. nɔ̀ɣɔ̀yá ‘make easier, cheaper’
nɔ̀ɣɔ̀yà-ní ‘(act of) mixing’

In transparent L-H compounds, a following H-tone in a third morpheme does not affect the H-toned second element. In other words, a transparent L-H compound is not treated as an LH-toned stem or morpheme. Rather, the H element is treated as an autonomous H-toned stem and does not drop tones before another H-tone (189a). This also applies to contractions of third person subject proclitics with PfvNeg á, including 3AnSg /ɔ̀ⁿ á/ realized as [ɔ̌ⁿ], even before an H-tone (189b). Suffix -ní (verbal noun or nominal plural) is also autonomous vis-à-vis of a preceding L-toned stem (189c).

(189) a. flè-ɲɔ́ ‘peek to the side.Base’
flè-ɲɔ́-ní ‘(act of) peeking to the side’

b. ɔ̌ⁿ = Ø ‘he/she didn’t’ (< /ɔ̀ⁿ á/)
ɔ̌ⁿ = Ø ɲɔ́ⁿ =ʔ ‘he/she didn’t look’

c. … klè-ní yá ‘that making’ (Bi, 2017-09 @ 05:13)

However, rhotic plurals are not treated as bipartite in this context, confirming the view that rhotic plurals are infixed or processual rather than suffixal, in spite of the fact that we transcribe them with a hyphen before r. Therefore singular tìʔɛ́ and its plural tə̀-rɛ́ both drop to L before an H-tone.

(190) a. tìʔɛ́ ‘hole’
tìʔɛ̀ yá ‘this/that hole’

b. tə̀-rɛ́ ‘holes’
tə̀-rɛ̀ érè ‘these/those holes’ (Ji)

Both M#H-to-L#H and LH#H-to-L#H are productive and apply to all smoothly spoken combinations not separated by a prosodic boundary (such as a hesitation).

In the texts volume, we often present underlying representations showing the tones prior to the operation of these processes.

3.6.2.4 <LH> flattens to M

<LH> denotes a low-to-high rising tone on a single syllable, i.e. Cv̌. There are two contexts in which <LH> flattens to M.

The first occurs when a noun stem which is heard as Cv̌ independently, i.e. as an uncompounded singular noun, functions as a compound initial and is heard as level-toned Cv̄- (191a). Bisyllabic Cv̀Cv́ can also level to Cv̄Cv̄ as compound initial, especially in highly lexicalized compounds, for example those with pòʔó 'the bush, brousse' as initial (191b).

(191)	noun	gloss	compound	gloss	dialect
a.	yǒ	'woman'	yō-dɛ̀	'old woman'	(various)
	kǒ	'beads (coll.)'	kō-bìò	'beads (Pl)'	Fl Ji
b.	pòʔó	'the bush'	pōʔō-[cì-có]	'bush agama'	(all)
	"	"	pō-kà ~ pōʔō-kà	'wild animal'	(various)

There are also several singular noun stems that appear as monomoraic Cv̄ even in isolation, but behave morphophonemically as Cv̌, observable in their bimoraic plurals with LH tones. See (145) in §3.6.1.2.1 for a list.

3.7 Intonation

3.7.1 Phrase and clause-final terminal contours

In recordings, higher than modal terminal pitch indicates incompletion (i.e. more is coming in the next clause). The final word or grammatical morpheme may sound H-toned although it is phonologically M or L. A clause or phrase with this terminal intonation may serve as background for an upcoming foregrounded event clause, or it may be the first of two or more parallel clauses or phrases.

Polar (yes-no) interrogatives and some types of content (WH) interrogatives end in =ā(→) or variant (§13.2.1.1, §13.2.2.1). This is often realized as an extension of the otherwise final vowel. The extension has a characteristic interrogative pitch a bit lower than that of modal M-tone, so a final M-toned syllable is extended with a slight pitch drop while a final L-toned syllable is extended with a modest pitch rise. Two parallel polar interrogatives can function as a disjunction (§7.2.1-2).

3.7.2 Lexically specified prolongation (→)

Tiefo-D has a few ideophone-like expressive adverbials (§8.5.8). Some of them show variable but often extended prolongation of a final vowel. An example is jà^{n}→ 'much-branched (tree)' in text 2017-07 @ 05:40. Another is dò→, which functions as an intensifier for '(be) big', compare Eng *huge*, *humongous*, etc.

We should also mention sú→, an emphatic 'all' quantifier that occurs chiefly in kɔ̀-kɔ̀ sú→ 'every day; always' (§6.6.1.2).

4 Nominal, pronominal, and adjectival morphology

4.1 Nouns

4.1.1 Syllabic and tonal forms of noun stems

The stem-shape formulae that we will use in the following sections include Cv, CvCv, and so forth. In Bi and Ji dialects, the initial C position is unfilled in some noun stems, e.g. ú^n 'village', ǔ^n 'rope', ɔ̀ʔɔ́ 'arm', ānàʔà 'face', and ɛ̀ʔɛ́ 'thing'. The absence of the initial C does not affect the range of segmental and tonal forms of the remainder of the stem. Fl and Ma dialects provide the relevant stems with an initial semivowel y or w.

4.1.1.1 Cv noun stems

The minimal shape for a noun is Cv. (192) presents all monotonal Cv stems that occur in our working lexicon as of early 2020. They are evenly distributed across H, M, and L tones. A subset of Cv̄ nouns shows signs of having flattened from an earlier *Cv̌ with <LH> tone, as shown by LH still audible in their bisyllabic plurals (192b). See For other Cv̄ nouns, either the plural is M-toned or no plural is attested (192c).

(192) Cv noun stems

	stem	gloss	comment
a. H-toned Cv́			
	bá	'large lake, ocean'	
	bá^n ~ bɔ́^{n}	'sheep-Sg'	Bi Ma bá^n, Fl Ji bá^n ~ bɔ́^{n}
	bú	'cowries; money'	
	dɛ́	'body'	
	dí^n (1)	'equal, peer'	
	dí^n (2)	'seedstock'	
	dó	'possession, share'	
	fɛ́	'language'	
	fó	'shrub sp. (*Securidaca*)'	
	gbó	'water beetle'	
	gó	'small wood-eating termite sp.'	
	ké ~ kí	'side'	Ji kí, Bi Fl Ma ké
	kɔ́	'tree sp. (*Anogeissus*)'	
	kpó	'liana sp. (*Landolphia*)'	
	kú^n	'tree sp. (*Blighia*)'	
	lɔ́^{n}	'shade, shadow'	
	ná	'cow'	Bi ná^n
	ní	'life'	Bi ní^n

ɲɔ́	‘courage, heart’	Bi ɲɔ́ⁿ
pɔ́	‘leg’	
sé	‘head cushion (for carrying baskets)’	
sɔ́	‘mortar (for pounding)’	
sú	‘house mouse’	
ʃí (1)	‘stem’	
ʃí (2)	‘footprints, tracks’	
tɛ́ⁿ	‘daybreak’	
tíⁿ	‘grey hornbill’	Bi tíɔ́ⁿ
úⁿ ~ wúⁿ	‘village’	
wɛ́ⁿ	‘egg’	
wí	‘owner of’	compound final
wó	‘tree sp. (*Afzelia*)’	Bi wóⁿ
wú	‘duiker (antilope)’	

b. M-toned Cv̄ (< *Cv̌) with <LH>-toned plural

dɛ̄	‘elder sibling’	plural dì-ɔ́
nī	‘mother’	plural nì-ó ; Bi nīⁿ
ɲū	‘water’	plural ɲə̀-rú [ɲə̀ɾúⁿ]; Bi ɲūⁿ
sē	‘father’	plural ʃì-ó

c. M-toned Cv̄ with M-toned plural

for list, see (146a) and (147b) in §3.6.1.2.1

d. M-toned Cv̄ without attested plural

for list, see (147a) in §3.6.1.2.1

e. L-toned Cv̀

càⁿ	‘red kapok tree’ (*Bombax*)	
cò	‘whip’	
dàⁿ	‘kyphosis (children’s disease)’	
dè	‘sun; day (unit of time)’	
dɛ̀	‘field’	
dɔ̀ⁿ	‘slave’	
fɛ̀ⁿ	‘sparrowhawk’	
gbàⁿ	‘ball’	
kà	‘animal’	compound final
kɛ̀	‘sun; day (unit of time)’	
kpɛ̀ⁿ	‘tree sp. (*Carapa*)’	
kpò	‘parrot’	
lì	‘gecko lizard’	
lɔ̀ⁿ	‘air, atmosphere’	
lù	‘fonio (grain)’	
mɛ̀	‘okra’	Bi mɛ̀ (not #mɛ̀ⁿ)
sɛ̀	‘gravelly soil’	
sò	‘horse’	

sɔ̀^{n}	‘heart (emotional center)’	
ʃì	‘long life’	
tɔ̀	‘remainder’	possessed or compound final
ò ~ wò	‘antelope’	Fl ò, Bi Ji wò
yù	‘cowpea beetle’	(Bi only)

There are many <LH>-toned Cv̌ stems. For a list, see (148a) in §3.6.1.2.1.

The only falling-toned Cv noun stem is <HL>, namely kɛ̂^{n}. It takes this form only as an anaphor for a recently mentioned but unnamed discourse referent (cf. Eng *the fellow*), and only dialectally. Its word family also contains kɛ̌^{n} ‘pal, buddy’ with rising tone (§4.1.4.1).

Tonal minimal trios gleaned from the preceding lists are those in (193).

(193)	a.	só	‘mortar (for pounding)’	
		sǒ	‘pig’	
		sò	‘horse’	
	b.	dɛ́	‘body’	
		dɛ̄	‘elder sibling’	< *dɛ̌
		dɛ̀	‘field’	

This section has discussed simple Cv stems. Closely related structurally are Clv stems with a prevocalic lateral, diphthongal Cuv and Civ (e.g. Cuo and Cie), and arguably glottalized Cvʔv. These will now be presented in that order.

4.1.1.2 Clv noun stems

The known Clv monosyllabic nouns are in (194). Some or even all of them may have been produced by syncope of the first vowel in *Cvlv via *Cəlv, parallel to synchronic Cərv. However, the distribution of tones is consistent with that for simple Cv. Tonal minimal pairs are ‘sorcery’ and ‘calabash’, and ‘aardvark’ and ‘eagle-owl’.

(194) Clv stems

a. H-toned Clv́

bló	‘spring (water)’	Ji; synonym blù^{n}
klɔ́	‘sorcery’	
klú	‘electric catfish’	

b. M-toned Clv̄

blō	‘rain (n)’	Pl blə̀-ró (Bi)
klɔ̄	‘calabash’	
klū^{n}	‘field cricket’	(various plurals)

c. L-toned Clv̀

blù^{n}	‘spring (water)’	Fl Ma; synonym bló
gblì	‘ridge between furrows’	
glò	‘aardvark’	
kplè	‘joint (wrist or ankle)’	

d. <LH>-toned Clv̌

glǒ	‘eagle-owl’	Ji (elsewhere glòʔó)

4.1.1.3 Diphthongal Civ and Cuv noun stems

By Civ is meant the set of monosyllabic diphthongal stems beginning Ci and ending with a mid-height or low vowel. Among mid-height vowels, back rounded {o ɔ} are well-represented. Some Cio singular stems may be old *Ci-o plurals (§4.1.2.7) reanalysed as singulars, and some Ciɔ^{n} singular stems may have been back-formed from Cv-o plurals following models in §4.1.2.4.1.

(194) Civ noun stems

a. H-toned Cív́

bíó	‘fruit or seed (of plant)’	
cíɛ́^{n}	‘pond frog (*Hoplobatrachus*)’	
míɔ́ [mḭ́ɔ̰́]	‘python’	Bi míɔ́^{n}
ɲíɛ́ [ɲḭ́ɛ̰́]	‘ring (jewelry)’	Bi ɲíɛ́^{n}
ʃíó	‘fortune-teller’	
tíɔ́^{n}	‘grey hornbill’	Bi (elsewhere tí^{n})
wíó ~ víó	‘crocodile’	
yíé	‘name’	Fl Ji (Ma ʒíé, Bi wé)

b. M-toned Cīv̄

cīɔ̄^{n}	‘bird (any)’	
ʃīɛ̄	‘behind (n), rear’	
yīɛ̄	‘young woman’	

c. L-toned Cìv̀

bìò	‘whistle, flute’	
mìɔ̀ [mḭ̀ɔ̰̀]	‘tongue’	Bi mìɔ̀^{n}

d. <LH>-toned Cìv́

dìɛ́	‘sauce’	
fìɛ́^{n}	‘kidney (of animal)’	
mìá [mḭ̀á̰]	‘tree sp. (*Holarrhena*)’	Bi mìá^{n}
pìɔ́^{n}	‘grub, caterpillar’	
ʃìá	‘grass frog (*Ptychadena*)’	
vìɔ́ ~ wìɔ́	‘winged termite sp.’	

Cuv noun stems are fewer in number. The second vocalic segment is back rounded {o ɔ} or else a.

(195) Cuv noun stems

a. H-toned Cúv́

súɔ́^{n} ~ súá^{n}	‘guinea worm’	
yúó	‘person; people’	

b. M-toned Cūv̄

(none)

c. L-toned Cùv̀

(none)

d. <LH>-toned Cùv́

bùá	‘bamboo’	
cùá^{n}	‘borassus palm fruit’	Bi kūā^{n}
fùɔ́	‘fish (any)’	
pùó	‘misery’	
sùɔ́^{n}	‘shea-tree (karité)’	
yùɔ́	‘stinging caterpillar’	

wúú ‘death’ is best analysed as diphthongal, parallel to Pfv wūō ‘died’.

4.1.1.4 Cvy and Cvw stems

Noun stems consisting of Cv plus a terminal semivowel are very rare and unstable. In (196a), the final semivowel is absent in two out of four dialects. Similar variation occurs with the numeral dὲ^{n}ʔέ(y)^{n} ‘one’. In (196b), on the othe hand, final w^{n} occurs in Bi dialect as a reduced variant of ŋù ~ m̀^{w}.

(196)

	singular	plural	dialect
a. ‘pointed object (needle, arrow, spear)’			
	sὲý^{n}	sə̀-rέ^{n}	Fl Ji
	sε̌^{n}	"	Bi Ma
b. ‘lungfish’			
	jáŋù	jáŋə̀-rù [ɟáŋə̀ɾṵ̀]	Ji
	jáŋù	—	Fl
	jâm^{w}	jámù-ní	Ma
	jáẁ^{n}	—	Bi

4.1.1.5 Cərv noun stems

Stems of the shape Cərv have a brief schwa. In their usual pronunciation they can be described as sesquisyllabic, i.e. as having one and one-half syllables (§3.1.1.7). Some examples are in (197). They show the same H, M, L, and LH tone patterns that are common with monosyllabics. We know of no HL-toned stems of this shape.

(197) Cərv noun stems

a. H-toned

jə́rí^{n}	‘devil, genie’
mə́rá^{n}	‘plastic’
tə́rɔ́^{n}	‘iron, metal’

b. M-toned

cə̄rɔ̄	‘fly (n)’
gə̄rɛ̄	‘long-tailed fieldmouse’
yə̄rō	‘giraffe’

c. L-toned

sə̀rù^{n}	‘néré tree (*Parkia*)’
tə̀rà^{n}	‘totem, taboo’
wə̀rò	‘kola nut’

d. LH-toned

bə̀ró	‘earth, soil’
fə̀rú	‘sweat (n)’
jə̀ré	‘musical griot’
ɲə̀rá [ɲə̀rá̰]	‘balaphone’

As mentioned elsewhere, we were unable to elicit morphological plurals from certain noun stems. Sometimes our speakers denied that a plural existed, sometimes they produced a plural using the most productive plural morphology (rhotic syllable) with evident reluctance. This leads us to suspect that some of the Cərv nouns that currently function as singulars or as collectives might have originated as rhotic plurals that eventually generalized. This is especially the case with nouns that do not have much use for a singular/plural distinction, including many natural species terms (trees, insects). For example, the important shea-tree caterpillar (Fr *ver de karité*) *Cirina butyrospermi* is widely known as sə̀rɔ̀ʔɔ́. This has the form of a plural, implying a glottalic singular sɔ̀ʔɔ́. We were able to elicit sɔ̀ʔɔ́ from our Ji speaker, but our Fl and Ma speakers denied it. Likewise, the important baobab tree is called sə̀ròʔò by all speakers. It too looks like a frozen plural, and in this case no singular could be elicited.

In a few cases, a Cvrv noun has a distinct vowel quality rather than schwa in the first syllable (hɛ̄rɛ̄ ‘peace,well-being’; jùrá ‘herb sp. with edible tuber’). Most such cases are loanwords. We treat them as ordinary CvCv stems (§4.1.1.7) rather than combine them with Cərv.

4.1.1.6 Cvʔv noun stems

Nouns (like other stems) often take the form Cvʔv. While Cvʔv stems have greater duration than Cv stems, phonotactic evidence (nasalization, constraints on sequences of vocalic segments before and after the glottal peak) suggests that Cvʔv functions as a single (sesqui-)syllable, parallel to diphthongal Civ and Cuv (§3.1.1.4).

There are over one hundred nouns consisting of Cvʔv (not counting longer stems like CvCvʔv that end in that sequence). A sample of monophthongal (as opposed to diphthongal) stems of this type is in (198). Dialectally, H-toned Cv́ʔv́ is modified to Fl Cv̄ʔv́ or to Ma Cv̀ʔv́ in basilectal pronunciation (§3.6.1.5), and the same two dialects position the glottal peak late in diphthongal stems (e.g. ciēʔē instead of cīʔē). The transcriptions in this section represent pronunciations from Ji and Bi dialects.

(198) Monophthongal Cvʔv noun stems (sample)

a. H-toned Cv́ʔv́

dáʔá	‘time’
bɛ́^{n}ʔɛ́^{n}	‘tomtom’
dáʔá	‘time’
ɲɔ́ʔɔ́	‘thirst’
jóʔó	‘fieldmouse sp.’
fúʔú (Ji)	‘hot weather’

b. M-toned Cv̄ʔv̄

gbī^{n}ʔī^{n}	‘peanuts’	
kɔ̄^{n}ʔɔ̄^{n}	‘borassus palm’	various dialects
tēʔē	‘shrub sp. (*Annona*)’	

c. L-toned Cv̀ʔv̀

fèʔè	‘moon, month’
làʔà	‘hunger’
kɔ̀ʔɔ̀	‘blacksmith’
kòʔò (Ji)	‘wood-eating termite sp.’
dùʔù	‘mountain, cliff’

d. <LH>-toned Cv̀ʔv́

lìʔí	‘horn (animal)’
cèʔé	‘skin’
bɛ̀ʔɛ́	‘broom’
dà^{n}ʔá^{n}	‘fire’
pòʔó	‘the bush (outback)’
gbɔ̀^{n}ʔɔ́^{n}	‘tree sp. (*Pterocarpus*)’
cù^{n}ʔú^{n}	‘morning’

Examples of diphthongal vowel sequences are in (199). Again, the tones shown are valid for Ji and Bi, while Fl and Ma lower the tone (or pitch) of the preglottalic vowel segment.

(199) Diphthongal Cvʔv noun stems (sample)

a. H-toned

júʔá	‘scraper’	
ɲíʔɛ́	‘sand’	Bi ɲɛ́ⁿʔɛ́ⁿ
yíʔé	‘walk (n), trip’	Bi yéʔé

b. M-toned

būⁿʔɔ̄ⁿ	‘dog’
cīʔē	‘basket’
dīⁿʔɔ̄ⁿ	‘firewood’

c. L-toned

ɲìʔɔ̀	‘lie (n)’

d. LH-toned

ɲùʔɔ́	‘mouth’ or ‘wind (n)’

For these glottalized diphthongal stems, our Bi and Ji speakers locate the glottal stop more or less at the vowel-quality break, as suggested by transcriptions like ɲìʔɔ̀ in (199). Our Fl and Ma speakers delay the glottal stop so that it bifurcates the second vocalic segment, as in ɲìɔ̀ʔɔ̀. If there is a tone break, it too occurs at the glottal stop. Thus ɲùʔɔ́ ‘mouth’ and its homonym ‘wind (n)’ are ɲùʔɔ́ in Ji, ɲùⁿʔɔ́ⁿ in Bi, but as ɲùɔ̀ʔɔ́ in Fl (the vowels are phonetically nasalized in all dialects).

For monosyllabic noun stems, we have seen that Cv and Clv behave similarly; the expansion of the syllabic onset has no effect on the range of vocalic segments and tones that follow it (§4.1.1.1-2). Similarly, ClvʔV noun stems occur in addition to CvʔV. All ClvʔV nouns in our data are monophthongal (200). This indicates that l occupies the same structural position in the syllabic onset as u or i in diphthongal stems.

(200) Clvʔv noun stems (all known examples)

a. monophthongal

blāʔā	‘pond’
klúⁿʔúⁿ	‘navel’
blèʔè ~ blìʔì	‘zaban (liana and fruit)’
gblàʔà	‘flank’
plɔ̀ʔɔ̀	‘belly’

b. diphthongal

[none]

4.1.1.7 Bisyllabic noun stems (CvCv etc.)

If glottalic Cvʔv and Clvʔv, along with rhotic Cərv, are excluded on the grounds that they pattern as mono- or sesquisyllabic, there remain close to one hundred nonglottalic bisyllabic noun stems. Such stems consist of two syllables (each of which is Cv, Clv, diphthongal, or rarely long-voweled Cvv), with CvCv stems being prototypical. We include Cvrv stems with non-schwa vowel before r, typically in borrowings. There are also about seventy-five glottalic stems with shapes like CvCvʔv which we can loosely describe as bisyllabic (or two-and-a-half syllabic).

All of these bisyllabics differ from the mono- and sesquisyllabic stems (Cv, Clv, Cvʔv, Cərv) in having a "real" consonant or cluster in medial position. The attested medial consonants and clusters are exemplified in (201). There appear to be no significant constraints on which single consonants may occur.

(201)	medial C	noun	gloss
a.	p	kápíɔ́	'white-toothed shrew (*Crocidura*)'
	t	bítíɔ́	'nape'
	c	kàcù	'red sorghum'
	k	bàkùɔ̀	'tortoise'
	kp	bàkpìʔí	'pauper'
b.	b	sɔ̀bɛ́	'candor'
	d	ládɔ́^{n}	'mistletoe' (Loranthaceae)
	g	sɛ̀gɛ̀	'bamboo basket'
	j	blɛ̀jɔ̀	'Jula person'
	gb	nàgbá^{n}	'whip (n)'
c.	f	júfá	'pocket'
	s	tásá	'eating bowl'
	ɣ	ɲɔ̀ɣɔ̀	'equal, peer'
d.	m	sɔ́mɛ́	'marrow'
	n	ɲánɔ̀	'friend'
	ŋ	fàŋà	'power'
	ɲ	bòɲá	'gift, reward'
	ŋm	sùŋmɛ̀ʔɛ̀	'stone'
e.	l	là^{n}lí	'upside-down catfish (*Schilbe*)'
	r	kɔ̀rɔ̀^{n}	'well (n)' (Fl, elsewhere kɔ̀lɔ̀^{n})
	w	dà^{n}wú^{n}	'baboon spider (*Stromatopelma*)'
	y	kàyɔ́	'freshwater crab (*Potamonautes*)'
f.	pl	tì-tàplɔ́	'grasshopper (any)'
	kl	náklɔ̀	'rice (crop)'

bl	ɲàblúⁿ	‘tree sp (*Sarcocephalus*)’
gl	ʃíglòʔò	‘spotted hyena’

There is nothing atypical about the tonal possibilities of these stems. The usual mono- and bitonal patterns are well-attested (202a-b). We know of only two tritonal stems (both HLH), one of which is CvCvʔv. The infrequency of tritonal bisyllabics is expectable given the brevity of the stems.

(202)	tone(s)	noun	gloss	
a.	H	gbéné	‘cassava’	
	M	hērē	‘peace, well-being’	
	L	wònì	‘marsh cane rat, agouti’	Bi wòní
b.	LH	tàmá	‘spear (n)’	
	HL	jáŋù	‘lungfish’ (Fl Ji)	
	ML	kēmɛ̀	‘man, fellow’	
c.	LHL	[none]	—	
	HLH	sóklǒ	‘viper (*Echis*)’ (Bi)	
		náⁿgbòⁿʔóⁿ	‘sandgrouse’ (Bi)	

CvCvʔv stems with LH tone pattern may show the tone break at the leftmost syllable boundary (203a) or in the middle of the glottalic (sesqui-)syllable (203b).

(203)			
a. L.H.H			
	kàtɔ́ʔɔ́	‘tick’	
	pànúʔú	‘tail’	
	tàkpóʔó	‘tree sp. (*Terminalia*)’	
	tùkɛ́ʔɛ́	‘boundary’	
	tùpɛ́ⁿʔɛ́ⁿ	‘necked gourd’	
b. L.L.H			
	kàɲùⁿʔúⁿ	‘palm-frond strips’ (Bi)	
	sàmɛ̀ʔɛ́	‘mongoose; genet’	(Bi sàⁿbɛ̀ʔɛ́)
	dəràʔá	‘tale’	

The distinction between L.H.H Cv̀Cv́ʔv́ and L.L.H Cv̀Cv̀ʔv́ is compromised in Fl and especially Ma by lowering of H-tones in glottalic sesquisyllables (§3.6.1.5).

4.1.1.8 Trisyllabic and longer noun stems

Here we exclude glottalic CvCvʔv but include rhotic CvCərv. There are numerous trisyllabic and longer nouns by these criteria, including many transparent compounds and reduplications where at least one element is recognizable. These are treated in chapter 5. Here we focus on trisyllabics that are not obviously either composite or reduplicative, though some undoubtedly originated as compounds. In addition, some examples below have likely been borrowed from Jula trisyllabics or Jula compounds.

(204) illustrates level-toned nouns. There are no clearly noncomposite M-toned stems.

(204) Level-toned CvCvCv

a. H-toned

báráká	'being blessed (n)'	< Arabic
bítəró	'leper'	
káɲərá [káɲəɾá̰]	'courtyard wall'	
yágbəɣá	'jaw'	

b. M-toned

ā-wā^{n}ʔā^{n}	'head covering'

c. L-toned

kòròɲò	'violet turaco (bird)'
tùpərɛ̀^{n}	'fear (n)'
nàgàsɛ̀^{n}	'catfish sp. (*Brachysynodontis*?)'

At the other extreme, there are a a number of tritonal CvCvCv stems (205).

(205) tritonal CvCvCv noun stems

a. LHL

nùgbásɔ̀^{n}	'grasshopper sp. (*Acrida*)' (Fl)
tùplópà^{n} ~ tùplípà^{n}	'patas monkey'

b. HLM

má^{n}gə̀rō	'mango'

c. HLH

díkòmɛ́^{n}	'bush gecko sp.' (Bi)
kótòkló ~ kótìkó	'Vieillot's barbet (bird)'
sá^{n}cə̀rɛ́	'woodland kingfisher'

With bitonal CvCvCv stems, the location of the tone break is not predictable, i.e., there is no all-purpose mechanical autosegmental association rule. (206) shows that L.H.H and L.L.H are both possible, though the latter predominates.

(206) Unglottalized trisyllabic noun stems

a. L.H.H

jàjúná	'tree sp. (*Combretum*)'
lèfə́ɣá	'bush sp. (*Excoecaria*)'

b. L.L.H		
bàràkó	‘gas drum (rollable)’	Fr *barique*
bə̀rìkí	‘mud brick’	Fr *brique*
dùgùlé	‘melons with edible seeds’	
gbə̀rèká	‘calabash cover’	
kə̀rà^{n}gbá^{n}	‘body louse’	
kə̀rɔ̀kɔ́	‘white-barked acacia sp.’	
làmə̀ɣɔ́	‘joking relative’	
mɛ̀rɛ̀kɛ́	‘angel’	
nàsə̀rá	‘white person’	

4.1.1.9 Nouns with initial reduplication

Quite a few nouns are reduplicative in form. Generally there is no unreduplicated counterpart. In other words, reduplication is not a derivational process in these stems.

In (207) a monosyllabic sequence is repeated, in some cases with tonal and/or vocalic modifications. The issue of whether this is full duplication, or just initial-syllable reduplication (both of which are described below), is moot for these nouns.

(207)

noun	gloss	
a. Cv-Cv		
identical segments		
bú-bú	‘shout (n)’	
fé-fé ~ fí-fí	‘peak, top’	
gbè-gbè ~ gbì-gbì	‘chest (body)’	
kā-kā	‘meat’ (less common variant of kàʔá)	
nɔ́-nɔ́	‘milk’	< Jula
tonal divergence only (L-H)		
cì-cí	‘urine’	cf. verb cī
fì^{n}-fí^{n}	‘charcoal’	
kɔ̀^{n}-kɔ́^{n}	‘herb sp. (*Tephrosia*)’	
kù-kú	‘basket for clothing’	
kū-kū	‘ground beetle’	
mà-má	‘grandmother’	
tò-tó	‘giant pouched rat (*Cricetomys*)’	< Jula
zɔ̀^{n}-zɔ́^{n} (Fl)	‘freshwater shrimp (*Atya*)’	Bi Ji sɔ̀^{n}-zɔ́^{n}
tonal divergence only (M-L)		
yɔ̄-yɔ̀	‘co-wife’	
vocalic and tonal change change		
pà^{n}-pí^{n}	‘wild roselle’	

b. Clv-Clv	
identical segments	
klɔ̀-klɔ̀	‘thorny liana sp. (*Erythrina*)’
tonal divergence only (L-LH)	
klɔ̀-klɔ̌	‘pied crow’
glúⁿ-glǔⁿ	‘hedgehog’
c. diphthongal	
identical segments	
kùɔ́-kùɔ́	‘snake sp.’

mlɔ́ⁿ-mlɔ́ⁿ ‘ant(s)’ and variants apply plural denasalization (§4.1.2.3.1) to both segments, e.g. mló-mló. See §4.1.4.4 for these ‘ant(s)’ terms.

In (208), a bi- or sesquisyllabic sequence is repeated, with or without tonal or vocalic modifications. This pattern is popular with natural species terms, not just songbird names that might be onomatopoeic.

(208)	noun	gloss	
	a. bisyllabic components		
	tones identical		
	tɛ̀gɛ́ⁿ-tɛ̀gɛ́ⁿ	‘wattled lapwing’	Ji tɛ̀gɛ́-tɛ̀gɛ́
	b. Cərv components		
	tones identical		
	kə́ráⁿ-kə́ráⁿ	‘courtyard wall’	(Bi)
	tone shift (H-L)		
	bə́ríⁿ-bə̀rìⁿ	‘bug spp. on crops’	(Fl)
	tone shift (L-H)		
	fə̂rɔ̀-fə́rɔ́	‘herb sp. (*Physalis*)’	
	c. glottalic Cvʔv components		
	tones identical		
	wìʔɛ́-wìʔɛ́	‘brown babbler’	
	d. vocalic shift in final syllable		
	ʃìⁿʔìⁿ-ʃíⁿʔɛ́ⁿ	‘broad-leafed fig spp.’	Bi ʃì-ʃɛ́ⁿ
	e. vocalic shift at component break		
	kɔ̀kɔ̀-kíkí	‘spotted catfish (*Synodontis*)’	

In kɔ̀kɔ̀-kíkí (208e), each bisyllabic segment is itself internally reduplicated in the fashion of (207) above. ʃìⁿʔìⁿ-ʃíⁿʔɛ́ⁿ (208d) may be connected with noun ʃìⁿʔíⁿ ‘tree’ and/or various forms of ‘red’ such as ʃìɛ̀ⁿ (§4.5.3.1.1).

Another common pattern is for just the initial syllable of a base longer than Cv to be reduplicated. In (209a), the initial copies the first syllable of the following segment. Minor variations on this are in (209b-c). In (209d), the reduplicative syllable is Ci- with prespecified vowel i.

(209)	noun	gloss	comment
	a. initial Cv-		
	Cv-CvCv		
	pɔ̀ⁿ-pɔ̀ní	‘glue’	
	pù-pùrí	‘nightjar (bird)’	
	Cv-Cvʔv		
	cɛ́ⁿ-cɛ̄ⁿʔɛ̄ⁿ	‘sth crunchy’	
	cɔ̀ⁿ-cɔ̄ⁿʔɔ̄ⁿ	‘hourglass-shaped drum’	
	fò-fóʔó	‘chaff’	
	fù-fùʔɔ̀	‘foam; lung’	
	gbáⁿ-gbàⁿʔáⁿ	‘lion’	
	kɛ̀-kɛ̀ʔɛ̀	‘wall of house’	
	kɔ́-kɔ́ʔɔ́	‘palm-frond basket’	
	lɔ̄-lɔ̀ʔɔ̀	‘herb sp. (*Striga*)’	
	ná-náʔá	‘tiny thing’	
	ɲɔ́-ɲɔ́ʔɔ́	‘sourness’	
	ʃō-ʃōʔō	‘cave bat’	Bi ʃó-ʃìó
	púⁿ-pùʔɔ̀	‘kneading stick’	púʔɔ́ ‘stick’
	tá-tàʔà (1)	‘open space in courtyard’	
	tá-tàʔà (2)	‘tree sp. (*Burkea*)’	
	wà-wàʔà	‘tree sp. (*Lannea*)’	
	Cv-Cərv		
	cɔ́-cə̀rɔ́ ~ cɔ́-cə̀rɔ̀ʔɔ́	‘bulbul (bird)’	
	gbúⁿ-gbə̀rúⁿ	‘hedgehog’	Ma
	b. with Cl cluster		
	Clv-Clvʔv		
	blò-blòʔò	‘skink lizard’	Bi blò-blò
	mlɛ́ⁿ-mlɛ̄ⁿʔɛ̄ⁿ	‘slick surface’	
	Cv-Clvʔv		
	kpá-kpláʔá	‘raffia palm; bamboo’	
	kù-klùʔú	‘couscous’	

In other nouns, the reduplicated segment is Ci- with nonlexical i differing from the first vowel of the base.

(210)	noun	gloss	comment
	b. initial Ci-		
	Ci-Cv		
	cì-có	‘agama lizard’	Ji cù-có
	tì-tó	‘yam’	Ji tù-tó

Ci-Cuv		
jī-jùɔ̀	‘stool’	Ji jū-jùɔ̀
Ci-Cvʔv		
cī-cùʔɔ̀ ~ cī-cùɔ̀	‘young man’	Ji cū-cùʔɔ̀
ʃí-ʃɛ̀^{n}ʔɛ̀^{n}	‘chili pepper’	
ʃì-ʃɛ́^{n}ʔɛ́	‘saliva’	
tī-tàʔà	‘shoe’	
Ci-CvClv		
tì-tàplɔ́	‘grasshopper’	Ji tè-tɛ̀plɔ́

If the base already begins in Ci, there is no way to tell whether the reduplicated element is Cv- or Ci-. This may also apply to bases beginning in Cə, where schwa could be interpreted as reduced from /i/.

(211)	noun	gloss	comment
	a. base begins in Ci		
	cì-cíʔí	‘intelligence’	see (214d)
	pí^{n}-pìò	‘pair of twins’	Bi píó-pìò
	b. base begins in Cə		
	sì-sə̀ràʔà	‘pile of earth’	
	tī-tə̄rā^{n}	‘truth’	see (212c)

Some initially reduplicated nouns have dialectally variable forms. In (212), Ji dialect has Ce- where other dialects have Ci-.

(212)	noun	gloss
	a. ‘earthenware waterjar or pot’	
	tè-tèʔè	Bi Ji
	tì-tèʔè	Fl Ma
	b. ‘shoe’	
	tē-tàʔà	Ji
	tī-tàʔà	Bi Ma
	ʃī-tàʔà	Fl
	c. ‘truth’	
	tē-tə̄rā^{n}	Ji
	tī-tə̄rā^{n}	Bi Fl

In (213), some variants are clearly reduplicative while others are not.

(213)	noun	gloss
	a. ‘stomach’	
	cí-cúʔó	Bi Ji(var)
	sí-cúʔó	Ji(var)
	ʃí-cùòʔó	Ma
	ʃí-cūōʔó	Fl
	b. ‘tree sp. (*Bridelia*)’	
	[kà^{n}-kà^{n}]-dí	Ji(var)
	kɛ̀kà^{n}dí	Ji(var)
	kɛ̄kà^{n}dí	Fl
	kēkànì^{n}ʔí^{n}	Bi

Other dialectally variable initial reduplications are in (214).

(214)	noun	gloss
	a. ‘green pigeon’	
	bùɔ́-bùʔɔ́	Bi
	bùɔ́-bùɔ̀ʔɔ́	Ma
	bɔ́-bɔ̀ʔɔ̀	Ji(var)
	bɔ́-bɔ̀ʔɔ́	Ji(var)
	bɔ́-bùɔ̀ʔɔ̀	Fl
	b. ‘cockroach’	
	jù-júʔó	Ji
	jù-jùʔú	Bi
	jùò-jūʔó	Fl
	jùò-jùʔó	Ma
	c. ‘spider’s web’ (Bi synonym bó-bùʔù)	
	dà^{n}-dərà	Ji
	dərà^{n}-dərā^{n}	Fl
	d. ‘intelligence’	
	cì-cíʔí	Ji
	cì-céʔé	Bi
	cè-cīʔé	Fl
	cè-cìʔé	Ma
	e. ‘gnat’	
	jō-jō	Bi
	jò-jíʔó	Ji
	jò-jīʔó	Fl
	jò-jùʔó	Ma

4.1.1.10 Nouns with apparent final reduplication

Final reduplication is not well-established as a legitimate pattern. We tentatively recognize it in (215).

(215)	kótì-kó (Fl Ji)	‘Vieillot’s barbet (bird)’	Bi kótòkló
	pɔ̀tɔ̀-pɔ̄ʔɔ́ (Fl)	‘tree sp. (*Ekebergia*)’	Ji pìtì-púʔɔ́

When the final two syllables are identical, we suggest a compound-like structure. This is clear when the preceding string is recognizable, less clear otherwise. See (217a) below.

4.1.1.11 Compound-like nouns including a reduplicative component

In addition to the cases presented above, there are many others where a reduplicative stem functions as compound initial or final. We include them here rather than in chapter 5 since in many cases neither the initial nor the final is recognizable.

Reduplicative initials occur in (216). If the final is recognizable, its gloss is in the rightmost column.

(216)	noun	gloss	final
a. [Cv-Cv(v)]-X			
[Cv-Cv]-X			
	[gbó-gbó]-nàʔà	‘snail’	
	[kú-kú]-klǒ	‘songbird sp.’	
	[kpɛ̀-kpɛ̀]-sə̀ròʔò	‘tree sp. (*Grewia*)’	‘baobab tree’
	[kpɛ̀-kpɛ́]-yùɔ̀	‘winged termite’	
	[lé-lé]-ɛ̀ʔɛ̀	‘sweet-tasting thing’	participle
	[lé-lè]-cìɔ̀^{n} (Bi)	‘swift or swallow’	‘bird’
	[lī-lī]-ɛ̀ʔɛ̀	‘gold, shiny metal’	participle
	[pó-pò]-lí	‘sandgrouse’	
	[sà^{n}-sá^{n}]-bə̀rà	‘dermatosis, skin disease’	
	[ʃō-ʃō]-mɔ̀ʔɔ̀	‘prickly vine (*Asparagus*)’	
	[tá^{n}-tá^{n}]-(má-)də̀rú^{n}	‘pygmy mouse’	‘mouse’
	[tí-tí]-kàgɔ̀ ~ [tí-tí]-[gɔ̀-gɔ̀]	‘dragonfly’	
[Ci-Cv]-X			
	[cɔ̀^{n}-cɔ̄^{n}(ʔɔ̄^{n})]-blù^{n}	‘griot (caste)’	
b. [Clv-Clv]-X			
	[gblē-gblē]-kàʔà	‘mussel shell’	participle
c. [Cv-CvCv]-X			
[Cv-CvCv]-X (nonglottalic)			
	[tū-tə̄rā^{n}]-nɔ̀	‘neighbor’ (Ji)	‘person’
	[bà-bàrí]-sɛ̀^{n}	‘tigerfish’	‘red’

Reduplicative finals are in (217).

(217)	noun	gloss	comment
	a. X-[Cv-Cv]		
	bù-[kú^{n}-kú^{n}]	‘tinea, athlete’s foot’	
	cìɔ̀^{n}-[pí^{n}-pí^{n}]	‘camaroptera (bird)’ (Bi)	‘bird-…’
	dìmɛ́^{n}-[kù-kú]	‘ant-lion larva’ (Bi)	
	gbà-[fú^{n}-fǔ^{n}]	‘cetonid beetle sp.’	
	kà-[sɔ̀^{n}-sɔ́^{n}]	‘mud-dauber wasp’	Bi kà-[sì-sɔ́^{n}]
	b. X-[Cv-Cvʔv] and X-[Clv-Clvʔv]		
	blāʔā-[mlɛ̀^{n}-mlɛ̀^{n}ʔɛ̀^{n}]	‘aquatic snake (*Grayia*)’	‘pond-…’
	ʃì^{n}ʔí^{n}-[fò-fóʔó]	‘tree sp. (*Stereospermum*)’	‘tree’ plus ‘chaff’
	tē-[tè-tèʔè]	‘tea kettle’	‘tea-jar’
	c. X-[CvCv-CvCv]		
	dā^{n}ʔā^{n}-[bərì-bərì]	‘flame’	‘fire-…’ (dà^{n}ʔá^{n})
	mlà^{n}sɛ́^{n}-[dərɔ̀^{n}-dərɔ́^{n}]	‘water scorpion (bug)’ (Bi)	

Some of the forms in (217a) might alternatively be analyzed as final -Cv reduplications, e.g. bùkú^{n}-kú^{n} instead of bù-[kú^{n}-kú^{n}]. This is not the case when the initial is independently recognizable, like ‘bird-’ in cìɔ̀^{n}-[pí^{n}-pí^{n}].

4.1.2 Plural forms of nouns

The primary forms of plural morphology of nouns are a) suffixation or infixation of a rhotic syllable, b) denasalization of ɔ^{n} to o (in one case, of ɛ^{n} to e), and c) suffixation of -ní. There are also a few suppletive or otherwise irregular plurals. For quite a few nouns, either no plural was elicitable or we were only able to elicit a plural with difficulty from one or two speakers.

4.1.2.1 Nouns with rhotic plural -rv

Singulars that already end in …rv generally avoid the rhotic plural described below, which would result in the articulatorily awkward sequence …rə-rv. Speakers either avoid pluralization, or shift to the default with suffix -ní. For example, tərà^{n} ‘totem’ is usually pluralized as tərà(^{n})-ní (Bi Ji). However, in this case our Fl speaker did venture a rhotic plural, realized as tər-rà^{n} with no discernible schwa—a rare geminated rr. Some …rv singular nouns are frozen plurals now used without regard to number, cf. §4.1.2.1.5 and §4.1.2.7 below.

4.1.2.1.1 Regular rhotic plural with nonglottalic nouns

The most productive nominal (and adjectival) plural is a rhotic syllable that we represent as -rv, where v is a short vowel whose quality features are copied from the corresponding vowel of the singular. For the minority of cases where the vowel shifts to front unrounded in the plural, see the following section.

The rhotic plural is especially common with two phonologically defined types of singular noun (218). However, it also occurs with some nonglottalic stems of two or more syllables.

(218) a. monosyllabic stems (Cv, etc.)
b. glottalic stems (Cvʔv, CvCvʔv, etc.)

The rhotic syllable is suffixed to nonglottalic monosyllabic noun stems. In the glottalic stems, it either replaces the ʔv segment or is infixed before this segment, depending on the dialect. In both of these stem types, the rhotic usually lenites the preceding vowel to schwa. Except as indicated below, rhotic plurals preserve the tone pattern of the singular. Here we discuss the nonglottalic monosyllabics first, then turn to the glottalics.

Most Cv and similar monosyllabics have rhotic plurals; some animates either suffix -o/-ɔ or mutate the final vowel to express plurality (§4.1.2.3-4). They have the same plurals when functioning as compound finals.

We start with two examples of rhotic plural.

(219)

	singular	plural	gloss
a.	dɛ́	də́-rɛ́	‘body’
b.	cɔ̌^{n}	cə̀-rɔ́^{n}	‘sycamore fig tree’

In both of these, the plural takes the form -rv, copying the vowel quality including nasalization of the singular. Due to the r, the initial vowel is reduced to schwa, which does not allow audible nasalization. One might alternatively analyse the plurals as infixed /d-r-ɛ́/ and /c-r-ɔ̌^{n}/, which would then entail a Schwa-Epenthesis process (§3.4.1.2-3), followed by a redistribution of the components of contour tones.

(220) presents the known examples of Cv singulars with rhotic plurals. A few humans and other animates are scattered among the majority of inanimates.

(220) Cv nouns with rhotic plural

singular	plural	gloss	comment
a. H-toned			
unnasalized			
dɛ́	də́-rɛ́	‘body’	
dó	də́-ró	‘possession, share’	
fɛ́	fə́-rɛ́	‘language’	
kí	kə́-rí	‘side’	

kɔ́	kə́-ró	‘tree sp. (*Anogeissus*)’	
kpó	kpə́-ró	‘liana sp. (*Landolphia*)’	
ɲɔ́	ɲə́-rɔ́ [ɲə́ɾɔ̰́]	‘heart, courage’	Bi singular ɲɔ́^{n}
sé	sə́-ré	‘head cushion’	
sɔ́	sə́-rɔ́	‘mortar (for pounding)’	
sú	sə́-rú	‘house mouse’ (Ji)	Pl elsewhere sú-ó
wú	wə́-rú	‘duiker (mammal)’	Ji wǔ

nasalized

cɔ̌^{n}	cə̀-rɔ́^{n}	‘sycamore fig tree’	
sǔ^{n}	sə̀-rú^{n}	‘medication’	
wɛ́^{n}	wə́-rɛ́^{n}	‘egg’	
wó^{n}	wə́-ró^{n}	‘tree sp. (*Afzelia*)’ (Bi)	
ú^{n} ~ wú^{n}	ú^{n}-rú^{n} ~ wə́-rú^{n}	‘village’	

b. M-toned

nasalized

bɔ̄^{n}	bə̄-rɔ̄^{n}	‘granary’	Ji
"	bə̄-rō	"	Bi

unnasalized

gɔ̄	gə̄-rɔ̄	‘falcon’	
kɔ̄	kə̄-rɔ̄	‘day’	
lē	lə̄-rē	‘village, homestead’	
pō	pə̄-rō	‘ladle’	
sō	sə̄-rō	‘tomb’	

c. M-toned, becoming LH-toned in plural

nasalized or Nv

nū	nə̀-rú [nə̀ɾṵ́]	‘oil, butter’	
ɲū	ɲə̀-rú [ɲə̀ɾṵ́]	‘water, liquid’	

d. L-toned

unnasalized

dɛ̀	də̀-rɛ̀	‘field’	
kpò	kpə̀-rò	‘granivorous birds’	
lì	lə̀-rì	‘gecko lizard’	
mɛ̀ [mɛ̀]	mə̀-rɛ̀[mə̀ɾɛ̀]	‘okra’	oral [ɛ] even in Bi
sò	sə̀-rò	‘horse’	
wò	wə̀-rò	‘antilope’	

nasalized

dɔ̀^{n}	də̀-rò	‘slave’	Bi Ji (rhotic plus ɔ^{n}→o)
fɛ̀^{n}	fə̀-rɛ̀^{n}	‘sparrowhawk’	

e. <LH>-toned

unnasalized

bɔ̌ (1)	bə̀-rɔ́	‘elephant’	
bɔ̌ (2)	bə̀-rɔ́	‘caïlcédrat tree (*Khaya*)’	

cǒ	cə̀-ró	‘fromager tree (*Ceiba*)’	
dɔ̌	də̀-rɔ́	‘man, husband’	
jɔ̌	jə̀-rɔ́	‘fetish, animist idol’	
kě	kə̀-ré	‘matter, thing (abstract)’	
kɛ̌ⁿ	kə̀-rɛ́ⁿ	‘pal’	~ kə̀-rɛ́ⁿ-ní ~ kə-rɛ̀ⁿ-ní
úⁿ-kɔ̌	úⁿ-kə̀-rɔ́	‘head louse’	Bi
ɲǐ	ɲə̀-rí [ɲə̀ɾḭ́]	‘breast’	(Bi ɲǐⁿ)
jɔ̌	jə̀-rɔ́	‘fetish, animist idol’	
sǒ	sə̀-ró	‘pig’	
ǔⁿ ~ wǔⁿ	ù-rúⁿ ~ wə̀-rúⁿ	‘rope’	
yǒ	yə̀-ró	‘woman’	
yǔ	yə̀-rú	‘grass frog sp.’	Bi (Ji yúó)
nasalized			
cɔ̌ⁿ	cə̀-rɔ́ⁿ	‘sycamore fig tree’	
sǔⁿ	sə̀-rúⁿ	‘medication’	

A few Clv and diphthongal monosyllabics have rhotic plurals (221).

(221)

singular	plural	gloss	comment
a. Clv			
glò	glə̀-rò	‘aardvark’	
b. diphthongal Cuv, Civ			
fùɔ́	fə̂-rɔ́	‘fish (any)’	
ɲíɛ́	ɲə́-rɛ́ [ɲə́ɾɛ́ⁿ]	‘ring (jewel)’ (Fl)	
úⁿʔúⁿ-ʃíɛ́ⁿ	[wə́-rúⁿ]-sə́-rɛ́ⁿ	‘image’	

Rhotic plurals also occur with some uncompounded nonglottalic stems of two or more syllables. One cluster is nouns whose singulars end in diphthongal …Cuv or …Civ. The …Cuv stems are readily pluralized with …Cə-rv (222a). The plurals of the …Civ singulars are variable (222b) and likely unstable; we note that plurals of ‘nape’ and ‘anus’ are rare in everyday speech.

(222)

singular	plural	gloss	dialect
a. singular …Cuv			
jī-jùɔ̀	jī-jə̀-rɔ̀	‘stool’	Fl Ma
jū-jùɔ̀	jū-jə̀-rɔ̀	"	Ji
bàkùɔ̀	bàkə̀-rɔ̀	‘tortoise’	
sàwùó	sàwə̀-ró	‘cat’	
b. singular …Civ			
bítíɔ́	bítíə́-rɔ́	‘nape’	Fl
"	bítí-rɔ́	"	Ma
"	bítə́-rɔ́	"	Ji

pàtìɔ̀	pàtìə̀-rɔ̀	‘anus’	Fl
"	pàtì-rɔ̀	"	Ji

Other apparently uncompounded nonglottalic singulars of two or more syllables that take rhotic plurals are in (223). In some cases the plural is attested for only one dialect (noted in the right-hand column).

(223)	singular	plural	gloss	dialect
a. CvCv stems				
	blɛ̀jɔ̀	blɛ̀jə̀-rɔ̀	‘Jula person’	
	bòɲá	bòɲə́-rá [bòɲə́ɾá̰]	‘gift, reward’	
	cɔ̀fɔ́	cɔ̀fə́-rɔ́	‘Tiefo person’	
	dà^{n}gó	dà^{n}gə́-ró	‘blanket’	
	dà^{n}wú^n	dà^{n}wə́-rú^n	‘featherleg baboon spider’	Ji
	dòsó	dòsə́-ró	‘hunter (caste)’	
	gbátá	gbátə́-rá	‘shed, covered shelter’	
	gbɛ́sɛ́	gbɛ́sə́-rɛ́	‘chewstick’	
	kàyɔ́	kàyə́-rɔ́	‘freshwater crab’	
	jáŋù	jáŋə̀-rù	‘lungfish’	Ji
	là^{n}lí^n	là^{n}lə́-rí^n	‘tree sp. (*Diospyros*)’	Bi
	ɲàgbá^n	ɲàgbə́-rá^n	‘whip (n)’	Fl
	sāyɔ̀	sāyə̀-rɔ̀	‘small hatchet’	Bi
	sāwɔ̀	sāwə̀-rɔ̀	"	Fl
	tásá	tásə́-rá	‘eating bowl’	Fl
b. reduplicated Cv-Cv				
	tì-tó	tì-tə́-ró	‘yam’	
c. compounds				
	kà-[sɔ̀^{n}-sɔ́^{n}]	kà-[sɔ̀^{n}-sə́-rɔ́^{n}]	‘mud-dauber wasp’	
	[tí-tí]-kàgɔ̀	[tí-tí]-kàgə̀-rɔ̀	‘dragonfly’	Ji

4.1.2.1.2 Regular rhotic plural with glottalic nouns

The rhotic plural is regular for noun (and adjective) stems of the shape (…)Cvʔv. In Bi and Ji dialects, the r usually replaces the glottal stop. In Fl and Ma, on the other hand, the rhotic syllable is infixed before the ʔv segment. In either case, the vocalic segment before r appears as schwa, which is always non-nasal. A few examples among many are in (224).

(224)	singular	plural	gloss	dialect
a.	bácù^{n}ʔɔ̀^{n}	bácə̀-rɔ̀^{n}	‘arrow; bow’	Ji
	"	bácə̀-rɔ̀^{n}-ʔɔ̀^{n}	"	Fl

b.	cì-sóʔó	cì-sə́-ró	‘large basket’	Ji
	cì-sōʔó	cì-sə̄-rō-ʔó	"	Fl
c.	dùʔù	də̀-rù	‘mountain’	Ji
	"	də̀-rù-ʔù	"	Fl
d.	tìʔɛ́	tə̀-rɛ́	‘hole, pit’	Bi Ji
	tìɛ̀ʔɛ́	tə̀-rɛ̀-ʔɛ́	"	Fl Ma

For Fl, the rhotic is rarely placed between two copies of the glottal segment. The tree name kɛ̀ʔɛ́ (*Gardenia erubescens*) has plural kə̀-rɛ́ (Bi), and for Fl usually kə̀-rɛ̀-ʔɛ́ following the rules given above. However, in (Fl, 2017-03 @ 01:58) we hear kɛ̀ʔɛ̀-rɛ̀-ʔɛ́, with no reduction of the singular stem.

The noun ‘tree’ (225a) presents an alternation between singular ʃi and plural sə, cf. §3.2.1.2. The reduction of i to schwa before r in the plural appears to pre-empt palatalization of the sibilant. The same alternation occurs in forms of the adjective ‘red’, e.g. postnominal ʃìɛ̀ⁿ, plural sə̀-rɛ̀ⁿ (§4.5.3.1.1). Both ‘house’ and ‘red’ occur frequently in these plural forms. Two reduplicative nouns with initial ʃ retain the palatalization when the second ʃ precedes schwa in the plural (225b). Alliteration may be a factor here, along with the infrequency of the plurals.

(225)	singular	plural	gloss	comment
a.	ʃìⁿʔíⁿ	sə̀-ríⁿ	‘tree’	pandialectal
b.	ʃí-ʃɛ̀ⁿʔɛ̀ⁿ	ʃí-ʃə̀-rɛ̀ⁿʔɛ̀ⁿ	‘chili pepper’	Fl Ma
	ʃì-ʃɛ́ⁿ	ʃì-ʃə́-rɛ́ⁿ	‘broad-leaved fig’	Bi

4.1.2.1.3 Replacement of medial singular l or t with plural r

For a few nouns, some speakers replace l in the final syllable of the singular with r to form the plural, avoiding an awkward lvrv sequence. Ji and Bi speakers do this for ‘well (n)’ (226a), a borrowing from Jula. For Fl, the singular already has r and no plural was elicitable. Reduction of a pre-rhotic vowel to schwa occurs only in the Bi plurals. ‘Bell (226b) shows a somewhat similar replacement of l by r in Bi dialect. The singular gblé is usually pronounced by the Bi speaker as [gbə́ɺé] with a lateral tap.

(226)	singular	plural	dialect	gloss
a.	kɔ̀lɔ̀ⁿ	kɔ̀-rɔ̀ⁿ	Ji	‘well (n)’
	kɔ̀rɔ̀ⁿ	—	Fl	
	kɔ̀lɔ̀ⁿ	kə̀-rɔ̀ⁿ(-ní)	Bi	
b.	gblé [gbə́ɺé]	gbə́-ré	Bi	‘bell’
	gblēʔé	gblē-ré	Fl	

c.	pə́rí^{n}-tá-[kpè-kpléʔé]	pə́rí^{n}-tá-[kpè-kpə́-ré]	Ji	‘dung beetle’
	"	pə́rí^{n}-tá-[kpè-kpə̄-rē-ʔé]	Fl	

A similar idiosyncratic consonantal substitution occurs, this time r for t and in dialects other than Ji, in (227a).

(227)	singular	plural	dialect	gloss
a.	bɔ̀tɔ́	bɔ̀-rɔ́	Bi Fl Ma	‘grain sack’
b.	bɔ̀tɔ́	bɔ̀tə́-rɔ́	Ji	

4.1.2.1.4 Nouns with rhotic plural -rv plus vocalic fronting to ɛ

Several nouns denoting body parts, plus the more or less diminutive pɔ̀ʔɔ̀ ‘twig’ (compare púʔɔ́ ‘stick’), have rhotic plurals like those illustrated in the preceding section, but with a shift from ɔ or a to ɛ (i.e. fronting). In one case (‘arm’), the fronting occurs only dialectally. The only relevant noun whose singular is nasalized (‘tooth’) both denasalizes and fronts the singular vowel (228c). The nouns in (228) all denote limbs and other appendages. Fronting also occurs with some -ní plurals; there is a weak association of plural-only fronting with bodily protrusions such as limbs (§3.3.9).

(228)	singular	plural	gloss	comment
a.	pɔ́	pə́-rɛ́	‘leg’	(various)
b.	ɔ̀ʔɔ́	wə̀-rɔ́	‘arm’	Ji
	wɔ̀ʔɔ́	"		Bi
	"	wə̀-rɛ̄-ʔɛ́		Fl
	"	wə̀-rɛ̀-ʔɛ́		Ma
c.	ká^{n}ʔá^{n}	kə́-rɛ́	‘tooth’	Bi Ji
	kā^{n}ʔá^{n}	kə̄-rɛ̄-ʔɛ́		Fl
	kà^{n}ʔá	kə̀-rɛ̀-ʔɛ́		Ma
d.	gbàʔá	gbə̀-rɛ́	‘thigh’	(all)
e.	pɔ̀ʔɔ̀	pə̀-rɛ̀	‘twig’	Ji
		pə̀-rɛ̀-ʔɛ̀		Fl Ma

4.1.2.1.5 Reanalysis of original rhotic plural as singular

ɲɔ́ (Bi ɲɔ́^{n}) means ‘heart (emotional center), courage’ (cf. Eng *heart*). It has an elicitable but marginal plural ɲə́-rɔ́ [ɲə́ɾɔ̰́]. This plural form has been specialized as a new lexical item ɲə́rɔ́^{n} ‘liver’, which is treated as singular and is occasionally pluralized as ɲə́rɔ́^{n}-ní (Fl Ji).

A similar split is seen in bùʔɔ́ 'mud' (e.g. for construction) and bə̀ró '(dry) earth (before mixing with water for construction)'. Neither is easily pluralized. There is some possibility that bə̀ró may have originated as a plural of bùʔɔ́ in spite of the irregular ɔ/o alternation.

'Néré tree' (*Parkia biglobosa*) is sə̀rù^{n}, plural sə̀rù^{n}-ní. Singular (or collective) sə̀rù^{n} is another reanalysed rhotic plural. The original singular sù^{n} is rare but attested (Bi).

Likewise, 'shea-tree caterpillar' (collected and eaten in large quantities around August) is usually sə̀-rɔ̀-ʔɔ́. The original singular sɔ̀ʔɔ́ is uncommon but attested (Ji).A good reason to avoid the old singular is that sɔ̀ʔɔ́ is also the term for 'oil palm'.

See also bíó 'fruit' and related forms (§4.1.4.3).

4.1.2.2 -bù compound final with plural -bì

Terms meaning 'finger' and 'toe' present, an alternation in the compound final between singular -bù and fronted plural -bì. The latter has a diphthongal variant -bìè, and rhotic variants -bə̀-rù and fronted -bə̀-rì. The fronting of u to i is analogous to shifts like ɔ to ɛ described in §4.1.2.1.4, which also have associations with peripheral appendages and with diminutivity (§3.3.9). Not shown in (229) are additional variants involving double pluralization of initial ('hand', 'foot') and final.

(229)	singular	plural	dialect
a. 'finger' ("hand-digit")			
	[kɛ̀-tɛ̀]-bù	[kɛ̀-tɛ̀]-bì	Bi
	[kɛ̀-tɛ̀ʔɛ̀]-bù	[kɛ̀-tɛ̀ʔɛ̀]-bì	Fl
		~ [kɛ̀-tə̀-rɛ̀]-bì	Fl
	[kì-tɛ̀ʔɛ̀]-bù	[kì-tɛ̀ʔè]-bə̀-rì	Ma
	[kè-tɛ̀ʔɛ̀]-bù	[kè-tɛ̀ʔɛ̀]-bə̀-rù	Ji
		~ [kè-tɛ̀ʔɛ̀]-bìè	Ji
b. 'toe' ("foot-digit")			
	pìɛ̀^{n}-ɲɔ́^{n}-bù	pìɛ̀^{n}-ɲɛ́^{n}-bì	Bi
	pìɛ̀^{n}ʔɛ̀^{n}-nɛ́-bù	pìɛ̀^{n}ʔɛ̀-nɛ́-bə̀-rù	Fl
	pìɛ̀^{n}-ná-bù	pìɛ̀^{n}-ná-bə̀-rì	Ma
	pìɛ̀^{n}-ná-bù	pìɛ̀^{n}-ná-bì	Ji

4.1.2.3 Plurals involving final denasalization of vowels

In addition to the cases in §4.1.2.3.1-3 below, a few plurals presented above denasalize the singular vowel in addition to adding the rhotic. This is the case with some dialectal plurals for 'slave' (220d) and 'granary' (220b). Plurals of 'tooth' denasalize and front the vowel (228c).

4.1.2.3.1 Plural by denasalization of ɔⁿ to o

A significant minority of noun stems are pluralized by denasalization of ɔⁿ to o. The majority are animate although some inanimates also do this.

For dialects other than Bi there are only five nasalized vowels versus seven oral vowels, and what we transcribe as ɔⁿ is the nasalized counterpart of both ɔ and o (§3.3.4). One might expect the singular nouns in ɔⁿ to split evenly into those with plural ɔ and those with plural o, on the grounds that denasalization reveals the underlyng lexical ATR value. In fact, the plurals nearly always have o, suggesting that this is an old animate plural ending. See, however, 'sheep' in (235) below.

Many ɔⁿ/o pairings involve monosyllabic nouns or monosyllabic compound finals. (230) presents examples where the consonant preceding ɔⁿ is not a nasal.

(230)	singular	plural	gloss	comment
a. Cɔⁿ to Co				
	dɔ̀ⁿ	dò	'slave'	plural also də̀-rò
	lɔ̄ⁿ	lō	'chicken'	
	ná-pɔ́ⁿ	nɔ́-pó	'bull' ("cow-male")	both parts pluralized
	ná-pɔ̄ⁿ	nɔ́-pō (Bi)	"	
	nā-fɔ̄ⁿ	nā-fō ~ nɔ̄-fō	'visitor, guest'	
b. diphthongal Cvɔⁿ to Cvo				
Ciɔⁿ				
	cīɔ̄ⁿ	cīō	'bird (any)'	
	pìɔ́ⁿ	pìó	'caterpillar, larva'	
	tíɔ́ⁿ	tíó	'grey hornbill' (Bi)	
Cuɔⁿ				
	súɔ́ⁿ (Ji)	súó	'Guinea worm'	elsewhere Sg súáⁿ
c. Cɔⁿ to Cuo dialectally				
	bá-sɔ̀ⁿ	bá-sùò	'ground squirrel'	Ji
	báⁿ-sɔ̀ⁿ	bá-sò	"	Fl
	"	bá-sə̀-rò	"	Ma
	"	bɔ́-sò	"	Bi
d. initial and final separately pluralized with ɔⁿ to o				
	lɔ̄ⁿ-pɔ̀ⁿ	lō-pò	'rooster'	

For 'granary', bō is singular (Bi) or plural (other dialects). The singular-plural relationships is adjusted accordingly.

(231)	singular	plural	gloss	dialect
	bɔ̄^{n}	bō	'granary'	Fl Ma
	"	bɔ̄-rɔ̄^{n}	"	Ji
	bō	bɔ̄-rō ~ bò-ní	"	Bi

Array (232) presents nouns that consist of or end in a glottalic Cvʔv sequence, and that show the same ɔ^n/o alternation seen in (230) above.

(232)	singular	plural	gloss	
	bū^{n}ʔɔ̄^{n}	būʔō	'dog'	
	bí-sīɔ̄^{n} ~ bí-ʃīɔ̄^{n}	bí-sīō ~ bí-ʃīō	'child'	
	bì^{n}ʔɔ́^{n}	bìʔó	'baboon'	
	lèdí^{n}ʔɔ́^{n}	lèdíʔó	'stingless bee sp.'	Ji

See also the 'ant' word-family (§4.1.4.4).

After a nasal consonant, there is no clear distinction between ɔ^n and ɔ in dialects other than Bi (§3.3.4). This is an issue in (233a-b), where only Bi has unmistakable phonemic nasalization in the singulars. However, the other dialects maintain the distinction between ɔ and o after nasals and therefore manage to distinguish singular from plural.

(233)	singular	plural	dialect
a. 'guinea-fowl'			
	nɔ̌	nǒ	Fl Ji
	nɔ̌^{n}	nǒ	Bi
b. 'python'			
	míɔ́	míó	Fl Ji
	míɔ́^{n}	míó	Bi

An analytical question with no easy answer is the relationship (synchronic and/or diachronic) between plurals that denasalize final ɔ^n to o and plurals that suffix -o/-ɔ to the singular, or that mutate a final low or front vowels to ɔ. On these, see the following sections.

4.1.2.3.2 Plural by denasalization of ɛ^n to e or o

This pluralization process with final ɛ^n → e (234a) is the front-vowel analog to that of ɔ^n becoming o. Only one noun stem shows this shift. It also irregularly de-glottalizes the plural. For the relationship between this noun and pɔ́ 'leg', see §3.3.9. There are two nouns (234a-b) with final ɛ^n → o.

(234)	singular	plural	gloss	dialect
a.	pìɛ̀ⁿʔɛ̀ⁿ	pìè	‘foot’	(all)
b.	cíɛ́ⁿ	cíó	‘pond frog (*Hoplobatrachus*)’	Bi Fl Ma

4.1.2.3.3 Plural by denasalization and backing of aⁿ to ɔ

In (235), singular aⁿ is denasalized and backed to ɔ in the plural. However, ‘sheep’ (235a) has a variant singular with ɔⁿ.

(235)	singular	plural	gloss	dialect
a.	báⁿ	bɔ́	‘sheep’	(all, at least as variants)
	bɔ́ⁿ	"	‘sheep’	Fl Ji (variants)
b.	náⁿ	nɔ́	‘cow’	(Bi)
c.	tùplópàⁿ	tùplópɔ̀	‘patas monkey’	(Bi)

4.1.2.4 Plurals with suffixed or mutated final o/ɔ

In the subsections below we describe plurals that suffix -o or -ɔ to the singular, sometimes with further phonological adjustments, and plurals that mutate another final vowel to -o or -ɔ without denasalization. There is some similarity between these plurals and the denasalized plurals described above, which shift ɔⁿ to o or aⁿ to ɔ. The similarity might be strengthened if the nasalized singulars in the second set reflect an old singular ending related to 3AnSg pronominal ɔ̀ⁿ.

4.1.2.4.1 Nouns with plural suffix -o ~ -ɔ

A number of nouns denoting humans, including kin terms and age-sex terms, have a plural o (236a) or ɔ (236b) added to the singular. Some like ‘father’ and ‘mother’ are also common as compound finals (not shown). The choice of -o versus -ɔ correlates with the ATR value of a mid-height vowel in the singular (+ATR e, -ATR ɛ), even though the e or ɛ desyllabifies to i to form a diphthong (io, iɔ). If the singular has a high or low vowel, and therefore no overt ATR value as with ‘mother’ or ‘house mouse’, the choice of -o versus -ɔ is lexical and cannot be predicted from the singular.

(236)	singular	plural	gloss
a. o added			
	sē	ʃī-ó	‘father’
	nī	nì-ó	‘mother’

dɔ́-nì	dɔ́-nì-ò	‘female in-law’
sú	sú-ó	‘house mouse’
wònì	wònì-ò	‘agouti (rat)’

b. ɔ added (forms related to adjective dìʔɛ̀ ‘old’)

dɛ̄	dì-ɔ́	‘elder sibling’
kɛ̄^{n}-dɛ̀	kɛ̄^{n}-dì-ɔ̀	‘old man’
ná-dɛ̀	ná-dì-ɔ̀	‘old person; old man’
yō-dɛ̀	yō-dì-ɔ̀	‘old woman’

The tonal alternation of M-toned singulars sē, nī, and dɛ̄ with LH-toned plurals ʃì-ó, nì-ó, and dì-ɔ́ is evidence that Cv̄ results from compression of original bitonal *Cv̌ in these singulars. However, unflattened Cv̌ does occur in some other singular nouns, e.g. nɔ̌ ‘guinea-fowl’.

-o is also the plural suffix for several compounds ending in H- or L-toned -bi (237). The original sense of this final was ‘child’, cf. bí-sīɔ̄^{n} ‘child’.

(237)	singular	plural	gloss	comment
a.	ná-bí	ná-bí-ó	‘child; person’	Bi Ji
	nà-bí	nà-bí-ó	‘child’	Fl Ma
b.	wòló-bì	wòló-bì-ò	‘white helmet-shrike (bird)’	
	nɔ̄-bì	nɔ̄-bì-ò	‘guinea-fowl chick’	
	bɔ́^{n}-bì	bɔ́-bì-ò	‘lamb’	Ji

By itself, bìò ‘fruit(s)’ and some of its compounds are invariant in form, with no singular counterpart. See §4.1.4.3 and §5.1.6.2 for more details on this word family.

The word for ‘(pair of) twins’ may also have originally had a plural suffix -o, but in the absence of a singular its morphology is not transparent.

(238) ‘pair of twins’	dialect
pí^{n}-pìó	Fl Ji Ma
píó-pìò	Bi

4.1.2.4.2 Plural by mutation of final a to ɔ

A number of nouns and compound finals mutate final a to ɔ to express plurality. There is no change in vocalic nasality.

Most examples of nouns with a/ɔ are compounds in -kà/-kɔ̀ denoting animals (239a). §5.1.7.1 has more examples. Human participles in -kàʔà, a few of which are lexicalized as nouns (§4.2.3.1), also have plural -kɔ̀.

(239)	singular	plural	gloss	comment
a. singular -kà (two examples out of several)				
	blá-kà	blá-kɔ̀	‘domestic animal’	
	flí-kà	flí-kɔ̀	‘mound-building termite’	
b. singular -kàʔà (mainly participial, §4.2.3.1)				
	mərù-kàʔà	mərù-kɔ̀	‘idiot’	

For non-Bi dialects, the alternation ná ‘cow, bovine’, plural nɔ́ is equivalent to the a/ɔ alternation in (239). However, Bi has náⁿ with plural nɔ́, suggesting that denasalization was originally part of this plural.

The remaining known examples of a/ɔ are those in (240). ‘Roan antelope’ fits the animal category of (239a) above semantically, but the ending is H-toned in all dialects in singular and plural, and the initial blú- is not recognizable. ‘Herder’ is an idiosyncratic agentive whose components can be parsed in different ways (§5.1.5.4). ‘Turka’ (240c) shows dialectal singular-plural alternations similar to those for ‘cow’.

(240)	singular	plural	comment
a. ‘roan antelope’			
	blú-ká	blú-kɔ́	all dialects; initial obscure
b. ‘herder’			
	pì-ná	pì-nɔ́	Fl Ma
	pì-náⁿ	"	Bi
	pè-ná	pè-nɔ́	Ji
c. ‘Turka person’ (neighboring ethnicity)			
	tərúká	tərúkɔ́	Fl
	tərúkáⁿ	"	Bi

4.1.2.4.3 Plural by mutation of final ɛ to ɔ

This marginal singular-plural alternation occurs in two nouns (241).

(241)	singular	plural	gloss
a.	kɛ̀	kɔ̀	‘sun; day’ (archaic)
b.	ná-díɛ́	ná-díɔ́	‘maternal uncle’

The archaic noun kɛ̀ has generally been displaced by dè ‘sun; day’. The compound ‘maternal uncle’ contains te ná- ‘person’ as in ná-bí ~ nà-bí ‘person’ or ‘child’ (§5.1.6.1), plus an H-toned variant of the adjective dìʔɛ̀ ‘old’ (§4.5.3.1.2). Perhaps -díɛ́ was back-formed from -díɔ́ by analogy to other nouns with final vocalic mutations, to avoid overlap with ná-dɛ̀ 'old man, old person' (plural ná-dì-ɔ̀). However, 'sun; day' in (241a) is evidently archaic.

4.1.2.5 Default plural -ní

A plural suffix -ní can be added to any noun that does not have one or another of the plural types described above (rhotic, denasalization, final-vowel mutation, suffix -o or -ɔ). In a few cases it is superimposed on another plural.

Only a few nouns are attested in all dialects with -ní plurals. In many cases, we elicited a -ní plural from one speaker alongside other plural forms for other speakers. Therefore many of the attestations presented in the following subsections are dialectally restricted and may not be in common use.

-ní or a homophone is also the verbal noun suffix. This raises the question whether the two categories are related in some way in Tiefo-D. Verbal nouns and indefinite plural or nouns are also expressed by the same or homophonous suffixes (-yaŋ etc.) in Songhay languages.

4.1.2.5.1 Tonal behavior of -ní

Since -ní is H-toned, it usually drops a preceding M-toned stem to L (§3.6.2.2).

(242)	singular	plural	gloss	
	bō	bò-ní	Bi	'granary'
	jō-jō	jò-jò-ní	Bi	'gnat'
	klɔ̄	kplɛ̀-ní	Bi Fl Ma(var)	'calabash'
	plɛ̄^{n}ʔɛ̄^{n}	plɛ̀^{n}ʔɛ̀^{n}-ní	Bi Fl Ji	'gourmet'
	ɲù-sūʔō	ɲù-sùʔò-ní	Ji	'mediator'

When -ní is added to an LH-toned stem, the stem sometimes drops to L (§3.6.2.3) and sometimes doesn't. The data show that Bi strongly favors dropping, while the other dialects strongly are more likely to allow retention of LH. This is clearest in (243a), one of only two LH nouns that has attested -ní plurals in Bi and at least two other dialects. Likewise, in (243b), when -ní is superimposed on LH-toned rhotic plural kə̀-rɛ́^{n} (attested as such in Ji), the rhotic syllable is dropped tonally in Bi but not Fl or Ma. The dialectal split is also strongly suggested by LH stems whose plurals are attested only in Bi (243c) or only in non-Bi dialects (243d). However, in (243e) all attested plurals show dropping.

(243)	singular	plural	dialects	gloss
a.	də̀rú^{n}	də̀rú^{n}-ní	Fl Ji Ma	'wild mouse'
	"	də̀rù^{n}-ní	Bi	"

b.	kɛ̌^{n}	kə̀-rɛ̀^{n}-ní	Bi	‘pal’
	"	kə̀-rɛ́^{n}-ní	Fl Ma	"
	"	kə̀-rɛ́^{n}	Ji	"
c.	mìá^{n}	mìà^{n}-ní	Bi	‘tree sp. (*Holarrhena*)’
	sùɔ́^{n}	sùɛ̀^{n}-ní	Bi	‘shea-tree’
	wìɔ́ ~ vìɔ́	wìɔ̀-ní ~ vìɔ̀-ní	Bi	‘winged termite sp.’
d.	mɛ̀rɛ̀kɛ́	mɛ̀rɛ̀kɛ́-ní	Fl Ji Ma	‘angel’
	mɔ̀ʃí	mɔ̀ʃí-ní	Fl	‘Mossi person’
e.	gblà^{n}ʔá^{n}	gblà^{n}ʔà^{n}-ní	Bi Ma	‘fruit bat sp.’
	"	gblɛ̀^{n}ʔɛ̀^{n}-ní	Ji Fl (§4.1.2.5.3)	"

Instead of the stem dropping tones before -ní, in some non-Bi dialects (244b-d) -ní is itself dropped to M-tone to form a level M-toned sequence with the preceding stem. This leveling is unattested in Bi dialect. It may be related to some instability in the distinction between M and H tones, observed in dialectal variation in (244a).

(244)		singular	plural	dialect	gloss
	a.	có	cə́-ré-ní	Fl Ji Ma	‘francolin (bird)’
		cō	cə̀-rè-ní^{n}	Bi	
	b.	cə̄rɔ̄	cə̄rɛ̄-nī	Fl Ji Ma	‘fly (n)’
		"	cə̀rɛ̀-ní^{n}	Bi	
	c.	klū^{n}	klū^{n}-nī	Fl Ji Ma	‘field cricket’
		klú^{n}	kplè-ní^{n}	Bi	
	d.	yə̄rō	yə̄rō-nī	Fl Ji	‘giraffe’
		"	yə̀rò-ní^{n}	Bi	
	e.	plɛ̄^{n}ʔɛ̄^{n}	plɛ̄^{n}ʔɛ̄^{n}-nī	Fl Ji	‘gourmet’
		"	plɛ̀^{n}ʔɛ̀^{n}-ní^{n}	Bi	

Verbal noun suffix -ní added to verb stems (§4.2.1.1) has similar tonal behavior.

4.1.2.5.2 Plural -ní without vowel fronting

-ní can be added to loanwords (245).

(245)	singular	plural	gloss	dialect
	mὲrɛ̀kɛ́	mὲrɛ̀kɛ́-ní	‘angel’	(various)
	mɔ̀ʃí	mɔ̀ʃí-ní	‘Mossi person’	Fl

-ní is also favored with nouns of the shape Cvrv, where a rhotic plural #Cvrv-rv would have two adjacent rv syllables. This would be an awkward combination, especially since rhotics normally reduce preceding vowels to ə (except in some loanwords like ‘angel’ and ‘duck’). Examples, including more loanwords, are in (246).

(246)	singular	plural	dialect	gloss
	básə̀rɔ̀	básə̀rɔ̀-ní	Ji	‘piapiac (bird)’
	bítə́ró	bítə́ró-ní	Ji	‘leper’
	də́rúⁿ	də́rúⁿ-ní	Bi	‘tree sp. (*Mitragyna*)’
	jə́ríⁿ	jə́ríⁿ-ní	Fl Ji	‘djinn, genie’
	jə̀ré	jə̀ré-ní	Fl	‘musical griot’
	nàsə̀rá	nàsə̀rá-ní	(various)	‘white person’
	ɲàⁿbə́rá	ɲàⁿbə́rá-ní	Bi	‘gourd’
	ɲə́rɔ́ⁿ	ɲə́rɔ́ⁿ-ní	Fl Ji	‘liver’
	sə́rú	sə́rú-ní	Bi	‘tree sp. (*Daniellia*)’
	ɲùⁿ-sə̄rūⁿ	ɲùⁿ-sə̀rùⁿ-ní	Bi	‘gutterspout’
	tɔ́ŋɔ́rɔ́ⁿ	tɔ́ŋɔ́rɔ́ⁿ-ní	Ji	‘duck’

-ní rather than rhotic plural also appears to be preferred with Cvrvʔv singulars, whose rhotic plural would again be #Cvrv-rv. The final ʔv segment is sometimes elided in the plural. Examples are (247a-c). In (247c), the Ma singular form appears to be generalized from an old rhotic plural like that of Fl.

(247)	singular	plural	dialect	gloss
a.	də̄rāʔá	də̄rāʔá-ní	Fl	‘courtyard’
	də̀ràʔá	də̀ràʔá-ní	Ma	"
b.	də̀rìⁿʔíⁿ	də̀ríⁿ-ní	Ji	‘song’
	"	də̀rìⁿʔíⁿ-ní	Ma	"
c.	pàŋə̀rɛ̀ʔɛ́	pàŋə̀rɛ̀-ní	Ma	‘hairy-tailed mouse’
	pàŋɛ̄ʔɛ́	pàⁿgə̄-rɛ̄-ʔɛ́	Fl	" (§3.1.1.7)

Other nouns for which plural -ní is attested at least dialectally are in (248).

(248)	singular	plural	dialect	gloss
	bá	bá-ní	Bi	‘big lake, sea’
	lὲdìò-bíó	lὲdìò-bíó-ní	Bi	‘stingless bee sp.’

júʔá	júʔá-ní	Bi	‘tree sp. (*Isoberlinia*)’
kú^{n}	kú^{n}-ní	Bi	‘tree sp. (*Blighia*)’
wò-bí	wò-bí-ní	Ji(var)	‘orphan’
wú^{n}-dì^{n}	wú^{n}-dì^{n}-ní	Ma	‘village chief’

4.1.2.5.3 Plural -ní plus vowel fronting

There are a few examples where suffixation of -ní is accompanied by fronting a preceding back rounded or low vowel (249). Compare the vowel-fronted plurals in §4.1.2.1.4 and §4.1.2.5.3. In (249b), a trace of the singular o is preserved in the plural by converting gl to gbl before the mutated e. In (249c), glottalization in the singular is dropped in the plural.

(249)		singular	plural	gloss	dialect
	a.	àtítə̄rō	àtítərè-ní	‘dove’	Bi
	b.	gblà^{n}ʔá^{n}	gblɛ̀^{n}ʔɛ̀^{n}-ní	‘fruit bat’	Fl Ji
	c.	ná-plɔ̀^{n}ʔɔ̀^{n}	ná-plè-ní^{n}	‘thorn’	Bi
		ʃíglòʔò	ʃígblè-ní	‘hyena’	Fl
	d.	sùɔ́^{n}	sùɛ̀^{n}-ní	‘shea-tree’	Bi
	e.	tərɔ́	tərɛ̀-ní	‘grivet monkey’	(all)

4.1.2.5.4 -ní following rhotic plural

In some nouns, at least dialectally, the suffix -ní can follow what already has the form of a rhotic plural (250).

(250)		singular	plural	gloss	comment
	a.	kpà-[mɛ́-mɛ́]	kpà-[mɛ́-mə́-rɛ́^{n}]-ní	‘butterfly’	Ji
		kplà^{n}-[té-té]	kplà^{n}-[té-tə́-ré-ní]	"	Bi
	b.	dùgùlé	dùgùlé-ré-ní	‘leopard’	Bi
	c.	ú^{n}ʔú^{n}-gblɔ̄	ú^{n}ʔú^{n}-gbə̀-rɔ̀-ní	‘head louse’	Ji
		ú^{n}-gblɔ̌	ú^{n}-gbə̀-rɔ̀-ní	"	Bi
	d.	lā-ɲùɔ̀^{n}-kɔ̀	lā-ɲùɔ̀^{n}-kə̀-rɔ̀-ní	‘honey ant’	Bi
	e.	kɛ̌^{n}	kə̀-rɛ̀^{n}-ní ~ kə̀-rɛ́^{n}-ní	‘pal’	§4.1.2.5.1

In (251a), this double plural also shows vocalic fronting of the type observed in §4.1.2.1.4 and §4.1.2.5.3. The form may have been influenced by (251b).

(251)		singular	plural	dialect	gloss
	a.	có	cə́-ré-ní	Fl Ma	‘francolin (bird)’
		cō	cə̀-rè-ní	Bi Ji	
	b.	cə̄rɔ̄	cə̄rɛ̄-nī	Fl Ji Ma	‘fly (n)’
		"	cə̀rɛ̀-ní	Bi	

In (252a), Bi has apparently generalized an old -ní plural as singular, and forms the plural by rhotacizing the originally stem-final glottalic (sesqui-)syllable. In (252b), what may have originated as a rhotic plural is generalized as singular, and is sometimes pluralized by -ní.

(252)		singular	plural	dialect	gloss
	a.	tēʔē	—	Fl Ji Ma	‘shrub sp. (*Annona*)’
		tèʔè-ní	tə̀-rè-ní	Bi	
	b.	dùrɔ̀	dùrɔ̀-ní	Ji	‘pigeon’
		dù-rɔ̀-ʔɔ̀	—	Fl	
		dùɔ̀-rɔ̀-ʔɔ̀	—	Ma	
		dùɔ̀rɔ̀	dùɔ̀rɔ̀-ní	Bi	

4.1.2.5.5 Reduplicated -ní-ní

One bird name has an unusual plural in Ji dialect, apparently reduplicating the plural suffix -ní, perhaps for onomatopoeic purposes. Other dialects pluralize with suffix -o or by denasalization if ɔ^{n} to o. Bi dialect may have back-formed the singular.

(253) ‘grey hornbill’

singular	plural	dialect
tí^{n}	tí^{n}-ní-ní	Ji
"	tí-ó	Fl Ma
tíɔ́^{n}	tíó	Bi

4.1.2.5.6 Denominal abstractives with -ní

In addition to its use as default plural, the suffix -ní forms deverbal nominals, including adjectival abstractives (§4.2.1.1 below). An abstractive reading is also possible with -ní added to nouns with rhotic plural marking and fronting (ɔ → ɛ) or lowering (ɔ → a) of noninitial vowels. This construction denotes stereotyped or idealized behavior, including (for adults) grooming and dress. The known examples are in (254), shown with the associated simple noun (e.g. ‘child’) in singular and plural form. There is often an evaluative element; for example, (254e-f) imply elegance and attractiveness. It was not possible to elicit this construction with uncompounded ‘man’ or ‘woman’.

(254)	a.	bí-sə̀-rɛ̀-ní	‘childishness (behaving), childhood’	Fl
		bí-ʃīɔ̄^{n} \\ bí-ʃīō	‘child’ (sg \\ pl)	
	b.	nā-də̀-rɛ̀-ní	‘behaving like an old person’	Fl
		nā-dɛ̀^{n} \\ nā-dì-ɔ̀	‘old person’ (sg \\ pl) (dialectally ná-…)	
	c.	yō-də̀-rɛ̀-ní	‘behaving like an old woman’	Fl
		yō-dɛ̀ \\ yə̄-rō-dì-ɔ̀	‘old woman’ (sg \\ pl)	
	d.	kɛ̄^{n}-də̀-rɛ̀-ní	‘behaving like an old man’	Fl
		kɛ̄^{n}-dɛ̀ \\ kɛ̄^{n}-dì-ɔ̀	‘old man’ (sg \\ pl)	
	e.	cī-cə̀-rà-ʔà-ní	‘behaving/looking like a young man’	Fl
		cī-cùʔɔ̀ \\ cī-cə̀-rɔ̀-ʔɔ̀	‘young man’ (sg \\ pl)	
	f.	lɛ̀-ʔɛ̀-ní	‘behaving/looking like a young woman’	Fl
		yīɛ̄ \\ lɔ̄	‘young woman’ (sg \\ pl, suppletive)	
	g.	yɛ̌-yə̀-rɛ̀-ní	‘co-wifehood’	Bo
		yɔ̄-yɔ̀ \\ yɔ̄-yə̀-rɔ̀	‘co-wife’	
	h.	blɛ̀jə̀-rɛ̀-ní	‘Jula-hood’ (ethnicity)	Bo
		blɛ̀jɔ̀ \\ blɛ̀jə̀-rɔ̀	‘Jula person’	

4.1.2.6 Plural by prolongation

Of our four main speakers, only the one from Ma occasionally pluralized nouns by prolongation either of the article ē, the stem-final vowel of the singular, or both.

(255)	singular	plural	gloss	comment
	è wú^{n}	è→ wú^{n}→	‘village’	Ma

Since such forms were infrequent even for this speaker, and did not occur elsewhere in the data, we are unable to present definitive phonetic details.

This phenomenon raised our eyebrows since pluralization by prolonging the stem-final vowel is productive in Tiefo-N, where however it may have originated as contraction of rhotic plurals, e.g. *CvCv-rv to CvCv→. Perhaps the same process has occurred independently here.

4.1.2.7 Pluralia tantum

Quite a few nouns are attested only in singular form. Some such nouns denote masses like ‘salt’ or abstractions like ‘fear’, so they do not require a plural. Some other nouns denoting countable entities also happen to lack a plural. For these stems, the “singular” can shift from functional singular to functional collective.

There are also a few pluralia tantum, i.e. nouns attested only in plural form. Both (256a) and (256b) end in segments that are compatible with plural noun morphology (-rv, -o), but in the absence of corresponding singulars the morphology is not transparent.

(256)	a.	kə́rú	‘agemate group, generation’
	b.	pí^{n}-pìò	‘(pair of) twins’

4.1.3 Vestiges of vocalic noun classes

Tiefo-N distinguishes three noun classes, most systematically by prenominal article-like morphemes (è, à, ò), which are neutralized in Tiefo-D as ē except with numerals ‘2’ through ‘9’ which have ò. Less systematically, Tiefo-N also makes noun-class distinctions in adjectives and some other morphemes. These Tiefo-N classes are mostly orthogonal to grammatical number.

Some phenomena in Tiefo-D that may reflect an original class system of this type are briefly listed here. The morphology of pluralization (rhotic suffix or infix, denasalized o from ɔ^{n}, suffixation of -ɔ/-o, vocalic fronting of u/o/ɔ to i/e/ɛ) is also relevant if noun classes are understood to include singular-plural pairings, but we focus here on phenomena involving animacy. Heath (2019) is a fuller analysis and is expected to appear in print soon.

- a/ɔ^{n} in third person singular pronominal proclitics, 3Inan à versus 3AnSg ɔ̀^{n} (§4.3.2.1);
- o/e in third person nonclitic or logophoric pronouns, 3AnSg bó and 3Pl bùò (§4.3.2.1), versus discourse-definite demonstrative and inanimate pronoun bè (§4.4.2.1);
- a/ɔ in final -kà in several compounds denoting nonhuman animals, versus final kɔ̀ in one compound denoting a human (§5.1.7.1);
- i/ɛ/u in mostly human diminutive compound final -bì/-bí and related forms (§5.1.6.1), versus nonhuman animate compound final -bɛ̀^{n} in terms for juvenile animals (§5.1.6.3), and versus -bù as final in ‘finger’ and ‘toe’ (§5.1.7.5);
- e/o in focus morphemes: animate singular (or generalized) tóʔó, animate plural tə́-ró, inanimate té (§13.1.1);
- e/o in indefinite markers jə̄-rō (animate plural), jə̄-rē (inanimate plural), singular jī (§4.4.2.3), and in relative markers jə̀-ró (animate plural), jə̀-ré (inanimate plural), singular jə̀rɔ́^{n} (§14.1.1);

- ɛ/ɔ in (n) dɛ̀^{n}ʔɛ́(y)^n 'one' versus nā-dɔ̀^{n}ʔɔ́^{n} 'one person' (§4.6.1.1).

As pointed out by Winkelmann, the many singular nouns ending in …Cvʔv corresponding to rhotic plural …Cvrv(ʔv) could well reflect one or more original *-Cv singular suffixes.

4.1.4 Irregular nouns

4.1.4.1 kɛ̌^{n}, kɛ̂^{n}, kɛ̄mɛ̀ 'man, fellow, pal'

This nominal word-family has tonal variants kɛ̌^{n} and kɛ̂^{n}, along with a bisyllabic variant kɛ̄mɛ̀. Of the three, kɛ̌^{n} is most common, but both kɛ̌^{n} and kɛ̂^{n} occur in texts. The bisyllabic variant kɛ̄mɛ̀ is attested in elicitation for Fl and Ji dialects but did not occur in texts.

We focus here on kɛ̌^{n} since our data are better for this variant. One common sense is 'pal, buddy', generally male. A possessor is either overt or is covert but understood. The plural in this sense is rhotic, or rhotic plus -ní (257).

(257)	plural	dialect
	kə̀-rɛ́^{n}	Ji
	kə̀-rɛ́^{n}-ní	Fl Ma
	kə̀-rɛ̀^{n}-ní	Bi

The other function for both kɛ̌^{n}, kɛ̂^{n}, and kɛ̄mɛ̀ is to refer back to an unnamed but contextually specific individual, normally a man, that has already been introduced into the discourse, cf. Eng *the guy* or *the fellow*. For this discourse function, see §18.5.1.1.

Finally, L-toned -kɛ̀^{n} occurs as the final in several compounds denoting men. It is often contrasted with female-denoting compounds ending in -yò 'woman'. One example is nàsə̀rá-kɛ̀^{n} 'white man' versus nàsə̀rá-yò 'white woman'. See §5.1.6.7-8 for these male and female compounds. In effect, as compound final -kɛ̀^{n} partially replaces dɔ̌ 'man' or (with possessor) 'husband'.

The variant kɛ̂^{n} is attested only from the Fl speaker in contexts similar to the 'guy, fellow' function.

4.1.4.2 yúó 'person' or 'people'

An original final plural ó may also be present in fossilized form in yúó 'people', although no simplex #yú is attested. This noun was probably semantically plural at one time, whether or not it was ever segmentable. Its offshoots are still specifically plural in two constructions in derivational morphology: a) plural agentive -yùò replaces singular agentive -nɔ̀ (§4.2.2), both of them being secondarily L-toned like many compound finals, and b) -yúó 'owners (of X)' replaces singular -wí 'owner (of X)' (§5.1.9).

However, yúó can be singular 'person' in some dialects (Fl Ji), with suppletive plural ná-bíó ~ nà-bíó. The alternative in all dialects at least as an option is to use ná-bí (Bi ná^n-bí) as singular ‘person’, and yúó as specifically plural ‘people’. However, ná-bí ~ nà-bí can also mean ‘child’ dialectally with its own plural (see the following section).

An alternative etymological possibility for yúó is suggested by the possibility that the animate default possessive júó, versus inanimate dó, and the third-person pronominal in kà júò ‘with him/her/it/them (animate)’, versus kà lō ~ à rō ‘with it/them’ (inanimate), might both reflect an intrusive u between initial consonant and o, marking [+animate]. See §3.4.2.5 on the d/ju alternation. If this intrusive u marking animacy was also originally part of yúó, removing the u would leave *yó.

Tiefo-N dyó→ ‘people’ is also part of the etymological equation.

4.1.4.3 bíó ‘fruit, seed’ and related forms

bíó is a singular or collective noun ‘fruit, seed(s)’. It can be used as a collective ‘fruits, seeds’. It extends to an inanimate referent in sù^{n}-bíó ‘pill(s)’ from sǔ^{n} ‘medication’, which is usually collective but can denote a single pill (with a numeral ‘one’).

bíó was likely originally a plural *bí-ó with the same -o seen in more transparently suffixal examples like ʃì-ó ‘fathers’ (§4.1.2.4.1). The original sense of *bí-ó was likely ‘children’, implying an original singular *bí ‘child’. This sense survives in the compound bí-sīɔ̄^{n} ~ bí-ʃīɔ̄^{n} ‘child’, plural bí-sīō ~ bí-ʃīō ‘children’. It also survives as the final in ná-bí ~ nà-bí, dialectally either ‘person’ or ‘child’, plural ná-bí-ó ~ nà-bí-ó. For additional compounds with final -bí, -bì, or -bìɔ̀^{n}, see §5.1.6.1-2.

4.1.4.4 ‘Ant’ terms with extra l in the plural

Two phonologically very similar stems denoting ‘ant’ or a species of ant, each with dialectal variants, must be distinguished, although they may have split off from a common source. One term specifically denotes *Messor galla*, a big-headed granivorous black ant found in large colonies in fields (258a). The other is a general term for ‘ant(s)’ (258b).

(258)	singular	plural	dialect	
a. *Messor galla*				
	—	mò-mó	Ji	
	mɔ̀-mɔ́	mò-mó	Fl	
	mò-mó	mò-mló	Bi	(vowels unnasalized!)
b. ‘ant(s)’				
	mɔ̀-mlɔ́^{n}	mò-mló	Fl Ji	
	mlɔ́^{n}-mlɔ́^{n}	mló-mló	Bi	

Where the singulars have phonemic ɔ^{n} or an ɔ following a nasal consonant, this shifts to o in the plural. See §4.1.2.3.1 for this type of denasalized plural. In these ant terms, the vocalic shift applies to both segments of the reduplicative stem.

Some of the forms like mò-mó and mlɔ́ⁿ-mlɔ́ⁿ are reduplicative with at most a tonal shift at the boundary. These can be directly compared to other reduplicative noun stems (§4.1.1.9). However, Bi adds an l in the second part of plural mò-mló '*Messor* ants' (258a), and Ji and Fl appear to do so in both singular and plural forms of 'ant(s)' (258b).

There is one other known case where an extra l occurs in the second syllable of the plural. Not coincidentally, it is another ant term (259). This species is described as very large, black, and termite-eating. This matches the profile of *Megaponera analis*, which is common in nearby northern Côte d'Ivoire. Ji and Fl add l in the plural, and also lower some or all vowels from u to o. Ma has a regular rhotic plural, plus plural suffix -ní. Bi has l in the singular, also used as a collective, and has no attested morphological plural.

(259)	singular	plural	dialect
a.	tùmùʔú	tòmlóʔó	Ji
	"	tùmlōʔó	Fl
	"	tùmə̀-rù-ní	Ma
b.	tùmlùⁿʔúⁿ	—	Bi

4.1.4.5 blí-kɛ́ (plural blí-tìɔ́) 'hare'

The noun blí-kɛ́ 'hare' has an unusual plural blí-tìɔ́ (Fl Ji) or blú-tìɔ̀-ní (Bi).

4.1.4.6 bá(ⁿ)-sɔ̀ⁿ 'squirrel'

The terms in (260) denote the striped ground quirrel (*Xerus*).

(260) singular	plural	dialect
bá-sɔ̀ⁿ	bá-sùò	Ji
báⁿ-sɔ̀ⁿ	bá-sò	Fl
"	bɔ́-sò	Bi
"	bá-sə̀-rò	Ma

These forms are vaguely compound-like but neither syllable corresponds to a phonological and semantic match, unless we somehow connect báⁿ with báⁿ ~ bɔ́ⁿ 'sheep-Sg'. The initial syllable is nasalized in the singular, except in Ji. All plurals shift ɔ(ⁿ) to denasalized o. This shift is accompanied by an intrusive semivowel in Ji, and by a rhotic syllable in Ma. Only Bi separately pluralizes the initial, possibly on the model of báⁿ 'sheep' and its denasalized plural bɔ́ in the same dialect.

4.2 Derived nominals

Many derived nominals are treated in this grammar as compounds and presented in Chapter 5, since the final element appears to be noun-like. See, for example, the 'X-owner' compounds in §5.1.9, the agentive compounds in §5.1.5.1, and the verbal-noun compounds in §5.1.4. In the following sections of the present chapter we consider verbal nouns, simple agentives, and human participles.

4.2.1 Verbal nouns

Verbal nouns were elicited as subjects of adjectival predicates e.g. 'Vb-ing is difficult' or 'Vb-ing is not good'. Others showed up in texts or in regular lexical elicitation.

4.2.1.1 Verbal noun with base stem plus -ní

Suffixation of -ní is the productive verbal noun formation. Semantically, this verbal noun generally sticks closely to the verbal sense, rather like Eng *-ing*. Phonetically, is occasionally reduced to -ń by apocope (§3.4.1.1). This reduction likely played a role in the development of the synchronic progressive construction from a proto-progressive construction (still in use) that included a verbal noun (§10.2.4).

§4.2.1.1.1 covers verbal nouns from aspectually marked verbs. §4.2.1.1.2 deals with verbal nouns of adjectival verbs.

4.2.1.1.1 From active verbs

-ní is added to the base form of the verb, as can be seen with verbs that overtly distinguish Pfv, base, and Ipfv stems (§10.1.5). The base is the second of three forms shown in our full three-part representation of verbs. M-toned base verbs are dropped to L before the H-toned suffix (261b), sometimes accidentally creating the appearance that -ní is added to the Pfv (e.g. with 'enter').

A homophonous suffix -ní occurs in nominal morphology as a default plural (§4.1.2.5). The two may have an obscure semantic relationship, as in Songhay languages.

(261) Uncompounded verbal nouns with -ní after base of verb

VblN	gloss	verb	gloss of verb
a. H-toned base			
bɛ́^{n}-ní	'playing (tomtom)'	blɛ̄^{n}/**bɛ́^{n}**/blí^{n}	'beat (tomtom)'
bú-ní	'gain, profit (n)'	būō/**bú**/bí	'obtain, get'
dí-ní	'eating'	dīē/**dí**/dí	'eat (meal)'
dú-ní	'sowing, planting'	jūō/**dú**/dú	'sow (v), plant (v)'
fó-ní	'going past'	fīē/**fó**/fó	'pass, go past'
glú-ní	'exit (n)'	glō/**glú**/glú	'exit (v)'

já-ní	‘leaving’	já/**já**/já (Fl Ji Ma)	‘leave, abandon’
"	"	jɛ̄/**já**/já (Bi)	
kú-ní	‘cut (n)’	kūō/**kú**/kpí ~ kɥ́í	‘cut (v)’
sɔ́ʔɔ́-ní	‘dig, jab (n)’	sɛ̄ʔɛ̄/**sɔ́ʔɔ́**/sɔ́ʔɔ́	‘dig, jab’
sɔ́-ní	‘ignition’	sūɔ̄/**sɔ́**/só ~ sú	‘ignite’
táʔá-ní	‘sacrifice (n)’	tɛ̄ʔɛ̄/**táʔá**/táʔá	‘offer as sacrifice’
té-ní	‘putting (down)’	tīē/**té**/té	‘put (down)’
tɔ́-ní	‘cooking (sauce)’	tə̄rɔ̄/**tɔ́**/tú ~ tó	‘cook (sauce)’
tó-ní	‘assembling’	tē/**tó**/tó	‘come together’
wáʔá-ní	‘noise’	wɛ̄ʔɛ̄/**wáʔá**/wáʔá	‘make noise”
wúó-ní	‘prayer’	wē/**wúó**/wúó	‘pray’
wú-ní	‘death’	wūō/**wú**/wí	‘die’
yé-ní	‘walking, stroll’	yé/**yé**/yé	‘walk’

b. M-toned base dropped to L before H-tone (§3.6.2.2)

bè-ní	‘fatigue, misery’	blè/**bē**/blē	‘become tired’
dìè-ní	‘entry, entrance’	dìè/**dīē**/dīē	‘enter’
dɔ̀-ní	‘sleep (n)’	dɛ̀/**dɔ̄**/dɛ̄ (Fl)	‘sleep (v)’
"	"	dɛ̀/**dɔ̀**/dɛ̄ (Bi Ji Ma)	"
fà-ní	‘searching’	fɛ̀/**fā**/fā	‘look for’
ɲì-ní	‘seeing’	ɲà/**ɲī**/ɲɛ̀	‘see’
ɲɔ̀-ní	‘drinking (n)’	ɲùɔ̀/**ɲɔ̄**/ɲī	‘drink (v)’
pɛ̀^{n}-ní	‘remaining (n)’	pìɛ̀^{n}/**pɛ̄^{n}**/pī^n	‘remain’
tɔ̀^{n}-ní	‘count (n)’	cùɔ̀^{n}/**tɔ̄^{n}**/tī^n	‘count (v)’
wè-ní	‘putting (in/on)’	wìè/**wē**/wī	‘put (in/on)’
ɲàɣàmì-ní	‘mixing’	ɲāɣāmī (invariant)	‘mix’

c. LH-toned base (loanwords, stems invariant)

kə̀ràfà-ní	‘entrusting’	kə̀ràfá	‘entrust’
màdìmì-ní	‘wounding’	màdímí	‘wound’
sàmà-ní	‘sending on errand’	sàmá	‘send on errand’
sɔ̀mɔ̀-ní	‘dislocation’	sɔ̀mɔ́	‘be dislocated’
sɔ̀-sɔ̀-ní	‘contradiction’	sɔ̀-sɔ́	‘contradict’
tə̀rɛ̀lɛ̀-ní	‘slipping’	tə̀rɛ̀lɛ́	‘slip’
tɔ̀ɲɔ̀-ní	‘renege-ing’	tɔ̀ɲɔ́	‘renege on’

d. L-toned base

bà-ní	‘coming (n)’	bà/**bà**/bē	‘come’
gɔ̀-ní	‘narration’	gbà/**gɔ̀**/gò ~ gù	‘hit; narrate’
jàʔà-ní	‘laying out (n)’	jɛ̀ʔɛ̀/**jàʔà**/jàʔà	‘lay out (mat)’
jɔ̀-ní	‘swallow, gulp (n)’	jə̀rɔ̀/**jɔ̀**/jò ~ jù	‘swallow (v)’
kò-ní	‘hit, kill (n)’	kùò/**kò**/cɥì	‘hit, kill’
kpàʔà-ní	‘hardship, poverty’	kpɛ̀ʔɛ̀/**kpàʔà**/kpàʔà	‘be desperate’
mà-ní	‘laugh (n)’	mɛ̀/**mà**/mīɛ̄	‘laugh (v)’
tàʔà-ní	‘re-igniting’	tɛ̀ʔɛ̀/**tàʔà**/tìʔì	‘re-ignite’

We observe interdialectal variation in the tones of verbal nouns from some verbs. Taking the base stems of the verbs in (262) as basically M, the Bi verbal nouns are regular, with M dropped to L before H. In the Fl Ji verbal nouns the tones are level.

(262)	VblN	dialect	verb	gloss of verb
a.	dā^{n}ʔā^{n}-nī	Fl Ji	dɛ̄^{n}ʔɛ̄^{n}/**dā^{n}ʔā^{n}**/dā^{n}ʔā^{n}	‘love, worship’
	dà^{n}ʔà^{n}-ní^{n}	Bi		
b.	dī-glō-nī	Fl Ji	dīē-glō/dī-**glō**/dī-à-glō	‘take out, remove’
	dī-glò-ní^{n}	Bi		
c.	fɛ̄-nī	Fl Ji	fɛ̄ (invariant)	‘greet’
	fɛ̀-ní^{n}	Bi		

See also dē-nī ‘picking (cotton)’ (Bo, 2019-03 @ 02:05).

Regarding fɛ̄-nī’ ‘greeting’ (262c), the compounds ē cù^{n}ʔù^{n}-[fɛ̀-ní] ‘morning greeting’ and ē dɔ̀ʔɔ́-[fɛ̀-ní] ‘evening greeting’, pronounced as such in all dialects, show the regular L-H tones preserved in Bi fɛ̀-ní^{n}.

Compounds with -glō (§15.1.5.5) other than ‘take out, remove’ (262b) behave regularly even for Fl Ji, hence blá-glò-ní ‘divorce (n)’ from base blá-glō.

4.2.1.1.2 From adjectival verbs

The -ní suffix can also be added to stative adjectival predicates (263) to form an abstractive nominal.

(263) Uncompounded verbal nouns with -ní after adjectival predicate

VblN	gloss	predicate	gloss of predicate
a. stem H-toned			
dá^{n}-ní	‘taste, sweetness’	dá^{n}	‘be pleasing; be tasty’
fíɛ́^{n}-ní (Ji)	‘whiteness’	fíɛ́^{n}ʔɛ́^{n}	‘be white’
fīɛ̄^{n}ʔɛ́^{n}-ní (Fl)	"	fīɛ̄^{n}ʔɛ́^{n}	"
ɲáʔá-ní	‘redness’	ɲáʔá	‘be red, turn red’
ɲɔ́-ní	‘sourness’	ɲɔ́	‘be sour’
tɛ́^{n}-ní	‘bitterness’	tɛ́^{n}	‘be bitter’
yɔ́-ní ~ yíɔ́-ní	‘blackness’	yɔ́	‘be black, turn black’
b. stem M-toned			
kplò-ní	‘shortness’	kplō	‘be short’
kàʔà-ní	‘hardness; worth’	kāʔā	‘be hard, expensive’
fà^{n}ʔà^{n}-ní	‘lightness, weakness’	fā^{n}ʔā^{n}	‘be lightweight, weak’

c. stem L-toned

dìʔɛ̀-ní	‘length, height’	dìʔɛ̀	‘be long, tall’
lɛ̀-ní	‘old age’	lɛ̀	‘be old, get old’

For verbal nouns with an incorporated noun as initial, see §5.1.4. For verbal nouns of verb-verb compounds see §15.1.

4.2.1.2 Other deverbal nominals

Several verbs have a corresponding lexical nominal in addition to the productive verbal noun with -ní. For some of these verbs, the -ní form is uncommon, though it is always elicitable. The lexical nominal often has a specialized sense versus the pure verbal sense of the verbal noun, compare Eng *death* and *dying*, *song* and *singing*, etc. The vocalism of the nominal is related to that of the base of the verb, but may add glottalization (264a). Some nominals (‘agriculture’, ‘sleep’) have a rising tone. The úú in wúú ‘death’ may be structurally diphthongal rather than a true long vowel (§3.1.1.3), cf. the Pfv wūō ‘died’.

(264) Other deverbal nominals

Pfv/Base/Ipfv	gloss	nominal	gloss
a. nominal adds glottalization			
jūɔ̄^{n}/jɔ́^{n}/jú^{n}	‘dance (v)’	jɔ́^{n}ʔɔ́^{n}	‘dance (n)’
bɛ̄/bá/bé	‘cultivate (crops)’	bàʔá	‘farming, agriculture’
kpē/kó/kó	‘weep’	kóʔó	‘weeping, tears’
sùɔ̀^{n}/sɔ̄^{n}/ʃī^{n}	‘perform (work)’	kē-sù^{n}ʔɔ̀^{n}	‘work (n)’
blè/blō/blō	‘sacrifice (animal)’	kō-blòʔò	‘sacrificial offering’
b. no glottalization in nominal			
wūō/wú/wí	‘die’	wúú	‘death’ (diphthonal)
dɛ̀/dɔ̄/dɛ̄ (Fl)	‘sleep (v)’	dɔ̌	‘sleep (n)’

4.2.2 Agentive compounds (-nɔ̀/-yùò) without incorporated noun

The agentive denotes a practitioner of a characteristic activity or trade. Agentive nominals end in singular -nɔ̀ or plural -yùò. These endings are L-toned compound finals. -nɔ̀ originally meant ‘person’ and is cognate to the initial ná- in ná-bí ~ nà-bí ‘person’ or ‘child’ and some other forms (§5.1.5.5). yúó by itself means singular ‘person’ or plural ‘people’ depending on dialect.

The verb usually takes Pfv form in this derivation, though there are also a few attestations with the base. The examples in (265) lack incorporated object nouns, and are based on uncompounded verbs.

(265) Agentives based on simple verbs and without incorporated nouns

singular	plural	gloss	Pfv/Base/Ipfv	gloss
a. H-toned initial				
ʃīɛ̄^{n}-nɔ̀	ʃīɛ̄-^{n}-yùò	‘weaver’	**ʃīɛ̄^{n}**/ʃí^{n}/ʃí^{n}	‘weave’
wóróma-nɔ̀	wóróma-yùò	‘selector’	wóróma (invar.)	‘select’
yé-nɔ̀	yé-yùò	‘hunter’	yé (invariant)	‘walk (in bush)’
b. M-toned initial				
bɛ̄-nɔ̀	bɛ̄-yùò	‘farmer’	**bɛ̄**/bá/bé ~ bí	‘cultivate’
būō-nɔ̀	būō-yùò	‘rich person’	**būō**/bú/bí	‘get’
fɛ̄-nɔ̀	fɛ̄-yùò	‘greeter’	fɛ̄ (invariant)	‘greet’
fīɛ̄-nɔ̀	fīɛ̄-yùò	‘advocate (n)’	**fīɛ̄**/fúɔ́/fúɔ́	‘defend (sb)’
fīʔɛ̄-nɔ̀	fīʔɛ̄-yùò	‘pardoner’	**fīʔɛ̄**/fɔ́ʔɔ́/fɔ́ʔɔ́	‘pardon (v)’
jūɔ̄^{n}-nɔ̀	jūɔ̄^{n}-yùò	‘dancer’	**jūɔ̄^{n}**/jɔ́^{n}/jú^{n}	‘dance (v)’
wē-nɔ̀	wē-yùò	‘worshiper’	**wē**/wúó/wúó	‘pray’
c. L-toned initial				
kpɛ̀ʔɛ̀-nɔ̀	kpɛ̀ʔɛ̀-yùò	‘pauper’	**kpɛ̀ʔɛ̀**/kpàʔà/kpàʔà	‘be indigent’
mɛ̀-nɔ̀	mɛ̀-yùò	‘laugher’	**mɛ̀**/mà/mīɛ̄	‘laugh (v)’
ɲùɔ̀-nɔ̀	ɲùɔ̀-yùò	‘drinker’	**ɲùɔ̀**/ɲɔ̄/ɲī	‘drink’
ʃì^{n}ʔɛ̀^{n}-nɔ̀	ʃì^{n}ʔɛ̀^{n}-yùò	‘runner’	**ʃì^{n}ʔɛ̀^{n}**/ʃì^{n}ʔì^{n}/ʃì^{n}ʔì^{n}	‘run’
sə̀rɛ̀-nɔ̀	sə̀rɛ̀-yùò	‘carpenter’	**sə̀rɛ̀**/sɛ̄/sē ~ sī	‘carve, shape (v)’

There is no impediment to deriving agentives from verb-verb compounds (§15.1). Especially the unfamiliar combinations sometimes use the base instead of Pfv of the first verb.

(266) Agentives based on verb-verb compounds without incorporated nouns

singular	plural	gloss	Pfv/Base	gloss
blɛ̄-glō-nɔ̀	blɛ̄-glō-yùò	‘divorcer’	**blɛ̄-glō**/blá-glō	‘divorce (v)’
cā-mà-nɔ̀	cā-mà-yùò	‘hearty laugher’	cɛ̀-mà/**cā-mà**	‘laugh heartily’
dìè-só-nɔ̀	-yùò	‘one who falls’	**dìè-só**/dì-só (Ji)	‘fall’
dìè-dɛ́-nɔ̀	dìè-dɛ́-yùò	"	**dìè-dɛ́**/dì-dɛ́	‘eat to satiety’
dí-dɛ́-nɔ̀(^{n})	-yùò	‘glutton’	dìè-dɛ́/**dí-dɛ́** (Bi)	‘eat to satiety’

In nearly all cases, the referent of the agentive corresponds to the agent of the associated transitive clause type. However, in the rare type (267) the referent of the agentive corresponds to the object of the associated transitive clause type. One way to interpret this is that the agentive is based on a (zero-derived) mediopassive of the verb.

(267) ē ʃìʔɛ̀-yùò
Art **be.sent**.Pfv-Agent.Pl
‘emissaries’ (Bi, 2017-10 @ 01:45)

Agentives of intransitive verbs do not of course have incorporated nominal compound initials. Some of the examples in (265) above are based on transitive verbs ('get', 'carve'), but they show no overt reference to an object. Many other transitive verbs correspond to agentives that do include an incorporated object as compound initial (§5.1.5.1).

4.2.3 Lexicalized participles

4.2.3.1 Lexicalized animate participles with -kàʔà (plural -kɔ̀)

The suffix -kàʔà (plural -kɔ̀) is added to Pfv stems of verbs to derive animate participles. Several "adjectival" concepts are expressed as participles, either animate with -kàʔà or inanimate with -ɛ̀ʔɛ̀ (§4.5.4).

A few combinations with -kàʔà are lexicalized, denoting a type of human individual. It then functions as an ordinary noun, and can be preceded by the article ē. An example is 'idiot' (268).

(268)

verb	gloss	participle	gloss
mə̀rù (invariant)	'be stupid'	mə̀rù-kàʔà	'idiot'
		mə̀rù-kɔ̀	'idiots'

Like other nouns, 'idiot' can be made predicative with the usual copula kō.

(269) a.

zàkí	kō	[Ø	mə̀rù-kàʔà]
A	**be**	[Art	be.idiot-**Ppl.An**]

'Zaki is an idiot.' (Fl)

b.

[è	bí-ʃīō]	kō	[Ø	mə̀rù-kɔ̀]
[Art	children]	**be**	[Art	be.idiot-**Ppl.AnPl**]

'The children are idiots.' (Fl)

Participles can also describe temporary states, e.g. lɛ̄^{n}-kàʔà 'standing, in standing position', sɛ̄^{n}-kàʔà 'lying down', tə̀rɛ̀^{n}-kàʔà 'sitting', dɛ̀-kàʔà 'asleep', gbà-tə̄rā^{n}-kàʔà 'squatting'. These forms show that -kàʔà is added to the Pfv form of the verb.

Participles denoting temporary states can occur without a copula as secondary predicates, for example embedded under 'see'.

(270)

[è	jírí^{n}]	dā=	à	ɲɛ̀	[ɔ̀^{n}	lɛ̄^{n}-kàʔà]
[Art	djinn]	still	Ipfv	**see**.Ipfv	[3AnSg	stand.Pfv-**Ppl.An**]

'the djinn(s) would see him standing' (Ji, 2017-04 @ 03:22)

Participial -kàʔà resembles the compound final -kà that occurs in terms for animals, e.g. pō-kà 'animal of the bush, wild animal' (§5.1.7.1). The two endings converge in the plural, which is -kɔ̀ in both cases, as in pō-kɔ̀ 'wild animals'.

4.2.3.2 Lexicalized inanimate participles with -ɛ̀ʔɛ̀ (plural -ə̀-rɛ̀)

ɛ̀ʔɛ́ ‘thing’ can function as an inanimate participial ending, in L-toned form -ɛ̀ʔɛ̀. The verb is usually in Pfv form, but variants with the base stem have also been recorded. Such participles often function as ordinary adjective-like modifiers (§4.5.4), or else they occur in expressions like ‘drinking water’ (§5.1.10.2).

In (271), the participle has been fully lexicalized as a noun.

(271)	compound	gloss	verb	gloss
a.	dī-ɛ̀ʔɛ̀	‘food; meal’	dīē/dí/dí	‘eat’
b.	[lī-lī]-ɛ̀ʔɛ̀	‘shiny metal; gold’	lè/lī/lī	‘shine’
c.	ɲùɔ̀-ɛ̀ʔɛ̀	‘beverage’	ɲùɔ̀/ɲɔ̄/ɲī	‘drink’

The verb ‘shut; cover (body)’ is itself a compound, with base wáʔá-tɔ̀^{n} and Pfv wīʔɛ̄-tɔ̀^{n} (Ji) or wīɛ̄ʔɛ̄-tɔ̀^{n} (Fl) among other dialectal variants. Both Pfv and base are attested as compound initials. (272a) is a lexicalized participle, while ‘blanket’ (272b) has fɛ̀ʔɛ́ ‘garment’ (in L-toned form) as final. ‘Blanket’ can alternatively appear in a more compressed, less transparent form (272c).

(272)	compound	dialect	literal
	a. ‘cover (n), covering’		
	[wīʔɛ̄-tɔ̀^{n}]-ɛ̀ʔɛ̀	Ji	“[cover]-Ppl.Inan”
	[wīɛ̄ʔɛ̄-tɔ̀^{n}]-ɛ̀ʔɛ̀	Fl	
	b. ‘blanket’		
	[wáʔá-tɔ̀^{n}]-fɛ̀ʔɛ̀	Ji	“[cover]-garment”
	[wā^{n}ʔá^{n}-tɔ̀^{n}]-fɛ̀ʔɛ̀	Fl	
	c. ‘blanket’		
	wɛ̄^{n}ʔɛ̄^{n}-fɛ̀ʔɛ̀	Fl Ji	“[cover]-garment”

In the recordings, a speaker occasionally presented an ostensibly lexicalized participle as a way to avoid a borrowing that is in common use colloquially. For example, our Ji speaker produced lè-ɛ̀ʔɛ̀ (literally “show.Pfv-thing” with ‘thing’ as inanimate participle) in the sense ‘road sign’ to avoid a borrowing based on Fr *plaque*; see 2017-11 beginning @ 08:07.

4.2.4 Iteration of noun stems

Iteration is not a productive device in nominal morphology. We can cite kě-kě ‘(whatever) things’, iterated from kě ‘matter, thing (abstract)’ in (Fl, 2017-03 @ 03:13). Such distributives can also be expressed in a construction with intervening ò (§7.2.3).

4.3 Pronouns

There is a split between invariant nonclitic (i.e. independent) and proclitic pronouns. For third person there is also a set of object enclitics. For 2Sg there is also a possessive suffix.

4.3.1 First and second person pronouns

Most of the first and second person pronouns are summarized in (273). Details about them, and additional forms, are introduced in the following subsections.

(273)	category	nonclitic	proclitic	reflexive possessor
	1Sg	nó nó^{n} (Bi)	ŋ́	ŋ̀
	2Sg	mó mó^{n} (Bi)	ŋ̀	-à (suffix)
	1Pl	é-yùò ~ ó-yùò í-yùò (Bi) ó (~ é)	ó (~ é)	(see §18.1.1)
	2Pl	bùò	bùò	(see §18.1.1)

4.3.1.1 First and second person pronouns

For several pronouns there is a clear distinction between nonclitic and proclitic forms. A distinct set of proclitics is obligatory in reflexive possessor function (§18.1.1). We disregard reflexive possessor forms in the next few subsections, so when we speak of "proclitics" we refer to forms that can function at least as subjects.

For 2Pl there is no distinction between full and proclitic forms. The invariant form is bùò. It occurs in all functions except reflexive possessor. bùò is homophonous to the (third person) plural independent and logophoric form (§4.3.2.1).

The nonclitic 1Sg and 2Sg forms are nó (Bi nó^{n}) and mó (Bi mó^{n}), respectively. They are obligatory as objects, as adpositional complements, and independently (e.g. when focalized). In subject function, proclitics (1Sg ŋ́, 2Sg ŋ̀) may replace the nonclitic forms (§4.3.1.6). 1Sg nó and 2Sg mó are also very common as (nonreflexive) possessors.

Like 1Sg and 2Sg, 1Pl also has a long form (é-yùò, less often ó-yùò, and in Bi dialect í-yùò) and a short form (ó ~ é). The division of labor between the long and short 1Pl forms is different from that in the 1Sg and 2Sg. For practical purposes, ó can be taken as the 1Pl counterpart of 1Sg nó and 2Sg mó in most positions, with -yùò as an optional extension. Whereas the short 1Sg and 2Sg forms are limited to subject function, 1Pl ó is very common in subject, possessor, and (varying with é) postpositional complement functions. Only in (postverbal) object function and after the two prepositions is é-yùò obligatory.

The ending in é-yùò is a human plural marker -yùò that is also found in plural agentives (§4.2.2). It is related to the noun yúó which means 'person' or 'people' depending on dialect. We might speculate that -yùò was added to *ó to distinguish it more sharply from 3Pl ò (which raises to ō before L-tone).

For additional specialized 1Pl pronouns (mìé, dìé, ó-bé ~ é-bé), see §4.3.1.4-5 below.

We now illustrate the nonclitic first and second person pronouns in various functions. In (274a), they are subjects. The optional full 1Pl form is in (274b). For 1Sg and 2Sg, reduced proclitics are also possible (§4.3.1.6.1-2 below).

(274) a. nó/mó/ó/bùò bà
1Sg/2Sg/1Pl/2Pl come.Pfv
'I/you-Sg/we/you-Pl came.'

b. é-yùò bà
1Pl come.Pfv
'We came.'

The interchangeability of 1Pl nonclitic é-yùò and proclitic ó is shown by comparing ó nà dò 'we will speak' (2017-01 @ 00:42) with é-yùò nà sūʔɔ̄… 'we will give…' (2017-04 @ 05:14). In both examples 1Pl subject is followed by future nà.

(275) illustrates prenominal (nonreflexive) possessor function.

(275) a. nó/mó/ó/bùò sē / ná(^{n})
1Sg/2Sg/1Pl/2Pl father/cow
'my/your-Sg/our/your-Pl father/cow'

b. é-yùò sē / ná(^{n})
1Pl father/cow
'our father/cow'

In postverbal object function, only nonclitic forms can occur, and for 1Pl the full form é-yùò is obligatory (276). For optional 2Sg =mì instead of mó in this function, see §4.3.1.3 below. The same nonclitic forms occur as complements of the two prepositions, kà 'with; and' (277a-b) and ditransitive dative ɔ̀^{n} (278).

(276) zàkí ɲà nó/mó/é-yùò/bùò
Z see.Pfv **1Sg/2Sg/1Pl/2Pl**
'Zaki saw me/you-Sg/us/you-Pl.' (Ji)

(277) a. zàkí à ʃī^{n} [Ø kē-sùɔ̀^{n}] [kà nó/mó/é-yùò/bùò]
A Ipfv work(v).Ipfv [Art work(n)] [**with** **1Sg/2Sg/1Pl/2Pl**]
'Zaki works with me/you-Sg/us/you-Pl.' (Ji)
(kà → kā before L-toned bùò by tone sandhi)

b. [zàkí [kà nó/mó/é-yùò/bùò]] tə̀rɛ̀ⁿ
[Z [**and** **1Sg/2Sg/1Pl/2Pl**] sit.Pfv
‘Zaki and I/you-Sg/we/you-Pl sat.’
(kà → kā before L-toned bùò by tone sandhi)

(278) ō ʃìʔɛ̀= [Ø kē-sùⁿʔɔ̀ⁿ] [ɔ̀ⁿ nó/mó/é-yùò/bùò]
3Pl give.Pfv [Art work(n)] [Dat **1Sg/2Sg/1Pl/2Pl**]
‘They gave work to 1Sg/2Sg/1Pl/2Pl.’

The full nonclitic forms, including 1Pl nonclitic é-yùò, are obligatory under focalization. The focus morpheme has singular and (optional) plural forms (279a-b).

(279) a. [nó/mó tóʔó] bà
[**1Sg/2Sg** **Foc**] come.Pfv
‘It was I/you-Sg [focus] who came.’

b. [é-yùò/bùò tə́-ró] bà
[**1Pl/2Pl** **Foc-AnPl**] come.Pfv
‘It was we/you-Pl [focus] who came.’

Pronouns take nonclitic forms as complements of postpositions. As with subjects, 1Pl ó ~ é but is optionally expanded as é-yùò. (280a-b) illustrate, using the ‘have’ construction with dative (possessive) postposition.

(280) a. [è būⁿʔɔ̄ⁿ] à-mà [nó/mó/ó/bùò bàʔà]
[Art dog] be.Loc [**1Sg/2Sg/1Pl/2Pl** **Dat**]
‘I/you-Sg/we/you-Pl have a dog.’ (Fl Ji)

b. [è būⁿʔɔ̄ⁿ] à-mà [é-yùò bàʔà]
[Art dog] be.Loc [**1Pl** **Dat**]
‘We have a dog.’ (Fl Ji)

The short 1Pl form é is more common as postpositional complement than it is as subject or possessor, where ó is regular. In texts, é bàʔà ‘among us, in our zone’ is common, although both é-yùò bàʔà and ó bàʔà are attested.

4.3.1.2 2Sg possessive suffix -à

This is the only pronominal suffix (though third person pronouns have enclitic forms for objects). The usual pronunciation is -à, but assimilations to preceding segments may result in -ɛ̀ or -ɔ̀. The suffix competes with prenominal mó (Bi móⁿ). Except in reflexive possessor function, where -à is virtually obligatory, mó(ⁿ) is much more common. However, -à occurs occasionally in nonreflexive contexts.

Textual examples include dɔ́-à ‘your possession’ (Ji, 2017-04 @ 02:59) from dó (default inanimate possessum), sɔ̀^{n}-à ‘your heart (=temperament)’ (Ji, 2017-07 @ 08:06), and kē-à ‘your matter’ (i.e. ‘about you’; Bi, 2017-07 @ 08:56).

In one textual passage, -à is seemingly added to the locative postposition nī. However, nì seems to function as a noun in this instance (281). We do not have other attestations of 2Sg -à after postpositions.

(281) ŋ́ nà bà [gà= à-ɲī— dà^{n} nī-à^{n}]
1Sg Fut come.Base [Infin come.Base.see.Base— arrive.Base **Loc-2Sg**]
[kò sɔ́ʔɔ́ =nì]
[Infin be.pierced.Base 3InanObj]
‘… (that) I would come and see—arrive at your place, to have it (=cheek) pierced.’
(Bi, 2017-08 @ 04:56)

Further examples showing the form of 2Sg possessor -à and variants are in (282).

(282) 2Sg possessor suffix (Fl dialect)

noun	2Sg possessed	gloss
dɛ̄	dɛ̄-à	‘elder sib’
lē	lē-à	‘village’
ná	ná-à	‘your cow’
nī	nī-à	‘mother’
pɔ́	pɔ́-à	‘leg’
sē	ʃī-à (all dialects)	‘father’
"	sɛ̄-ɛ̀ (Ji variant)	"
yǒ	yō-à	‘your woman (=wife)’
bū^{n}ʔɔ̄^{n}	bū^{n}ʔ-à^{n}	‘your dog’
ná-díɛ́	ná-dí-à	‘uncle’
gbɛ́sɛ́	gbɛ́sɛ́-à	‘chewstick’
wùʔɔ́	wùʔɔ́-ɔ̀	‘goat’
bí-ʃīō	bí-ʃīɔ̄-ɔ̀	‘children’

The suffix is more or less obligatory for 2Sg reflexive possessor (§18.1.1), including reflexive míʔ-â [mḭ́ʔâ̰] ‘yourself-Sg’ (2017-08 @ 10:53). For nouns in nonreflexive contexts, the suffix is elicitable but less common than nonclitic 2Sg pronoun mó to the unsuffixed possessum. mó pɔ́ ‘your-Sg leg’ is much more common than pɔ́-à in nonreflexive clauses.

4.3.1.3 Optional 2Sg object =mì

As an alternative to the regular nonproclitic 2Sg pronoun mó (Bi mó^{n}), 2Sg object is optionally expressed by a form =mì (Bi =mì^{n}) that does not occur in other grammatical functions. Based on its restriction to postverbal object position and its similarity to third person object enclitics, we transcribe it as an enclitic. The textual examples are in (283).

(283) a. [è ná-bí] mà— tàⁿ-jūʔū =mì—
[Art person] if— help.Ipfv **2SgObj**—
tàⁿ-jūʔū =mì [kúⁿʔúⁿ nī]
help.Ipfv **2SgObj** [today Loc]
'If someone helps you-Sg today, …' (Ji, 2017-04 @ 06:39)

b. á, [sɔ̀ⁿ-à té] wìè =mì [à nī]
oh!, [heart-2SgPoss Foc.Inan] put.Pfv **2SgObj** [3Inan Loc],
'It's your (own) disposition (=behavior) that put you in that (difficulty)!'
(Ji, 2017-07 @ 08:06)

c. *comme* [ŋ́ bà [gà= à-ɲìⁿ =mìⁿ nò]]
as [1Sg come.Pfv [Infin-Ipfv come.Base-see.Base **2SgObj** Emph]]
'Like, I have come to see you.' (Bi, 2017-07 @ 09:01)

d. [è náklùⁿ-[dɔ̀ⁿ-ní] jì ré] bà-bú =mìⁿ
[Art cheek-[hurt-VblN] Indef Foc.Inan] come.Pfv-get.Base **2SgObj**
'It's some ailment of the cheek that came and afflicted you.' "
(Bi, 2017-08 @ 04:51)

e. bà [ŋ́ gō sūʔɔ̄ =mìⁿ] mɔ̂→,
come.Pfv [1Sg Infin send.Base **2SgObj**] concerning,
'Come so that I (may) send you!' (Bi, 2017-10 @ 01:53)

f. *mais* [ē jɥ̀ʔɛ́] ɲɥ̀ɛ̀ⁿ-glō =mìⁿ
but [Art God] rescue.Pfv **2SgObj**
'But God got you-Sg out safely!' (Bi, 2017-10 @ 04:10)

g. [ē blō] bà tɔ̄ⁿ =mì
[Art rain(n)] if surprise.Base **2SgObj**
'when the rain takes you by surprise'
(Ji, 2017-11 @ 05:03)

4.3.1.4 1Pl non-subject mìé and dìé

A first plural form (ē) mìé with nominal article ē occurs as postverbal object or prepositional complement (kà= [Ø mìé] 'with us'). It is not attested as subject or possessor or as complement of a postposition. Segmentation of mìé is obscure but it might consist at least etymologically of 2Sg postverbal object =mì (see preceding section) and é (1Pl allomorph). It occurs frequently, but not always, in inclusive contexts ('you and me' as opposed to 'he/she/they and me').

(284) contains an example of mìé, along with the only textual example of another form dìé that appears to have the same sense. In this passage, the two forms occur in the same

morphosyntactic environment (complement of kà ‘with; and’). kà can also combine with regular 1Pl é-yùò, and this is the only possibility for exclusive first plural.

(284) [kā= à-tə̄rāⁿ [kǎ= [Ø mìè]] [kúⁿʔúⁿ nī],
[Infin come.Base-sit.Base [with [Art **1Pl**]] [today Loc],
dē bùò nà dò [kǎ= [Ø dìé]]
Quot LogoPl Fut speak.Base [with [Art **1Pl**]]
‘and (our guests) have sat down with us today, intending to speak with us.’
(Ji, 2017-01 @ 00:19)

mìé is evidently archaic. Some speakers from Bo use it fairly often. For other speakers it occurs mainly in formulaic speech such as blessings, and in songs. (284) occurred at the beginning of the first recorded text, and reflects the style used in welcoming guests. mìé also occurs in formulaic wishes like (285).

(285) [ē jɥ̀ɛ̀ʔɛ́] kò tàⁿ-jūʔɔ̄ [Ø mìé]
[Art God] Hort help.Base [Art **1Pl**]
‘May God help us (all).’ (Fl, 2017-03 @ 03:18)

Identical or similar formulae with ‘help us (all)’ occur in: **Fl** (2017-11 @ 06:50 and 06:55 and 11:30); **Ji** (2017-10 @ 07:06; 2017-11 @ 11:34); **Ma** (2017-05 @ 04:46); **women** (2017-12 @ 00:39). Likewise ‘(May God) give us good luck’ (women, 2017-12 @ 00:40) and similarly (women, 2017-12 @ 01:32).

(286) is similar stylistically, in a text about crop destroying elephants.

(286) ò kánà kèʔè-kɔ̀-də́rā= [Ø mìé]
3Pl Proh ruin(v).Base-finish.Base-do.very.much [Art **1Pl**]
‘May they (=elephants) not completely ruin (all of) us.’ (Ji, 2017-09 @ 08:10)
(kánà is from Jula)

4.3.1.5 1Pl ó-bé ~ é-bé

The form ó-bé or less often é-bé is an optional broadly inclusive 1Pl form. It is attested as subject, as postpositional complement, and as prenominal possessor. The textual examples follow.

(287) a. [nó fɛ̃̄-nī] kō [[bùò bíɛ́] bàʔà],
[1Sg greeting] be [[2Pl all] Dat],
[bùò jə̀ró→], kà [ó-bé→, ná-fō̃ jə̀ró] bà]
[2Pl Rel.AnPl], with [**1Pl**, visitor.Pl Rel.AnPl] come.Pfv]
‘My greeting is to all of you, you-Pl along with our visitors who have come …’
(Ji, 2017-01 @ 00:14)

b. [ó-bé bàʔà] [[Ø wúⁿ] nī]
[**1Pl** chez] [[Art village] Loc]
'among (all of) us in the village' (Ji, 2017-11 @ 01:25)

c. [ē mlàⁿʔáⁿ] =áⁿ dīē-pɔ̄ⁿ =ʔ, [é-bé bàʔà]
[Art war] PfvNeg enter.Base-be.able.Base Neg, [**1Pl** chez]
'War (=a war party) wasn't able to get in, among us.'
(Ji, 2017-11 @ 05:36)

d. ó-bé tīē
1Pl put.down.Pfv
'we have installed…' (Ji, 2017-11 @ 08:00)

e. [ē dùʔ=] à kōʔō [Ø kè] [ó-bé bàʔà],
[Art cliffs] Ipfv favor(v).Ipfv [Art matter] [**1Pl** chez],
'The cliffs are valuable for all of us.' (Ji, 2017-11 @ 10:16)

f. ó kō ɲɔ̄ =nì, [ó-bé dígə̀-rɔ̀] nī
1Pl Infin drink.Base 3InanObj, [**1Pl** Recip] Loc
'We drink it, together.' (women, 2017-17 @ 00:40)

g. [[é-bé tɔ̀ʔɔ̀ jī] à-mā] [bùò dēʔē-tɔ̀ʔ=] =à
[[**1Pl** place Indef] be.Loc] [3Pl hide.Pfv-place] it.is
'There is a place of ours. It's their secret place.' (Ji, 2017-11 @ 04:17)

We have not observed ó-bé in small-scale first contexts, i.e. for 'you-Sg and I'. This suggests that -bé evolved from bíɛ́(ʔ) 'all'.

4.3.1.6 Reduced 1Sg and 2Sg proclitic subject pronominals

As noted above, in careful speech (for example in elicitation) 1Sg is normally nó (Bi nóⁿ) and 2Sg is normally mó (Bi móⁿ) in all grammatical functions except reflexive possessor. In recordings and in colloquial speech style, these syllabic pronominals may be replaced by1Sg ŋ́ and 2Sg ŋ̀ in subject function, as long as the following word begins with a consonant (before any contractions). The nasal assimilates in position to a following consonant, but we normalize transcriptions with the velar nasal symbol.

Some high-frequency post-subject morphemes such as infinitival kō, conditional bà ~ mà 'if', IpfvNeg má(ⁿ), and future nà, favor reduction of the syllabic forms to just the nasals. Some high-frequency Pfv verbs like kùɔ̀ⁿ 'knew/know(s)' and bà 'came' may also favor the reduced subject forms. We do not have sufficient data for statistical study of this matter.

We consider 1Sg ŋ́ first then proceed to 2Sg ŋ̀.

4.3.1.6.1 1Sg subject proclitic ŋ́

1Sg ŋ́ subject proclitic is regular instead of nó(ⁿ) in formulaic openings and closings of tales. For example, at the conclusion the narrator may say “I picked up” (gblɛ̀) or “obtained” (būō ~ būā) the tale, i.e. learned it from others, and has “put (down)” (tīē) the tale in the same place, i.e. narrated it. The verb ‘hit’ (gbà/gɔ̀/gò ~ gù) can also be used in the sense ‘narrate, tell (the tale)’. (288) is a good example of a narrative closing.

(288) ŋ́ gblɛ̀ =nì [tòʔɔ̀ jərɔ́ⁿ],
1Sg pick.up.Pfv 3InanObj [place Rel],
ŋ́ tīē =nì māⁿ
1Sg put.Pfv 3InanObj there.Def
‘Where I picked it up, I put it (back) there.’ (Bi, 2017-07 @ 09:34)

Other examples of narrative openings and closings with 1Sg ŋ́ subject are **Bi** (2017-06 @ 00:21 and 01:47 and 01:58, 2017-07 @ 00:01 and 09:29 and 10:18, 2017-08 @ 00:02 and 10:17 and 11:07), and **Fl** (2017-05 @ 00:07 and 04:41).

1Sg ŋ́ is also common in quotations from animals and other protagonists in the tales. Two instances occur in (289).

(289) dè *bon*, [è ná-klùⁿʔùⁿ bó] mlɔ̄ⁿ
Quot well, [Art cheek Top] swell.up.Pfv
ŋ́ sɔ́ʔɔ́-lɔ̀ =ǹ [Ø gbɛ̄] =ā tàⁿ
1Sg jab.Base-rip.Base 3InanObj [Art outside] Q or
[ŋ́ sɔ́ʔɔ́ =ǹ [[Ø níⁿ] n̄] tē,
[**1Sg** jab.Base 3InanObj [[Art interior] Loc] Q,
‘(Hare) said, “well, the cheek [topic] is swollen. Should I jab (=pierce) it from the outside, or should I jab it from the inside?” ’ (Bi, 2017-08 @ 05:11)

Other examples with 1Sg subject ŋ́ in narrative quotations are **Bi** (2017-07 @ 01:02 and 01:13 and 09:01, 2017-08 @ 04:56), **Fl** (2017-05 @ 03:29 and 03:35), **Ji** (2017-01 @ 03:41).

Additional examples of 1Sg subject ŋ́ are **Bi** (2017-10 @ 01:53 and 05;06) and **Ji** (2017-10 @ 05:11).

For the combination ŋ́ kɔ̀nì ‘as for me’ with topic marker kɔ̀nì, see §19.1.2.3.1.

nó(ⁿ) is always used instead of ŋ́ in the functions of nonreflexive possessor and nonreflexive postpositional complement, although these two are positions that in principle ought to favor proclisis. nó(ⁿ) is also obligatory in non-proclitic functions such as postverbal object and complement of prepositions (kà ‘with’, dative ɔ̀ⁿ).

4.3.1.6.2 2Sg subject proclitic ŋ̀ (and PfvNeg ŋà= á)

The reduced proclitic for 2Sg is ŋ̀. This is distinct tonally from the corresponding 1Sg reduced proclitic ŋ́, but it is homophonous with 1Sg reflexive possessor proclitic ŋ̀. In reflexive possessor function, 2Sg is expressed by a suffix, so no confusion should result.

The conditions for usage of 2Sg proclitic ŋ̀ instead of mó(ⁿ) appear to be the same as those for 1Sg ŋ́. It is notable that the two reduced nasal proclitics differ in tone, although the full forms mó(ⁿ) and nó(ⁿ) do not.

When ŋ̀ precedes a postsubject nasal-initial particle such as IpfvNeg má(ⁿ), ŋ̀ is sometimes not clearly audible although its presence is semantically called for. We transcribe Ø in this case, but leave open the possibility that its absence is due to phonological elision.

Especially in Bi dialect but occasionally elsewhere, there are also cases where ŋ̀ fully nasalizes a following stop before itself disappearing. This is the case when ŋ̀ is followed by infinitival morpheme or copula kō, frequently resulting in [ŋō] transcribed Ø ŋō.

The conditional 'if' particle is bà (Bi Fl Ma) or mà (Ji). In Bi, the combination ŋ̀ bà may follow the same trajectory as ŋ̀ kō, in which case it surfaces as Ø mà. The Ji variant mà of the 'if' particle may have generalized from this combination, plus 3AnSg ɔ̀ⁿ bà.

There are more than twenty examples of 2Sg subject proclitic ŋ̀ in the texts. Many but not all are combinations with following infinitival/copula kō or with bà ~ mà 'if', suggesting that these combinations favor (though they do not require) ŋ̀ as opposed to mó(ⁿ).

A few examples showing a range of morphosyntactic contexts and speakers of different dialects are in (290). There is a single textual example for Bo dialect of 2Sg PfvNeg ŋà= á which appears to be structurally equivalent to 2Sg ŋ̀ plus PfvNeg á (290g). It was confirmed as grammatical by our main Bi speaker and recognized by our Fl speaker. Its form is compatible with an infinitival combination /ŋ̀ kō á/, but elicited counterparts with other pronominal subjects lack any infinitival morpheme.

(290) a.

[ŋ̀	ʃùⁿ=	[ɔ̄ⁿ	kī-ʃùⁿʔɔ̀ⁿ	jə̀rɔ́ⁿ],	
[**2Sg**	work(v).Pfv	[Art	work(n)	Rel],	
ō	fìɛ̀ʔɛ̀	[bè	dó]	[ɔ̀ⁿ	mó]
3Pl	give.Pfv	[Dem.Def	Poss.Inan]	[Dat	2Sg]

'The work that you-Sg have done, they have given its (compensation) to you-Sg.'
(Ma, 2017-04 @ 06:59)

b.

ŋ̀	gblɛ̀	=nì	[tɔ̀ʔɔ̀	jə̀rɔ́ⁿ]
2Sg	pick.up.Pfv	3InanObj	[place	Rel]
ŋ̀	bà	té	=nì	fāⁿʔāⁿ
2Sg	come.Pfv	put.Base	3InanObj	here

'Where you-Sg picked it up, you came and put it down here.'
(Ma, 2017-05 @ 04:44)

c.

wálà→,	ŋ̀	ɲà	[è	kě], …
right!,	**2Sg**	see.Pfv	[Art	matter], …

'Right! (if) you-Sg have seen (=discussed) the matter, ….'
(Ji, 2017-04 @ 06:45)

d.

Ø	ŋō	nā-dɛ̀	=ó,
2Sg	be	old.man	whether,

'Whether you are an old man, …!' (Fl, 2017-03 @ 03:07) [< ŋ̀ kō]

e. áywà, ŋ̀ kùɔ̀^{n} =nì, …
well, **2Sg** know.Pfv 3InanObj, …
‘Well, you-Sg knew that …’ (Bi, 2017-10 @ 00:50)

f. [ŋ̀ gō ɲī =nì]
[**2Sg** Infin see.Base 3InanObj]
[ŋ̀ já =nì mā^{n}]
[**2Sg** leave.Pfv 3InanObj there.Def]
‘…you have seen it, may you leave it there.’ (Bi, 2017-07 @ 10:16)

g. jí ŋà= á wɛ̀= [Ø dɘ́rí^{n}ʔí^{n}] [à nī],
if **2Sg** **PfvNeg** put.in.Base [Art manure] [3Inan Loc],
mó má bî= [Ø dī-ɛ̀ʔɛ̀] [à nī]
2Sg IpfvNeg get.Ipfv [Art food] [Art Loc]
‘If you-Sg don’t put manure on it, you won’t get any food out of it.’
(Bo, 2019-05 @ 00:22)

4.3.1.7 Narrator directly addresses tale protagonist

Typical of narratives in West Africa is a rhetorical device whereby the narrator directly addresses a protagonist in the tale, using 2Sg pronouns. The context is often admonishment or wonder at a bizarre act. For example, in (Ji, 2017-01 @ 01:58), ‘But you saw the gourd’ is addressed to hare, a character in the tale.

4.3.2 Third person pronouns

4.3.2.1 Forms of third person pronouns

Third person pronouns differ from first and second person pronouns as indicated in (291).

- there is a special set of object enclitics;
- there is a special set of third person forms used after kà ‘with’;
- proclitics are sharply distinct in form from nonclitics;
- animate nonclitics can function as logophorics in any grammatical role;
- animacy is distinguished in singular clitics;
- plurality is not distinguished in inanimate pronominals.

The basic third-person forms are in (291). In dialects with 3Pl nonclitic variant bùò, it is homophonous with 2Pl bùò.

(291)

category	nonclitic	proclitic	object enclitic (see §4.3.2.3)	after kà 'with'
3An (Sg/Pl)	—	—	—	kà júò
3Inan (Sg/Pl)	—	—	—	kà lō
3AnSg	bó	ɔ̀^{n}	=yò	—
			=ɔ̀^{n}	—
			=ò	—
			=ẁ	—
3Inan	bè	à	=nì	—
3Pl	bùò	ò	=(w)ò	—

While bè can function as an independent inanimate (mostly singular) pronoun, it is also a discourse-definite demonstrative. In this function it can occur in any syntactic position and can either be independent or precede a noun-headed NP (§4.4.2.1).

The third person "B-pronouns" (bó, bùò, bè) can also occur at the end of an NP in topic-marking function (§19.1.2.1).

There is no specific inanimate plural pronoun, though this category does occur in demonstratives ('these/those'), in indefinite markers, and in relative pronouns. As a pronoun (or discourse-definite), bè can extend from singular to plural. In (292), focalized bè corresponds to inanimate plural demonstratives.

(292) [bè tóʔó] kò érè (Ji)
" " " ín̠ərè (Fl)
[Dem.Def Foc] be Dem.InanPl
'Here/There they (discourse-definite) are!'

4.3.2.2 Functions of third-person proclitic pronouns

In third-person subject function, the proclitics are usual (293a). Nonclitics are possible substitutes but are relatively uncommon in nonlogophoric contexts (293b-c). For contractions with Ipfv à and PfvNeg á, see §3463.

(293) a. à/ɔ̀^{n}/ò glō
3Inan/3AnSg/3Pl exit.Pfv
'It/he-or-she/they went out.'

b. bùò glō (Fl Ji)
3Pl exit.Pfv
'They went out.'

c. bó glō
3AnSg exit.Pfv
'He/she/it (animate) went out.'

The same forms occur as prenominal possessors. Proclitics are in (294a). Nonclitics, less common except in logophoric function, are in (294b-c). bùò can also be parsed as 2Pl.

(294) a. à/ɔ̀ⁿ/ò sē / ná(ⁿ)
3Inan/3AnSg/3Pl father/cow
'its/his-or-her/their father/cow'

b. bùò sē / ná(ⁿ)
3Pl father/cow
'their father/cow'

c. bó sē / ná(ⁿ)
3AnSg father/cow
'his/her/its(animate) father/cow'

The same forms can function as complements of postpositions (295a-c).

(295) a. [è būⁿʔɔ̄ⁿ] à-mā [ā/ɔ̄ⁿ/ō bàʔà]
[Art dog] be.Loc [**3Inan/3AnSg/3Pl** Dat]
'It/he-or-she/they have a dog.' (Ji)

b. [è būⁿʔɔ̄ⁿ] à-mā [bùò bàʔà]
[Art dog] be.Loc [**3Pl** Dat]
'They have a dog.' (Fl Ji)

c. [è būⁿʔɔ̄ⁿ] à-mà [bó bàʔà]
[Art dog] be.Loc [**3AnSg** Dat]
'He/she/it(animate) has a dog.' (Ji)

Before another L-tone (except Ipfv à, bà 'if', future nà, or future bè), the third-person proclitics are raised to M-tone (§3.6.2.1).

4.3.2.3 Third-person object enclitics and dative pronominals

Elicited examples of the object enclitics are in (296).

(296) a. nó ɲà =nì
1Sg see.Pfv **3InanObj**
'I saw it (inanimate).'

b. nó ɲà =yò
1Sg see.Pfv **3AnSgObj**
'I saw him/her/it(animate).' (Fl Ma)

c. nó ɲà =ẁ
1Sg see.Pfv **3AnSgObj**
'I saw him/her/it(animate).' (Ji)

d. nó ɲà =wò
1Sg see.Pfv **3PlObj**
'I saw them.' (Fl Ma)

3Inan object =nì (Bi =nì^n) is phonologically unlike other 3Inan pronominal forms. It is subtly distinguished tonally from progressive nī (Bi nī^n). which also directly follows verbs. The progressive morpheme requires a preceding H-toned mora, so the final syllable of the verb is either H or <LH> (§10.2.4.2). By contrast, the 3Inan object enclitic does not affect the form of the preceding verb. Locative postposition nī (§8.3.2.1) is another near-homophone, but it follows nouns rather than verbs. Orthographically, = (clitic boundary) further distinguishes, however artificially, 3Inan object =nì from its (near-)homophones.

Textual examples of the 3Inan object enclitic, among many, are in (297). =nì(^{n}) is sometimes heard as desyllabified =ǹ due to an optional apocope process (§3.4.1.1.1).

(297)	=nì^n	Bi	2017-06 @ 00:11
	=nì	Fl	2017-03 @ 00:28
	=nì	Ji	2017-01 @ 02:09
	=nì	Ma	2017-02 @ 00:23

Our Fl and Ma speakers regularly used 3AnSg variant =yò in elicitation, which sharpens the distinction between 3AnSg and 3Pl. However, in the recorded texts we heard mostly 3AnSg =ò or desyllabified =ẁ, with a few cases of =yò and of =ɔ̀. Variants =ò and =ɔ̀ often contract with a stem-final vowel if the stem has the form Cvʔv or is multisyllabic. Our transcriptions of individual occurrences (298) are not totally reliable since some textual passages are rapidly spoken or poorly audible for one reason or another (e.g. speaker overlap). The lists in (298) include cases of secondary nasalization (e.g. to =ò^n or =ẁ^n) attributable to a preceding nasal syllable.

(298) a.	=ò	Bi	2017-07 @ 00:08 & 00:12 & 01:33 & 06:39 & 06:50 & 08:23 & 08:27 & 08:39 & 09:24 2017-08 @ 06:20 & 07:36 & 08:04-08 2017-09 @ 00:35 & 00:38 & 00:46 & 00:53 & 01:09 & 01:13 & 01:33 & 03:06 & 03:22 & 03:32 & 03:47 & 03:50 & 04:23 & 04:36 & 08:24 2017-10 @ 04:34
	=ò	Ji	2017-04 @ 04:55 & 05:00 & 05:06 2017-07 @ 00:12 & 00:30 & 09:24-26 & 09:51

			2017-09 @ 02:16 & 04:07
	=ò	Fl	2017-03 @ 00:58 & 02:20 & 02:39-42
			2017-05 @ 01:17 & 03:56
			2017-11 @ 10:48
.	=ò	Ma	2017-01 @ 02:41
			2017-04 @ 03:20 & 04:0 & 01:558
			2018-01 @ 01:55-57 & 02:03-07
	=ò	women	2017-12 @ 02:33-38
			2017-13 @ 02:24 & 02:53-56
			2017-18 @ 00:21
			2017-20 @ 00:37
b.	=ẁ	Bi	2017-06 @ 01:04
			2017-07 @ 00:15 & 00:26 & 04:29
			2017-08 @ 09:09 & 09:13
			2017-09 @ 02:54 & 04:23
	=ẁ	Fl	2017-05 @ 01:12
	=ẁ	Ji	2017-01 @ 02:41
	=ẁ	Ma	2017-10 @ 06:38
c.	=yò	Bi	2017-07 @ 09:03
	=yò	women	2017-13 @ 03:40
d.	=ɔ̀	Bi	2017-09 @ 00:20 & 00:33 & 02:54 & 03:04 & 03:22 & 03:24-27 & 04:41

Some occurrences of =ɔ̀ for Bi dialect involve preceding verb-final [-ATR] vowels ɛ or ɔ. For example, we heard ɲɔ̀^{n}=ɔ̀^{n} 'see(s) him/her' from ɲɛ̀^{n} 'see.Ipfv' (2017-09 @ 00:33). Compare ɲī^{n}=ò^{n} from ɲī^{n} 'see.Base' in the same text (@ 00:38 & 01:09). However, @ 00:20 ɲī^{n} appears to combine with the 3AnSg object enclitic as ɲɔ̄^{n}= =ɔ̀^{n}.

Textual examples of the 3Pl object enclitic are in (299). Again, audibility is a problem in some cases, but we generally hear =wò with no contraction.

(299)	=wò	Bi	2017-07 @ 04:33
			2017-09 @ 00:24 & 07:45
	=wò	Fl	2017-05 @ 00:52
	=wò	Ji	2017-04 @ 06:23
			2017-07 @ 03:54 & 09:51

Combinations of ditransitive dative preposition ɔ̀^{n} (§8.1.2) and third person pronominals take the fused forms in (300). The dative marker is effectively elided. We transcribe these without the enclitic boundary marker =.

(300)	a. 3AnSg	ɔ̀ⁿ ~ ẁⁿ	usual form, e.g. (Bi & Ji, 2017-07 @ 00:41);
		ɛ̀yⁿ	< /ɔ̀ⁿ yò/, attested (Bi, 2017-08 @ 06:37)
	b. 3Pl	ò	

4.3.2.4 Third-person inanimate lō and animate júò after kà 'with'

Examples of the combinations with preposition kà 'with; and' plus a third person pronominal are in (301). Except in conjunctions, kà is normally instrumental with inanimates (301a) and comitative with humans (301b-c). In texts, especially for Bi dialect, kà is often reduced to à (§3.4.2.1) except when clause-initial. Third person inanimate lō and animate júò do not occur elsewhere in the language and do not resemble any other pronominals. They can be singular or plural in reference although most textual examples have singular reference. kɔ̄-yùò is an explicitly plural demonstrative 'these/those', here pressed into service in the absence of a dedicated post-kà 3Pl pronoun. (k)à lō is pronounced à rō in Bi dialect.

(301) a.	ná=	à	ʃīⁿ	[Ø	kē-sùⁿʔɔ̀ⁿ]	[kà	lō]
	1Sg	Ipfv	work(v).Ipfv	[Art	work(n)]	[**with**	**3Inan**]

'I work with it (inanimate).' (Ji)

b.	ná=	à	ʃīⁿ	[Ø	kē-sùⁿʔɔ̀ⁿ]	[kà	júò]
	1Sg	Ipfv	work(v).Ipfv	[Art	work(n)]	[**with**	**3An**]

'I work with him/her/it/them (animate).' (Ji)

c.	ná=	à	ʃīⁿ	[Ø	kē-sùⁿʔɔ̀ⁿ]	[kà	kɔ̄-yùò]
	1Sg	Ipfv	work(v).Ipfv	[Art	work(n)]	[**with**	**Dem.AnPl**]

'I work with those (people).' (Ji)

The pairing of inanimate lō with animate júò after kà 'with' is suspiciously similar to that between inanimate dó and animate júó as default possessums (§6.2.4). Alternations of initial d with ju occur in verbal stem alternations (§3.4.2.5). This raises the possibility that lō reflects *dō or *dô.

Textual examples of (k)à lō 'with it/them (inanimate)', among others, are **Bi** (2017-07 @ 06:20 and 07:44), **Ji** (2017-03 @ 01:28; 2017:07 @ 04:56), **Fl** (2017-03 @ 01:28), **Ma** (2017-01 @ 01:48), and **women** (2017-14 @ 00:19).

A textual example of (k)à júò is (302). This phrase also occurs in symmetrical comparative (912d) in §12.2.2.

(302)	[ē	dɔ̀sɔ̀-ró]	ō	bà	[gà=	à-blā	=ò],
	[Art	hunter-Pl]	Infin	come.Pfv	[Infin	come.Base-lead.out.Base	3AnSgObj]
	kò	yíʔí	[à	júò]]			
	Infin	go.Base	[**with**	**3An**]]			

'Hunters came and (gently) evicted it, and took the creature (=elephant) away.' (Bi, 2017-09 @ 00:46)

With the verb fīē/fó/fó ‘pass, go past, keep going’, imperative fó [kà lō] ‘go past with it’ has the pragmatic sense ‘go away!’ (Fr *va-t’en!*).

4.3.3 Subject pronominals plus vocalic inflectional morphemes

When a vowel-final pronominal combines with a vocalic preverbal particle, PfvNeg á or Ipfv à, contracted pronunciations are usual. There are two basic types (§3.4.6.3). We use the clitic boundary = for both types of contractions.

For first and second person pronouns (1Sg nó, 2Sg mó, 1Pl ó or é-yùò, 2Pl bùò), and for the nonclitic third person pronouns (bó, bùò), ordinary vv-Contraction applies. é-yùò and bùò lose their final ò, as in bù= á and bù= à. nó and mó produce combinations of variable pronunciation, e.g. imperfective 1Sg nó à, nɔ́= à, and ná= à.

The other type is full fusion without lengthening, which occurs with third person proclitics. The à or á disappears segmentally, but leaves a tonal trace.

(303) illustrates third person proclitics for two verbs. klè ‘do (invariant) is L-toned, so the proclitics raise to M-toned in the perfective in (303a) (§3.6.2.1). No raising occurs before ‘descended’ since the latter is not L-toned. In the imperfective positive (303b), the proclitic fuses with underlying à, which disappears but locks the proclitic into L-tone, regardless of the tone of the verb. In the perfective negative, the proclitic fuses with underlying á, which disappears but combines tonally to produce a rising tone, which is not affected by the tone of the verb.

(303)		3AnSg	3Inan	3Pl
a.	‘did’	ɔ̄ⁿ klè	ā klè	ō klè
	‘descended’	ɔ̀ⁿ sə̄rɔ̄ⁿ	à sə̄rɔ̄ⁿ	ò sə̄rɔ̄ⁿ
b.	‘does’	ɔ̀ⁿ = Ø klè	à = Ø klè	ò = Ø klè
	‘descends’	ɔ̀ⁿ = Ø sə́rúⁿ	à = Ø sə́rúⁿ	ò = Ø sə́rúⁿ
c.	‘didn’t do’	ɔ̌ⁿ = Ø klè	ǎ = Ø klè	ǒ = Ø klè
	‘didn’t descend’	ɔ̀ⁿ = Ø sə́rúⁿ	à = Ø sə́rúⁿ	ò = Ø sə́rúⁿ

Phonetically, ɔ̄ⁿ klè is distinguished from ɔ̀ⁿ = Ø klè only by the tone of the proclitic, while ɔ̀ⁿ sə̄rɔ̄ⁿ is distinguished from ɔ̀ⁿ = Ø sə́rúⁿ only by the tone and form of the verb.

4.4 Determiners and articles

4.4.1 Articles

4.4.1.1 Article ē

Tiefo-D has a very common prenominal morpheme ē. It occurs before common nouns, but in general not before place names or personal names. It does not occur in the absence of a noun. ē does not specify animacy, definiteness, or grammatical number. ē is heard as L-toned è before an H-tone by regular tone sandhi (§3.6.2.2). (304a-i) show ē before singular and plural nouns.

(304)	a.	è	ná-bí	‘a/the person’
		è	ná-bí-ó	‘(the) people’
		è	yúó	‘a/the people’
	b.	ē	būⁿʔɔ̄ⁿ	‘a/the dog’
		ē	būʔō	‘(the) dogs’
	c.	è	bí-sīɔ̄ⁿ	‘a/the child’
		è	bí-sīō	‘(the) children’
	d.	ē	wùʔó	‘a/the snake’
		ē	wə̀-ró	‘(the) snakes’
	e.	ē	sò	‘a/the horse’
		ē	sə̀-rò	‘(the) horses’
	f.	ē	sǒ	‘a/the pig’
		ē	sə̀-ró	‘(the) pigs
	g.	ē	wùʔú	‘a/the house’
		ē	wə̀-rú	‘(the) houses’
	h.	è	púʔɔ́	‘a/the stick’
		è	pə́-rɔ́	‘(the) sticks’
	i.	ē	ʃìⁿʔíⁿ	‘a/the tree’
		ē	sə̀-ríⁿ	‘(the) trees’
	j.	ē	ɲū	‘(the) water’
		è	súmá-klàʔà	‘(the) maize’
		è	dərá̀ʔá	‘a/the courtyard’

The article can be thought of as an “absolute” marker. It indicates that the following noun along with any postnominal modifiers is an autonomous NP. The article is present in citation forms of nouns and simple NPs, and clause-initially (305a). It is compatible with the postnominal specific indefinite marker jī ‘a (certain)’ or ‘some’ (305b). It is absent when the noun is preceded by a possessor (305c), which arguably fills the same linear slot. It is optional when the NP includes a (postnominal) demonstrative (305d). It is often present, but occasionally omitted even in isolation or postpausally, in combinations with the universal quantifier (305e-f). It is inaudible in predicate nominals after the copula kō ‘be’ (305g), though it can be restored in careful speech or after resuming an interrupted sentence.

(305) a. [ē būⁿʔɔ̄ⁿ] bà
[**Art** dog] come.Pfv
‘A/The dog came.’ (Ji)

b. [ē būɔ̄ⁿʔɔ̄ⁿ jī] bà
[**Art** dog Indef] come.Pfv
‘A (certain) dog came.’ (Fl)

c. [nó būⁿʔɔ̄ⁿ] bà
[1Sg dog] come.Pfv
‘My dog came.’ (Ji)

d. (ē) būⁿʔɔ̄ⁿ kǎⁿ
(**Art**) dog Dem.AnSg
‘this/that dog’ (Ji)

e. è ná-bí-ó bíɛ́
Art person-Pl all
‘everyone’ (Ji, 2017-11 @ 02:28)

f. ē bùʔò/sə̀-rìⁿ bíɛ́ʔ
Art dog.Pl/tree-Pl all
‘all the dogs/trees’ (Fl Ji)

g. nó kō [(Ø) būⁿʔɔ̄ⁿ]
1Sg be [(Art) dog]
‘I am a dog.’ (Ji)

h. nó kɔ̀ [(Ø) ná]
1Sg be [(Art) cow]
‘I am a cow. (Fl Ji)

In examples like ‘all the dogs’ in (305e), when the noun is M-toned but undergoes M#H-to-L#H (§3.6.2.2), the article may be pulled down with the noun. Thus ē būʔō ‘dogs’ plus bíɛ́ʔ ‘all’ is often heard as [èbùʔòbíɛ́ʔ]. However, [ēbùʔòbíɛ́ʔ] and intermediate pronunciations are also possible, and we normalize the transcription of such examples with ē rather than è.

Except when it occurs clause-initially or after an interruption or other prosodic break, the article undergoes vv-Contraction and is effectively absorbed into the preceding vowel. It often leaves a tonal trace, in case its tone prior to its deletion was different from the tone of the preceding syllable. See §3.4.6.1 for detailed discussion. We exemplify here with (306), where two instances of ē have been elided. The first is that of è bú ‘money’, where the H-toned noun forces ē to drop to è. This è then contracts with M-toned glō to form glṑ= with <ML> tone. The second is that of ē plùʔú, which contracts with H-toned bú to form bú̄= with <HM> tone. The symbol = indexes the operation of vv-Contraction.

(306)	nó	dīē-glō̄ =	[Ø	bū̃ =]	[[[Ø	plùʔú]	lī^n]	nī]
	1Sg	remove.Pfv	[**Art**	money]	[[[**Art**	bag]	guts]	Loc]

‘I took the money out of the bag.’ (Fl)

4.4.1.2 Putative articles ā and ò

Winkelmann (1998:133) recognizes an article allomorph “ʔa” (which would be M-toned ʔā in our transcription) for certain plant-part terms. Her examples are reproduced along with our transcriptions in (307). Plurals are indented.

(307)	Winkelmann	gloss
a.	ʔa biɛ̰	‘leaf’
	ʔa birɛ̰	‘leaves’
b.	ʔa fɛ́rɛ̰́	‘blossom’ (*Blüte*)
	ʔa nɛ̰́ʔɛ̰́	‘root’
	ʔa nɛ̰́rɛ̤́	‘roots’ (*Würzel*)
	ʔa ʔɔ́ʔɔ́	‘branch’ (*Zweig*)
	ʔa ʔɔ́rɔ́	‘branches’

For ‘leaf’, we have (ē) à-bì^{n}ʔɛ́^{n} (Bi Ji) and dialectal variants (ē) à-bìɛ̀^{n}ʔɛ́^{n} (Ma) and (ē) wà-bìɛ̀^{n}ʔɛ́^{n} (Fl), with initial à in some dialects that can contract with the article ē, as in ā = Ø-bì^{n}ʔɛ́^{n}. It is true that the (w)à- is dropped in compounds like (è) má^{n}gərō-bì^{n}ʔɛ́^{n} ‘mango leaf’.

In the other examples (307b), we believe that the initial morpheme is the 3Inan pronominal proclitic in possessor function, hence ‘its blossom’, ‘its root(s)’, and ‘its twig(s)’. For example, ‘root’ is (è) nɛ́ʔɛ́, and ‘its root’ is à nɛ́ʔɛ́. Winkelmann states that article allomorph ā is tonally distinct from 3Inan proclitic à, but her examples in (307b) all involve H-toned nouns, which would drop preceding ā to à anyway by tone sandhi. So we do not confirm the existence of an alternative article form.

Numerals ‘2’ to ‘9’ are immediately preceded by ò, e.g. ò jɔ̄^{n} ‘2’ and ō kà^n ‘5’. This might be considered to be another article, but specifically plural. Its etymological relationship with 3Pl pronominal proclitic ò is unclear. In examples like ō tɔ̀ ‘the others, the remaining ones’, we identify the prenominal morpheme as 3Pl ò in possessor function, in parallel with ā tɔ̀ ‘the other (one)’ with 3Inan possessor à.

4.4.2 Determiners

4.4.2.1 Discourse-definite inanimate bè (~ bì)

Here we consider the discourse-definite funcions of bè, either as a stand-alone nonclitic inanimate pronoun or preceding a noun. When bè follows an inanimate noun, it functions as a topic marker, parallel to animate bó (singular) and bùò (plural). For this topic function see §19.1.2.1.

There is no adnominal definite marker with the broad semantic-pragmatic functions in European languages. Discourse-definite bè is best translated by *that* in the strong discourse-definite sense (that same one we were talking about). A variant bì occurs dialectally in some combinations.

bè may function by itself as a resumptive discourse-definite demonstrative, referring back either to an entity or to a just-described situation.

(308) a.

dè	mɔ́ⁿ	glō	[à	bě =]	[Ø	sē]	tē
Quot	2Sg	exit.Prv	[with	**Dem.Def**]	[Art	where?]	Q

‘(Hyena said:) “where did you bring that from?” ’ (Bi, 2017-08 @ 04:09)

b.

é	wō	ɲīⁿ	bè
1Pl	Infin	see.Base	**Dem.Def**

‘We saw that.’ (Bi, 2017-09 @ 04:44)

c.

bè	[jɔ̄ⁿ-dùʔó]-dò,
Dem.Def	[two-Ordinal]-Poss.Inan,

bè	wā =	à-klè =	[í-yùò	bàʔà]	mùsɔ̀kɔ́rɔ́]
Dem.Def	Infin	come.Base-be.done.Base	[1Pl	chez]	M]

‘The second one (=incident) of those, that one happened in our (zone) to Musokoro (a woman).’ (Bi, 2017-09 @ 02:30)

Very often bè is focalized as bè tóʔó, resuming a just-described entity or situation. This can be captured by English stressed resumptive *That’s (why/what/who…)*. tóʔó is the focalizer for animate NPs but extends here to inanimates, replacing té (§13.1.1). bè tóʔó (including dialectal bì tóʔó) is very common, as in (309a-c). bè té occurs chiefly in the common and invariant phrase [bè té] já ‘for that [focus] reason’ (§8.1.3).

(309) a.

é,	[kō	tə̄rāⁿ]
huh!,	[Infin	sit.Base]

[kō	dò	[bè	tòʔō =]	[[Ø	də̀ràʔá]	nī]]
[Infin	say.Base	[**Dem.Def**	**Foc**]	[[Art	courtyard]	Loc]]

(“My field will be finished in one day”) ‘Huh? (He) sat and said that [focus] in a courtyard!’ (Ma, 2017-03 @ 00:32)

b.

[bè	tòʔó]	k = ā̀	lɛ́ⁿ	= ò̀ⁿ
[**Dem.Def**	**Foc**]	Infin-Ipfv	make.stand.Ipfv	3AnSgObj

‘that [focus] was holding him up (keeping him standing).’
(Ma, 2017-04 @ 03:20)

c.

[[ē	náⁿ-bí]	dóʔó]	á	kɔ̄	=ʔ,
[[Art	person]	Foc]	PfvNeg	finish.Base	Neg,

[bì	tóʔó]	ō	bè
[**Dem.Def**	**Foc**]	be	**Dem.Def**

‘(If God says) that a person’s (role) is not finished, that [focus] is how it is.’
(Bi, 2017-09 @ 02:26)

In the many such examples where bè or bè tóʔó resumes a situation (rather than a specific entity), it verges on manner adverbial status, as in ‘that’s what/how it was’. Adverbial status can also be made explicit. The locative PP bè nī ‘in that’ can have a straightforward locative sense, or it can mean abstractly ‘in that situation’. It occurs in backgrounded interludes between foregrounded narrative segments, indicating that a previously described situation continues or a previously described event is repeated.

(310)

donc,	à	kō	pēⁿ	[bè	nī]
so,	3Inan	Infin	remain.Base	[**Dem.Def**	**Loc**]

‘So, it remained in that (situation).’ (Ji, 2017-04 @ 04:49)

bè nī can also be more temporal, roughly ‘at that point, at that time, then’.

(311)

à	pòʔó-ní,	bē	ā	klè	fɔ́—,
3Inan	aerate-VblN,	**Dem.Def**	Ipfv	be.done.Ipfv	until—,

[ē	cūɔ̄-cūɔ̄	fèʔè]	nī,
[Art	August	month]	Loc,

ò	kō	pòʔó	=nì	[bè	nī],
3Pl	Infin	aerate.Base	3InanObj	[**Dem.Def**	**Loc**]

‘The turning over (=aeration of the earth), that is done through the month of August, they turn it over then.’ (Ma, 2018-06 @ 00:24)

bè nī is thus a locative PP that can stray into manner adverbial status in context. There are also some true manner adverbials meaning ‘thus, like that, in that way’. In (312), bè nī means ‘in that’ referring to a meeting, while bè-kā (containing kā ‘manner’) has a metalinguistic sense ‘thus, in the way I have described’.

(312)

ò	k-ā	bē	bè-kā,	ò	kō	[bè	nī]	bè-kā
3Pl	Infin-Ipfv	come.Ipfv	**thus**,	3Pl	be	[**Dem.Def**	**Loc**]	**thus**

‘They came like that, they were (involved) therein thus.’
(Ji, 2017-04 @ 02:47)

A similar example is (2017-01 @ 01:14). The noun kā ‘manner’ is part of the rather fused bè-kā ‘thus’, which can be further expanded as bè-kà-tó ‘thus’, e.g. (Fl, 2017-11 @ 04:22). The ending -tó is truncated from focus marker tóʔó.

Our Bi speaker consistently has bè-yá ‘thus’ instead of bè-kā. It can occur as such (2017-08 @ 00:59), but it is usually expanded as bè-yá-ró, ending in another reduced variant of the focus marker tóʔó.

(313)	*donc*	ā	pìɛ̀^{n}	bè-yá-ró,	áywà,	[ē	kɔ̄	jī], …
	so	3Inan	remain.Pfv	**thus**,	well,	[Art	day	Indef], …

‘So, it stayed that way. Well, one day, …’ (Bi, 2017-07 @ 00:48)

bè can also modify a preceding or following noun as a discourse-definite demonstrative. For full analysis of and examples of combinations with nouns, see §6.5.3. One common combination is bè tɔ̀ʔɔ̀ ‘that (same) place’, which competes with the more common adverb mā ‘there (definite)’.

Finally, bè can occur by itself at the end of a clause as a semantically light ‘thus’ adverb (§8.5.5.2.5). Here it functions as a shortened version of bè-kā and similar ‘thus’ adverbs. Such clause-final adverbs often do not have a literal sense, in which case they can be omitted in free translations.

4.4.2.2 ‘This/that’ (deictic demonstrative pronouns)

Demonstratives other than discourse-definite bè are deictic (pointing). Whereas bè normally precedes a modified noun (except as a topic marker), deictics follow nouns and any inner modifiers including adjectives and numerals (§6.5.2). There is a single deictic category, not distinguishing proximate from distant. (314) presents the known deictic forms with dialectal distributions parenthesized.

(314)		singular	plural
	animate	kǎ^{n} (all)	kɔ̄-yùò (Bi Fl Ji)
			kɔ̄-yə̀-rò (Ma)
			kɔ̄-rùò (Ma)
			kɔ̌-rò (Fl)
	inanimate		
	regular	yá (all)	érè (Ji)
		=á (enclitic form)	íɲərè (Bi Fl Ma)
			íɲərè yá (Ma)
			=rè (Fl Ji, enclitic form)

The animate forms are related to animate participial suffixes: -kàʔà singular, -kɔ̀ plural (§4.2.3.1) and their relatives. The inanimate forms with y or i have a vague affinity to inanimate plural forms with e-vowel such as inanimate plural indefinite jɔ̄-rē.

Winkelmann (1998:141-142) transcribes the demonstratives as in (315). We add M-toned diacritics implied by her transcriptional practice.

(315)		form	category	position
	a.	kà̰	AnSg	postnominal (subject or object)
		"	"	absolute, subject
		ká̰	"	absolute, object

b.	kɔ̄yūō ~ kɔ̄rɔ̄	AnPl	
c.	yà ~ ʔà	InanSg	all examples are postnominal
d.	yīrī	InanPl	

In our data, kăⁿ is the animate singular form in all dialects and grammatical contexts. Textual examples of its dialectally variable plurals given above in (314) are referenced in (316).

(316)

dialect	form	reference
Fl	kɔ̌-rò	2017-05 @ 00:46
Bi	kɔ̄-yùò	2017-07 @ 00:24
"	"	2017-07 @ 03:27
Ji	"	2021-02 @ 00:44, 01:26

There is clearly a split between two formations. kɔ̄-yùò shifts kăⁿ from a to ɔ and denasalizes it (as often in nominal plurals), and adds animate plural -yùò, cf. -yùò in agentive plurals and in é-yùò 'we', and the noun yúó 'person' or 'people'. kɔ̌-rò shows the same vocalic shift and denasalization, and adds a rhotic as in the other main type of nominal plural.

For inanimate singular referent the demonstrative is yá. It can encliticize as =á postnominally or otherwise clause-medially.

(317) a. [tɔ̀ʔ= á] nī
[place **Dem.InanSg**] Loc
'in this place' (Ji, 2017-01 @ 02:43)

b. dè [Ø kɛ́ʔɛ́-bárá] kò yá tè
Quot [Art work(n)] be **Dem.InanSg** Q
'(said) "Here is (what) action?" ' (Ma, 2017-02 @ 01:17)

c. [yá jərɔ́ⁿ] klè
[**Dem.InanSg** Rel] be.done.Pfv
'that which has happened' (Ji, 2017-04 @ 04:35)

d. [bùò kē-sùⁿʔɔ̀ⁿ á jərɔ́ⁿ] nó—
[LogoPl work(n) **Dem.InanSg** Rel] 1Sg—
bùò sùɔ̀ⁿ =rɛ̄ =ɛ̄
LogoPl work(v).Pfv Emph Q
'(they said:) "This work of ours that I— (that) we did?" '
(Ji, 2017-04 @ 05:25)

e. kō wō-tèʔè= [Ø dərìⁿʔ= á]
Infin sing.Base-be.accustomed [Art song **Dem.InanSg**]
'… was accustomed to sing this song' (Bi, 2017-07 @ 01:39)

The plural of yá is dialectally variable (314). Internal segmentation is obscure. Textual examples are in (318).

(318)	dialect	form	reference
	Bi	íɲərè	2017-09 @ 04:44
	Bo	"	2019-09 @ 00:55
	Ji	érè	2017-11 @ 00:33

A range of animate nouns is shown with demonstratives in (319) for Ji dialect. The noun and the demonstrative do not interact segmentally or tonally. The article ē is optionally present, but is omitted here in the singular and plural columns.

(319)	noun	gloss	singular	plural
	è wúʔó	‘snake’	wúʔó kă^{n}	wə́-ró kɔ̄-yùò
	ē bī-ʃīɔ̄^{n}	‘child’	bī-ʃīɔ̄^{n} kă^{n}	bī-ʃīō kɔ̄-yùò
	ē sò	‘horse’	sò kă^{n}	sə̀-rò kɔ̄-yùò
	ē sǒ	‘pig’	sǒ kă^{n}	sə̀-ró kɔ̄-yùò

Inanimate examples for Ji dialect are in (320). The H-toned demonstrative lowers the tones of some preceding nouns that elsewhere end in M-tone or in a rising tone melody, by tone sandhi.

(320)	noun	gloss	singular	plural
	a. tone is lowered			
	ē wùʔú	‘house’	wùʔù yá ~ wùʔ = á	wù-rù (y)érè
	ē ɲū	‘water’	ɲù yá	—
	ē ʃì^{n}ʔí^{n}	‘tree’	ʃì^{n}ʔì^{n} yá	sə̀-rì^{n} (y)érè
	b. no change in tones			
	ē púʔɔ́	‘stick’	púʔɔ́ yá	pə́-rɔ́ (y)érè
	è sámá-klàʔà	‘maize’	sámá-klàʔà yá	—
	è də́ráʔá	‘courtyard’	də́ráʔá yá	—

Some data for Ma dialect are in (321) for inanimates, in (322) for animates.

(321)		
	a. ‘house’ (< wùʔú)	
	wùʔù yá	‘this/that house’
	wùʔù íɲərè yá	‘these/those houses’
	b. ‘calabash’ (< klɔ̄)	
	klɔ̀ yá	‘this/that calabash’
	klɔ̀ íɲərè yá	‘these calabashes’

c. ‘month (moon)’ (< fɛ̀ʔɛ̀, plural fə̂-rè)

fɛ̀ʔɛ̀ yá	‘this month’
fə̂-rè íɲə̀rè yá	‘these months’
fɛ̀ʔɛ̀ íɲə̀rè yá	"

(322) a. ‘cow’ (< ná, plural nɔ́)

ná kă^{n}	‘this cow’
nɔ́ kɔ̌-r-ùò (~ kɔ̌-yə̀rò)	‘these cows’

b. ‘woman’ (< yǒ, plural yə̀-ró)

yǒ kă^{n}	‘this/that woman’
yə̀-ró kɔ̌-r-ùò (~ kɔ̌-yə̀rò)	‘these/those women’

yá, normally inanimate, is also attested in the combination kɛ̀^{n} yá ‘this/that (same) fellow’ (Ji, 2017-01 @ 02:43) from noun kɛ̆^{n} ‘fellow, guy’ (§18.5.1.1). The referential anonymity of ‘fellow’ may have influenced the use of “inanimate” demonstrative. kɛ̆^{n} kă^{n} is also possible. Conversely, kă^{n} is normally animate singular, but some speakers use it also in the common phrase [bè tóʔó] kō kă^{n} ‘that [focus] is it’ (e.g. Bo, 2019-04 @ 01:02). Other speakers have the regular [bè tóʔó] kò yá.

4.4.2.3 Indefinite jī (plurals jə̄-rē and jə̄-rō)

As a singular noun, jī can mean ‘something’, ‘someone’, or (with locative postposition nī) ‘sometimes, in some cases’. With the article it is ē jī. Examples are in (323)

(323) a.

kō	dǒ =	[Ø	jī]	[à	nī]
Infin	say.Base	[Art	**something**]	[3Inan	Loc]

‘… and say something about it.’ (Ma, 2018-02 @ 01:15)

b.

[ē	jī]	wò	tá^{n}-gbɛ̄
[Art	**someone**]	Infin	take.over.Base

‘Someone (else) would take over (from him).’ (women, 2017-13 @ 01:17)

c.

[[ē	jī]	nī]	[ē	kɛ̌]	à	bí	
[[Art	**Indef**]	Loc]	[Art	cowpea]	Ipfv	get.Ipfv	
[ē	fə̂-r =	[ò	ŋūʔɔ̄]],	[Ø	fə̂-r =	[ò	sá^{n}]]
[Art	month-Pl]	[Pl	four]],	[Art	month-Pl	[Pl	three]]

‘In some cases, cowpeas take four months (to grow), (or) three months.’
(Bo, 2019-08 @ 00:07)

More often, jī or one of its plural forms follows a noun X with or without adjectival or other modifiers, functioning as a specific indefinite determiner. Even ‘someone’ can be expressed as è wí jī, literally “the owner/boss.” The paradigm is (324).

(324)

jī	singular
jə̄-rō	animate plural
jə̄-rē	inanimate plural

The paradigm strongly resembles that of the relative marker (chapter 14). The two are shown side by side in (325). The relative forms can also be interrogative ‘which?’ in clauses with an interrogative enclitic. In conditional antecedents, the “relative” forms sometimes function as indefinites (§14.1.7).

(325)

category	indefinite	relative
animate singular	jī	jə̀rɔ́ⁿ
animate plural	jə̄-rō	jə̀ró
inanimate plural	jə̄-rē	jə̀ré

We hyphenate the indefinite plurals since they appear to suffix a rhotic syllable, while the relative plurals merely modify vowel quality and nasality of the singular. Plural indefinites and plural relatives differ only in tone. Even the tones are often neutralized, since the relative markers drop to all-L tones before an H-tone by regular tone sandhi.

The animacy-based e/o opposition in the plurals is an old noun-class distinction (§4.1.3). We have textual examples of InanPl jə̄-rē for Fl and Ji speakers: e.g. (Fl, 2017-03 @ 01:58) and (Ji, 2017-04 @ 02:11). We have textual examples of AnPl jə̄-rō for Bi, Fl, and Ji speakers, e.g. (Bi, 2017-09 @ 00:06), (Fl, 2017-05 @ 00:19), (Ji, 2017-09 @ 08:32).

For details of syntax and usage of indefinite markers, see §6.5.4.

4.4.3 Demonstrative adverbs

4.4.3.1 Locative (spatial) adverbs

Basic demonstrative adverbs denoting location are in (326).

(326)

form	gloss
fāⁿʔāⁿ	‘here’
fāⁿʔāⁿ gblàʔà	‘over there’ (deictic), cf. §8.3.4.5
mā (Bi māⁿ)	‘there’ (discourse-definite)

fāⁿʔāⁿ and mā are very common in the texts, the latter often in combination with the locative-existential predicator à-mā, hence X à-mā mā ‘X is there (definite)’.

To these unsegmentable spatial adverbs we may add the very common combinations with locative postposition nī (Bi nīⁿ) in (327).

(327)

form	gloss
à nī	‘in it; therein; there’
bè nī	‘in that (definite); therein; there (definite)’

à nī is common in the construction X à-mā [à nī] ‘X be there(in)’. This can be contracted to […àmānī], giving the impression of an emergent enclitic-like ‘there’ adverb nī. By contrast, mā ‘there (definite)’ occurs in a wider range of predicative environments, e.g. cùɔ̀ mā ‘spent the night there’ (Fl, 2017-03 @ 02:14). See also the next subsection below.

All of the locative adverbs discussed in this section are limited to postverbal and usually clause-final position (disregarding interrogative and negative enclitics) in our texts.

4.4.3.2 Superfluous clause-final mā(^{n}) after ‘leave, abandon’

The invariant verb já means ‘leave (sb/sth, somewhere)’ or in some contexts ‘abandon’ as a simple transitive. As main verb in multi-clause constructions it can mean ‘cause, let, allow’ (§17.4.2.5.4) or ‘abandon, give up (an activity)’ (§17.5.2.1). The latter sense is often expressed by the compound já-sūʔɔ̄/já-sūʔɔ̄/já-à-sūʔū ‘cease (doing)’. In other words, já has two basic meanings, one (‘abandon’) curtailing one’s own action (cf. Eng *leave*) and the other (‘let’) facilitating an action by others (cf. Eng *let*).

In the general sense ‘abandon’ but not ‘let’, we often observe a superfluous clause-final mā (Bi mā^{n}). This is the ‘there (definite)’ adverb, but in the examples in question no spatial location is relevant, or as in (328d) the location is already specified.

(328) a. bù= á dò dē—, [dè é-yùò já mā]
2Pl PfvNeg say.Base Quot—, [Quot 1Pl **leave**.Base **there**.Def]
‘Didn’t you-Pl tell us to abandon (it)?’ (Ji, 2017-04 @ 05:46)

b. [é bíɛ́] wō ɲī =ò
[1Pl all] Infin see.Base 3AnSgObj
[wò já =ẁ mā^{n}],
[Infin **leave**.Base 3AnSgObj **there**.Def],
‘All of us saw it (=elephant) and left it (alone).’
(Bi, 2017-09 @ 04:23)

c. [ò gò já bè mā^{n}]],
[3Pl Infin **leave**.Base Dem.Def there]],
‘… they abandoned that (custom).’
(Bi, 2017-10 @ 00:33)

d. [ò fìè-jā́= [Ø pòʔó] mā^{n}]
[Infin pass.Pfv-leave.Base [Art the.bush] **there**.Def]
‘(They) went and abandoned (living in) the bush.’ (Bi, 2017-10 @ 03:14)

e.	[wí	jərɔ́^{n}]	bà	já-sūʔɔ̄	[kě	jərɔ́^{n}]	mā,
	[owner	Rel]	if	**leave**.Base-give.Base	[thing	Rel]	**there**.Def,

‘if a fellow (=someone) has abandoned something there’
(Bi, 2017-10 @ 06:35)

See (1386) in §17.5.2.1 for additional elicited examples.

4.4.3.3 Emphatic and approximative adverb modifiers (té, gblàʔà)

fā^{n}ʔā^{n} ‘here’ and presumably other spatial adverbs and place names can be modified as in (329). té (329a) is an inanimate focalizer.

(329)	form	gloss	dialect
a. emphatic			
	fà^{n}ʔà^{n} té	‘right here’	Fl Ji
b. approximative			
	fā^{n}ʔā^{n} gblàʔà	‘around here’ or ‘just over there’	(various)

Discourse-definite mā ‘there’ is more highly grammaticalized and cannot be modified. Recourse must be had to a paraphrase like bè tɔ̀ʔɔ̀ tó gblàʔà ‘around that (definite) place’.

4.4.4 Presentatives (‘here’s …!’)

Presentative constructions are those translatable as ‘here’s X!’, ‘there’s X!’, or either of these combined with a predicate, as in ‘there goes/sits X!’. Presentative constructions in Tiefo-D are based either on imperative forms of a verb of vision (as in Fr *voici*, *voilà*), or on demonstrative predicates ‘be this/that’.

4.4.4.1 Presentative with imperative verb of vision

Both ɲī ‘see’ and ɲɔ́ ‘look (at)’ are attested in presentative constructions. In both cases, a presentative morpheme ní is often added.

Our elicited examples of this general construction, for Ji dialect, have imperative ɲɔ́ ‘look!’, followed by the NP denoting the referent in object function, and often a final morpheme ní which adds presentative emphasis (330). Imperatives are expressed by the base of a verb, usually without an overt subject (§10.4.1.1).

(330) a.	ɲɔ̂=	[Ø	ná]	ní
	look.Base	[Art	cow]	**Prsntv**

‘Here’s/There’s the cow!’ (Fl Ji)

b. ɲɔ̄= [Ø dɛ̀] ní
look.Base [Art field] **Prsntv**
‘Here’s the field!’ (Ji)

c. ɲɔ́ zàkì ní
look.Base Z **Prsntv**
‘Here’s Zaki!’ (Fl Ji)

d. ɲɔ́ mó ní
look.Base 2Sg **Prsntv**
‘Here you-Sg are!’ (Ji)

For third person pronominals, in most dialects the verb takes the irregular form ɲù= for animates (331a-b) or ɲì= for inanimates (331c), with low tone. Bi has M-toned ɲū= or ɲī=. In these forms, the verb shows partial vocalic assimilation to the object enclitic. The inanimate form contracts by haplology. It is difficult to determine if these are mutations from ɲɔ́(^{n}) ‘look’ or involve a switch to ɲī ‘see’. As usual, inanimate pronominals do not distinguish number. A circumlocution expressing inanimate plural is (331d), cf. the following section.

(331) a. ɲù= =ɔ̀^{n} ní (Fl Ji)
ɲū^{n}= =ɔ̀^{n} ní^{n} (Bi)
look 3AnSgObj **Prsntv**
‘Here/There he/she/it (animate) is!’

b. ɲù= =ò ní (Ji)
ɲù= =wò ní (Fl)
ɲū^{n}= =ò ní^{n} (Bi)
look 3PlObj **Prsntv**
‘Here/There they are!’

c. ɲì= =ì ní (Fl Ji)
ɲī^{n}= =ì^{n} ní^{n} (Bi)
look 3InanObj **Prsntv**
‘Here/There it is!’ (Fl Ji)
(for expected #… =nì ní)

d. [bè tóʔó] kò érè (Ji)
[" tōʔó] " íɲə̀rè (Fl)
[Dem.Def Foc] be Dem.InanPl
‘Here they are (inanimate)!’

Although comparison to (331a-b) suggests the parallel analysis of (331c), including vocalic assimilation from ɲɔ́ ‘look’, the shift from ɔ to i plus the tonal disguise in (331c) opens the door for a reanalysis based not on ɲɔ́ ‘look’ but rather on ɲī ‘see’. While (331c) occurs in elicitation and likely in natural speech in true presentative contexts, in the texts the form that occurs is contracted ɲì-ní (Bi ɲì^{n}-ní^{n}). It functions pragmatically as supportive backchannel, much as *voilà* does in French (and cf. Eng *there you go!*). Its morphemic composition is rather opaque; it has the phonetics but not the meaning of verbal noun ɲì-ní 'seeing'. We just gloss it as Prsntv in interlinears. Examples are (Ji, 2017-01 @ 04:38) and (Bi, 2017-07 @ 09:20). ɲì-ní can also occur at the beginning of clauses, as in (339) in §4.4.4.3 below.

4.4.4.2 Presentative with predicate demonstrative

Constructions of the type 'this/that is X' normally take the form 'X kō Dem' in Tiefo-D, with a final demonstrative. (332) is predicative but not presentative since X is a reference to the just-completed tale rather than to a physically present entity.

(332) [jə̀rɔ̀^{n} ká= à-mā] [[bì tòʔó] kò yá]
[Rel Past be.Loc] [[Dem.Def Foc] **be** **Dem**.InanSg]
What(-ever) was there (in the tale), this [focus] is how it was.'
(Ma, 2017-02 @ 01:49)

A first person presentative is in (333). A long-lost daughter is presenting herself to her mother.

(333) [nó^{n} nóʔó] ō kă^{n}
[1Sg Foc] **be** **Dem**.AnSg
'This is me!' (Bi, 2017-07 @ 08:12)

Our Fl speaker adds what appears to be (à-)mā 'be (somewhere)' to this construction, before kō, to make it presentative. He does not pronounce the à-, and the combination of (à-)mā and copula kō does not otherwise occur, so the construction is not structurally transparent.

(334) a. [ē sɔ̃̄=] Ø-mā gō kă^{n}
[Art pig] **be.Loc** **be** **Dem**.AnSg
'… (and) there was the warthog!' (Fl, 2017-03 @ 01:13)

b. [ē sə̀-rɔ̃̄=] Ø-mā [kō kɔ̆-rò] (fā^{n}ʔā^{n})
[Art pig-Pl] **be.Loc** [**be** **Dem**.AnPl] (here)
'Here are the pigs (or warthogs)!' (Fl)

Our Ji speaker doesn't add (à-)mā, but he can use the predicate demonstrative construction in more or less presentative function.

(335) a. nó= ō kă^{n}
1Sg **be** **Dem**.AnSg
'Here I am.' (Ji)
(~ nó kō kă^{n})

b. zàkí kō kǎⁿ
Z **be** **Dem**.AnSg
'Here's Zaki!' (Ji)

c. [ē bí-sīō] =ō kɔ̄-yùò
[Art child.Pl] **be** **Dem**.AnPl
'Here are the children!' (Ji)

d. [ē dɛ̀] ò yá
[Art field] **be** **Dem**.InanSg
'Here's the field!' (or: … ō kǎⁿ) (Ji)

In textual example (336), X kò yá 'here's X!' (inanimate) takes polar interrogative form (with quoted interrogative clause-final marker tē). It expresses a combination of amazement and puzzlement.

(336) dè [Ø kɛ́ʔɛ́-bárá] kò yá tē
Quot [Art work(n)] be Dem.InanSg **Q**
'(said:) "Here is (what) action?" ' (i.e. 'What the hell happened here?')
(Ma, 2017-02 @ 01:17)

4.4.4.3 Presentative with incorporated clause

In the previous examples the presentative is a simple predication, and shines the spotlight on the entity functioning as subject. It is also possible for the presentative to occur with clausal scope, as an adverb syntactically. Compare preclausal *lo!* in archaic English. The subject may end in dó 'however'. A verb (or VP) is added after the demonstrative.

In textual example (337), our Fl speaker uses à-mā, cf. (334) above, and adds a VP after the demonstrative. kō 'be' is reduced to segmental zero in this example.

(337) hàyà, [è blí-kɛ́ tōʔô=] Ø-mā= Ø kǎⁿ lē,
well, [Art hare Foc] be.Loc **be** **Dem**.AnSg **turn**.Pfv,
[è ʃíó-kɛ̀ⁿ [wūⁿʔúⁿ =ūⁿ fìàⁿʔáⁿ]] tàʔà-kó] =ā,
[Art magician [head Ipfv white]] again] Q,
'Well, lo! The very same hare turned himself into a white-headed magician, right?.'
(Fl, 2017-05 @ 02:34)

Follow-up examples elicited from this speaker have uncontracted kō 'be' in the absence of à-mā (338a-b). Likewise in textual example (338c). Another feature of these examples is the presence of subject-final dó (§19.3.8), which elsewhere can often be translated 'however' but here seems to mark the situation as surprising.

(338) a. [ē nà-bí dó] kō kǎⁿ sɛ̄ⁿ
[Art child **however**] **be** **Dem**.AnSg **lie.down**.Pfv
'(Look!) the child has gone to bed.' (Fl)

b. [é-yùò dó] kō kɔ̌-rò sɛ̄ⁿ
[1Pl **however**] **be** **Dem**.AnPl **lie.down**.Pfv
‘(Look!) We have lain down (=gone to bed)!’ (Fl)

c. [ē dè dó] kò yá sē
[Art sun **however**] **be** **Dem**.InanSg **set**.Pfv
‘Look, the sun had already set!’ (Fl, 2017-03 @ 02:05)

The construction with imperative ‘see!’ and presentative morpheme ní (§4.4.4.1) combines with a following clause (339).

(339) ɲìⁿ-níⁿ mɔ́ⁿ pìɛ̆ⁿ= [Ø pàmlúⁿʔúⁿ]
Prsntv 2Sg remain.Pfv [Art naked]
‘There you stayed, naked.’ (Bi, 2017-08 @ 10:12)

The event-focalizing quality of presentatives is shown by the interlocutor’s reaction to this statement, which directly addressed the female protagonist of the tale.

4.5 Adjectives

This section gives the forms of postnominal modifying (attributive) adjectives. For adjectival predicates, see §11.4. Adjectives may have distinct forms, or even unrelated stems, in the two grammatical contexts.

4.5.1 Modifying adjectives

There are two primary N-Adj constructions involving core modifying adjectives. In both constructions, the noun and the adjective can be morphologically pluralized (§6.3.1). The article ē occurs only before the head noun, and can be disregarded in this section. A possessor can take the place of the article, and further modifiers such as numerals may follow the adjective.

(340) a. (Article) N Adj

b. (Article) N [Class Adj]
(Article) Ø [Class Adj]

In (340a), the adjective immediately follows the modified noun. In (340b), the adjective is combined with a classifier that marks animacy. This combination may occur by itself (‘the long one’), suggesting that the combination functions morphosyntactically as an NP. This conclusion is supported by the fact that the corresponding predicative type is kō ‘be’ plus the classifier and stem. This matches the regular predicate nominal construction, which has kō plus a noun or NP.

However, one objection to the conclusion that classifier plus adjective is syntactically an NP is that the combination can also be added to a modified noun. For some adjectives, the classifier is obligatory is this combination, for others it is optional. If we take classifier plus adjective as a complete NP, adding it to another noun would have to be analysed as apposition, but there is no prosodic break as in most instances of NP apposition.

These classifiers are specific to adjectives, but the construction (340b) has analogues with N-Num constructions. Some core adjectives have different tonal and/or segmental forms in the two constructions. Some core adjectives prefer one or the other of the two constructions, but many are at least elicitable in both.

The adjectival classifiers are those in (341). The classifiers do not express number; plurality is marked in adjectives in the same way as for nouns (i.e. often with a suffixed or infixed rhotic syllable). For semantic and real-world experiential reasons, some adjectives such as ‘deep’ occur only in the inanimate version.

(341) Classifiers for core modifying adjectives

form	category
kā	animate
á	inanimate

Care must be taken to distinguish inanimate á within N-Adj sequences from look-alike inflectional morphemes that occur in adjectival predicates, viz., Ipfv à and PfvNeg á. Similarly, animate kā must not be confused with kà ‘and, with’ or with imperfective infinitival k-â contracted from /kō à/. Both of these forms can be heard as M-toned (kā, k-ā) when followed by L-tone.

The prenominal article ē may precede classifiers kā and á when they are otherwise NP-initial, i.e. when the noun slot is unfilled. The vowel sequence è á is awkward and may contract to à= á.

Core adjectives that occur with classifiers are distinct from participles, some of which have senses that are expressed by adjectives in English. Participles are compounds. Their initials are generally Pfv verbs, though some initials are not attested elsewhere. The compound finals mark animacy and number (342).

(342)

	singular	plural	
inanimate	-ɛ̀ʔɛ̀	-ə̀-rɛ̀	(various)
animate	-kàʔà	-kɔ̀	(various)

For details on and lists of adjective-like participles see §4.5.4 below. For complexly composite adjectives (exemplars and bahuvrihis), see §5.2.

4.5.2 Inventory of core modifying adjectives

In this section we present the core modifying adjectives without morphological detail in order to give an idea of their semantic range. Parenthesized adjectives do not occur as such in postnominal modifying function, but do occur with classifier kā or á as shown in the right-hand column. For all other adjectives, the form shown in the left column is postnominal. The morphology and dialectology will be covered in following sections. For participles, which can be formed from adjectival verbs (and other verbs), see §4.5.4 below.

(343)	representative form	category	gloss	comment
size				
	tù-tùʔù	postnominal	‘big’	
	bí-bī	postnominal	‘small’	
dimension				
	sɔ̀ⁿ-sɔ̀ⁿʔɔ̀ⁿ	postnominal	‘long; tall; distant’	
	nígbó	postnominal	‘short’	
	bɛ̀-bɛ̀ʔɛ̀	postnominal	‘wide; spacious’	
	pà-pàʔà	postnominal	‘flat’	
age and organic state				
	fɔ̂ⁿʔɔ̀ⁿ ~ fûⁿʔɔ̀ⁿ	postnominal	‘new’	
	dìʔɛ̀	postnominal	‘old’	
	(kùʔɔ̀)	animate	‘foreign’	kā kùʔɔ̀ ‘stranger’
	tākɛ̄ʔɛ̄ ~ tàkɛ̀ʔɛ́	postnominal	‘unripe’	
	bùⁿʔɔ̀ⁿ	inanimate	‘young; freshly sprouted (plant)’	
color				
	yùàʔà	postnominal	‘black’	
	ʃìɛ̀ⁿʔɛ̀ⁿ	postnominal	‘red’	
	fìàⁿʔàⁿ	postnominal	‘white’	
temperature				
	lɔ́ⁿ	postnominal	‘cold’	
	fú	postnominal	‘hot’	
moisture				
	blìʔì	postnominal	‘wet’	
fullness				
	(kāʔā)	inanimate	‘empty’	kò [á kāʔā] ‘be empty’
quality				
	kòʔò	postnominal	‘good’	
quantity				
	kərɛ̀ⁿ(ʔɛ̀ⁿ)	postnominal	‘many, much, numerous’	

identity		
dígɔ̀ʔɔ̀	postnominal	‘(each) other’
bàⁿʔàⁿ	postnominal	‘other’
taste		
dɔ̀ⁿ	postnominal	‘delicious, pleasing’
ɲɔ́-ɲɔ́ⁿʔɔ́ⁿ	postnominal	‘sour’

Other adjective-like modifiers are expressed by participles (e.g. ‘deep’, ‘bitter’, ‘coarse’, and ‘soft’), or by negation (‘bad’). This is usually the case for ‘bitter’ as a taste term (tɛ́ⁿ-ɛ̀ʔɛ̀), but the frozen expression (ē) līⁿ tìɛ̀ⁿ ‘bitter guts’ (i.e. sour personality) may contain an archaic modifying form (Ji, 2017-07 @ 00:15).

4.5.3 Morphology of core modifying adjectives

A maximal core modifying adjectival paradigm consists of a postnominal form, an animate classifier form with kā, and an inanimate classifier form with á. In each of these constructions, the adjective is readily pluralizable. The plurals follow one or the other of the two productive nominal plural patterns: a) with rhotic syllable -rv- (v = a copied vowel) either suffixed or infixed (replacing or preceding a glottal syllable), or b) with final o or ɔ.

The morphological and tonal relationship between postnominal, animate, and inanimate forms is complex, and there are no close parallels in nominal or numeral morphology. The simple postnominal forms if they exist can usually be taken as lexically basic, since animate and inanimate classifiers impose tonal and segmental changes on the stem.

We distinguish nonreduplicative adjectives (§4.5.3.1) from those whose regular postnominal form is reduplicative (§4.5.3.2).

4.5.3.1 Unreduplicated adjectives

4.5.3.1.1 Basic color adjectives

Array (344) summarizes how classifier combinations relate to the singular postnominal forms for color adjectives. Curly brackets enclose stem-wide tone overlay formulae.

(344) Formulae for color adjectives

a. postnominal	L-toned, usually glottalic (except Bi)
b. animate after kā	remove glottalization, shift a to ɔ
c. inanimate after á	Ji: remove glottal, apply {LH} Fl: apply {H}, subject to regular tonal processes Ma: apply {H} or {LH} (ambiguous) Bi: apply {M}

H-toned Cv́ʔv́ becomes Cv̄ʔv́ in Fl and Cv̀ʔv́ in Ma by regular phonology. Fl Cv̄ʔv́ can only be parsed as {H} overlay. Ma Cv̀ʔv́ could be parsed as {H} as in Fl followed by the usual tonal adjustment to LH, or as {LH} overlay as in Ji. The {M} overlay in Bi has likely been flattened from earlier {LH}.

'Black' and 'white' are unusual in that Ji as well as Fl and Ma has postnominal diphthongal shapes with the glottalic pulse delayed, e.g. yùàʔà 'black' rather than #yùʔà. Bi, by contrast, has no glottalization in the postnominal form, e.g. yùà, though glottalization does appear in the Bi inanimate form after á. Anomalous singular shapes like yùàʔà are reflected in variation in the rhotic plural, e.g. yù-rà versus yùɔ̀-rɔ̀.

Rhotic plurals in Fl and Ma dialects for color and some other adjectives are nonglottalic, i.e. end in -rv rather than in -rv-ʔv as in most rhotic plurals of nouns in the same dialects.

(345) Color adjective paradigms

postnominal	animate	inanimate
a. 'black'		
yùàʔà (Fl Ji Ma)	kā yùɔ̀ (Fl Ji Ma)	á yùá (Ji)
		á yūāʔá (Fl)
		á yùàʔá (Ma)
yùà (Bi)	kā yùà (Bi)	á yūʔā (Bi)
plural		
yùɔ̀-rɔ̀ (Fl Ji)	kā yù-rɔ̀ (Ji Ma)	á yù-rá (Ji)
	kā yùɔ̀-rɔ̀ (Fl Ji)	á yūāʔá (Fl)
		á yù-rà-ʔá (Ma)
yù-rà (Bi Ji)	kā yù-rà (Bi)	á yūɔ̄ʔɔ́ (Fl)
		á yū-rā-ʔá (Fl)
		á yù-rà-ʔá (Ma)
		á yū-rā (Bi)
b. 'white'		
fìà^{n}ʔà^{n} (Fl Ji)	kā fìɔ̀^{n} (all)	á fìá^{n} (Ji)
		á fīā^{n}ʔá^{n} (Fl)
		á fìà^{n}ʔá^{n} (Ma)
fìà^{n} (Bi)		á fī^{n}ʔā^{n} (Bi)
plural		
fì-rà^{n} (Bi Ji)	kā fìò (all)	á fə̂-rá^{n} (Fl Ji Ma)
fə̂-rà^{n} (Bi Fl)		á fə̄-rā^{n} (Bi)
		á fī-rā^{n} (Bi)
c. 'red'		
ʃìɛ̀^{n} (Bi Ji)	kā ʃìɛ̀^{n} (Ji)	á ʃìɛ́^{n} (Ji)
ʃìɛ̀^{n}ʔɛ̀^{n} (Fl Ma)	kā sɛ̀^{n} (Bi Fl Ma)	á ʃīɛ̀^{n}ʔɛ́^{n} (Ma)
ʃì^{n}ʔɛ̀^{n} (Bi)		á ʃīɛ̄^{n}ʔɛ́^{n} (Fl)
		á ʃī^{n}ʔɛ̄^{n} (Bi)

plural		
sə̀-rɛ̀^{n} (all)	kā ʃìò (Bi Ji)	á sə̀-rɛ́^{n} (Ji Ma)
	kā sə̀-rɛ̀^{n} (Fl Ma)	á sə̄-rɛ́^{n} (Fl)
		á sə̄-rɛ̄^{n} (Bi)

The reduced forms -fìɔ̀^{n}, -yùɔ̀, and -sɛ̀^{n} shown above following kā are also common in lexicalized natural-species terms (§5.1.3.2).

The semantically associated inchoative verbs (§9.4) are yūɔ̄/yɔ́/yó ~ yú 'turn black' (also '[night] fall'), invariant fí^{n}ʔɛ́^{n} 'turn white', and ɲɛ̄ʔɛ̄/ɲáʔá/ɲáʔá 'turn red', all with minor dialectal variants. 'Turn black' and 'turn white' are phonologically related to the adjective, but 'turn red' is suppletive.

4.5.3.1.2 Other core adjectives with glottalic forms

The adjectives in (346) have glottalic postnominal and inanimate singulars, but nonglottalic animate singulars, in all dialects checked. For Bi dialect, only inanimates were elicitable.

(346) Adjective paradigms with glottal syllable in inanimate (all dialects)

postnominal	animate	inanimate
a. 'new'		
fɔ̏^{n}ʔɔ̀^{n} (Ji)	kā fɔ̏^{n} (Bi Fl Ji)	á fɔ̏^{n}ʔɔ́^{n} (Ji)
fùɔ̀^{n}ʔɔ̀^{n} (Fl)	kā fɔ̏^{n}ʔɔ̀^{n} (Ji)	á fùɔ̀^{n}ʔɔ́^{n} (Fl)
fù^{n}ʔɔ̀^{n} (Bi)		á fū^{n}ʔɔ̄^{n} (Bi)
plural		
fə̏-rɔ̀^{n} (Fl Ji)	kā fò ~ kā fə̏-rò (Ji)	á fə̏-rɔ́^{n} (Ji)
	kā fò ~ kā fə̏-rɔ̀^{n} (Fl)	á fə̏-rɔ́^{n} (Fl)
	kā fò (Bi)	á fə̄-rɔ̄^{n} (Bi)
b. 'old'		
dìʔɛ̀ (Ji)	kā dɛ̀ (Fl Ji)	á dìʔɛ́ (Ji)
dìɛ̀ʔɛ̀ (Fl)	kā dìɛ̀ (Bi)	á dìɛ̀ʔɛ́ (Fl)
	kā dìʔɛ̀ (Bi)	ā dīʔɛ̄ (Bi)
plural		
də̀-rɛ̀ (Fl Ji)	kā dì-ɔ̀ (Fl Ji)	á də̀-rɛ́ (Fl Ji)
		á də̄-rɛ̄ (Bi)

There is no verb 'become new'. The verb 'become old, age (v)' is invariant lɛ̀, which might possibly be etymologically related to the adjective.

The adjectives in (347) are glottalic throughout the singular, even in the animate. The glottalic animates set them apart from the adjectives in (346) above and from the color adjectives.

(347)	postnominal	animate	inanimate
a. ‘good’			
	kòʔò (all)	kā kòʔò (all)	á kòʔó (Ji Fl Ma) á kōʔō (Bi)
plural			
	kə̀-rò (all)	kā kə̀-rò (all)	á kə̀-ró (Ji Fl[var] Ma) á kə̀-rò-ʔó (Fl[var]) á kə̄-rō (Bi)
b. ‘other’			
	bàⁿʔàⁿ (all)	kā bàⁿʔàⁿ (Fl Ji)	á bàⁿʔáⁿ (Ji Ma) á bāⁿʔáⁿ (Fl)
plural			
	bə̀-ràⁿ (Fl Ji)	kā bə̀-ràⁿ (Ji) kā bə̀-ràⁿ-ʔàⁿ (Fl Ma)	á bə̀-ráⁿ (Ji) á bə̄-rāⁿ-ʔāⁿ (Fl) á bə̀-ràⁿ-ʔáⁿ (Ma)
c. ‘fresh (vegetation); young (animal)’			
	bùⁿʔɔ̀ⁿ (Ji) bùɔ̀ⁿʔɔ̀ⁿ (Fl)	kā bùɔ̀ⁿʔɔ̀ⁿ (Fl)	á būɔ̄ⁿʔɔ́ⁿ (Fl)
plural			
	—	kā bə̀-rɔ̀ⁿ (Fl)	á bə̄-rɔ́ⁿ (Fl)
d. ‘wet, moist; fresh (meat)’			
	blìʔì (Fl Ma)	kā blìʔì (Fl)	á blìʔí (Ma) á blīʔí (Fl) á blīʔī (Bo)
plural			
	blìʔì-ní (Fl Ma)	—	á blìʔì-ní (Ma) á blīʔí-ní (Fl, variant) á blə̄-rí (Fl, variant)

There is no verb related to ‘other’ or ‘fresh; young’. For ‘good’ the related stative verb is nonglottalic kò ‘be good’, but there is also a dynamic verb kpèʔè/kōʔō/kōʔō ‘turn out well, succeed’. For ‘wet’ the semantically closest verb is suppletive pɛ̀/pà/pà ‘become wet’ or transitive ‘sprinkle (on)’.

Basic temperature adjectives (348a-b) have mostly nonglottalic Cv postnominal forms, but ‘hot’ is an exception for Ji dialect only. The inanimates are glottalic Cvʔv. No animate forms were elicitable, and plurals were difficult to elicit.

(348)	postnominal	animate	inanimate

a. ‘hot’		
fú Ji)	—	á fɔ̀ʔɔ́ (Ji)
fú (Bi Fl)	—	á fūʔú (Fl)
		á fūʔū (Bi)
plural		
fə́-rú (Fl Ji)	—	á fə̂-ró (Ji)
	—	á fə̄-rú (Fl)
		á fə̄-rū (Bi)
b. ‘cold’		
lɔ́ⁿ (Bi Fl Ji)	—	á lɛ̀ⁿʔɛ́ⁿ (Ji)
		á lɛ̄ⁿʔɛ́ⁿ (Fl)
		á lɛ̄ⁿʔɛ̄ⁿ (Bi)
plural		
lɔ́ⁿ-rɔ́ⁿ (Ji)	—	á lə̀-rɛ́ⁿ (Ji)
		á lə̄-rɛ́ⁿ (Fl)
		á lə̄-rɛ̄ⁿ (Bi)

A semantically and phonologically related verb is lɛ̄ⁿ/líⁿ/líⁿ ‘become cold, cool (v)’. For ‘become hot’ there are only approximate semantic matches: invariant tīɛ̄ⁿ ~ tīɛ̄ⁿʔɛ̄ (dialectal variants) ‘warm up’, and bɛ̀/bɔ̀/bɔ̀ ‘burn’ or ‘be burned, become hot’.

Many West African languages present a syncretism ‘cold’ = ‘slow’, but we do not find this in Tiefo-D. For ‘slow’ we recorded participial lɛ̄ⁿ-kàʔà (§4.5.4), based on the Pfv of lɛ̄ⁿ/líⁿ/líⁿ ‘become cold, cool (v)’.

(349) groups together the remaining core adjectives that have defective paradigms but at least some glottalic forms. In (349a), plural dígə̀-rɔ̀ is also the basic reciprocal (§18.4.1). For singular dígɔ̀ʔɔ̀ see è ná-dɛ̀ dígɔ̀ʔɔ̀ ‘another (=a different) old man’ (Ma, 2017-03 @ 00:35).

(349) postnominal	animate	inanimate
a. ‘other’		
dígɔ̀ʔɔ̀ (Fl Ji Ma)	—	—
plural ‘others; each other’		
dígə̀-rɔ̀ (all)	—	—
b. ‘unripe’		
tākɛ̄ʔɛ̄ (Ji)	—	—
plural		
tākə̄-rɛ̄ (Ji)	—	—
c. ‘foreign’		
—	kā kùʔɔ̄ (Ji)	—
	kā kùɔ̀ʔɔ̄ (Fl)	—

plural		
—	kā kə̀-rɔ̀ (Ji) kā kə̀-rɔ̀-ʔɔ̀ (Fl)	—
d. ‘empty’ (cf. under kāʔā ‘hard’)		
—	—	á kāʔā (Fl) á kāʔā (Ji)
e. ‘ruined, malfunctioning’		
—	—	á gbāʔá (Fl) á gbàʔá (Ji)
plural		
—	—	á gbə̄-rā-ʔá (Fl) á gbə̀-rá (Ji)
f. ‘many, much’		
kə̀-rɛ̀^{n}-ʔɛ̀^{n} (all)	kā kə̀-rɛ̀^{n}-ʔɛ̀^{n} (all)	á kə̀-rɛ̀^{n}-ʔɛ́^{n} (Bi Ji) á kə̄-rɛ̄^{n}-ʔɛ́^{n} (Fl)

For discussion and examples of kə̀-rɛ̀^{n}-ʔɛ̀^{n} (349f) see §8.5.2.1.4.

4.5.3.1.3 Other core adjectives with no glottalic forms

Glottal syllables are absent from the paradigm in (350).

(350) Adjective paradigm without glottal syllables

postnominal	animate	inanimate
‘delicious, sweet, pleasing’		
dɔ̀^{n} (Fl Ji)	—	á dɔ̄^{n} (Bi Fl Ji)
plural		
də̀-rɔ̀^{n} (Fl Ji)	—	á də̄-rɔ̄^{n} (Bi Fl Ji)

The related stative verb is dá^{n} ‘be pleasant, delicious, good’. It can take a complement with dative preposition ɔ̀^{n}.

nígbó ‘short’ occurs mainly in postnominal form (351). A combination with the animate classifier kā was elicited, but inanimate á was rejected. In this combination, kā drops to kà before the H-tone by regular tone sandhi.

(351) ‘Short’

	postnominal	animate	inanimate
‘short’			
	nígbó (Fl Ji)	kà nígbó (Fl Ji)	—
	ní^{n}gbó (Bi)	(rejected: Bi)	
plural			
	nígbə́-ró (Fl Ji)	kà nígbə́-ró (Fl Ji)	—
	ní^{n}gbə́-ró (Bi)		

The semantically related stative verb is kpló ‘be short’. Inanimate ‘short’ can be expressed by inanimate participial kpló-ɛ̀ʔɛ̀.

4.5.3.2 Reduplicated adjectives

We distinguish **reduplication** (limited to the initial syllable or half-syllable) from **iteration** (complete repetition of the stem). The distinction is moot when the base is Cv or Cvv. We use “Rdp-” in interlinears for both types.

4.5.3.2.1 Optional reduplication of adjectives (color, ‘good’)

Color adjectives allow optional reduplication of the postnominal form, as does ‘good’. For ‘black’ and ‘white’, the plural reduplicatives are based on the singular reduplicatives. For ‘red’, the plural reduplicative is based directly on the plural postnominal. The ʃ/s alternation from singular to plural of ‘red’ is pandialectal (§3.2.1.2).

(352)

	simple	reduplicated	gloss	comment
a.	yùàʔà	yùà-yùàʔà	‘black’	Fl
	yùɔ̀-rɔ̀	yùà-yùà-rà	(plural)	Fl
b.	ʃìɛ̀^{n}ʔɛ̀^{n}	ʃìɛ̀^{n}-ʃìɛ̀^{n}ʔɛ̀^{n}	‘red’	Fl
	sə̀-rɛ̀^{n}	sɛ̀^{n}-sə̀-rɛ̀^{n}	(plural)	Fl
c.	fìà^{n}ʔà^{n}	fìà^{n}-fìà^{n}ʔà^{n}	‘white’	Fl
	fə̀-rà^{n}	fìà^{n}-fìà^{n}-rà^{n}	(plural)	Fl
d.	kòʔò	kò-kòʔò	‘good’	Bi
	kə̀-rò	kò-kə̀-rò	(plural)	(Bi, 2017-08 @ 01:53)

The reduplicated terms for ‘red’ combine with animate classifier kā ‘creature’ to express ‘white (=European) person’. In this combination the final tone(s) of the adjective are raised.

Such tone-raising is elsewhere typical of adjectives after inanimate á but not after animate kā (§4.5.3.1.1-2).

(353) ‘white (=European) person’

singular	kā ʃɛ̀^{n}-ʃɛ̀^{n}ʔɛ́^{n} (Bi Ji Ma)	kā ʃɛ̀^{n}-ʃɛ̄^{n}ʔɛ̄^{n} (Fl)
plural	kā sɛ̀^{n}-sə̀-rɛ́^{n} (Bi Ji Ma)	kā sɛ̀^{n}-sə̄-rɛ̄^{n} (Fl)

4.5.3.2.2 Adjectives with invariant reduplicative forms

Some adjectives denoting dimensions have fixed reduplicative form. Their paradigms are in (354). One difference between them and several other adjectives is that the animate forms following kā do not drop all tones to L (except in Bi dialect for ‘big’). ‘Wide’ lacks animate forms, preventing comparison with the tonally unusual animate forms for ‘big’. ‘Long’ (354c) has minor tonal idiosyncracies for Bi. ‘Small’ (354d) has a stable tonal form bí-bī even in the animate, so classifier kā drops to kà by regular tone sandhi before its H-tone (M#H-to-L#H, §3.6.2.2).

(354) Reduplicative adjective paradigms

postnominal	animate	inanimate
a. ‘big’		
tù-tùʔù (all)	kā tù-tùʔú (Ji Ma)	á tū-tùʔú (Ji)
		á tū-tùʔú (Ma)
	kā tù-tūʔú (Fl)	á tū-tùʔú (Fl)
	kā tù-tùʔù (Bi)	á tū-tūʔū (Bi)
plural		
tù-tə̀-rù (all)	kā tù-tə̀-rú (Ji)	á tū-tə̀-rú (Ji)
	kā tù-tə̄-rú (Fl)	á tū-tə̀-rú (Fl)
	kā tù-tə̀-rù (Bi)	ā tū-tə̄-rū (Bi)
	kā tù-tə̀-rú (Ma)	ā tū-tə̀-rú (Ma)
b. ‘wide, spacious’		
bɛ̀-bɛ̀ʔɛ̀ (Ji)	—	á bɛ̄-bɛ̀ʔɛ́ (Ji)
		á bɛ̄-bɛ̀ʔɛ́ (Fl)
		á bɛ̄-bɛ̀ʔɛ́ (Bi)
plural		
bɛ̀-bə̀-rɛ̀ (Bi Ji)	—	á bɛ̄-bə̀-rɛ́ (Ji)
bɛ̀-bə̀-rɛ̀ʔɛ̀ (Fl)		á bɛ̄-bə̀-rɛ̀-ʔɛ́ (Fl)
		á bɛ̄-bə̀-rɛ́ (Bi)

c. ‘long; tall; distant’

sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n} (Bi Fl Ji)	kā sɔ̀^{n}-sɔ̀^{n}ʔɔ́^{n} (Ji Ma)	á sɔ̄^{n}-sɔ̀^{n}ʔɔ́^{n} (Fl Ji Ma)
	kā sɔ̀^{n}-sɔ̄^{n}ʔɔ́^{n} (Fl)	
	kā sɔ̀^{n}-sɔ́^{n}ʔɔ́^{n} (Bi)	á sɔ̄^{n}-sɔ̀^{n}ʔɔ́^{n} (Bi)

plural

sɔ̀^{n}-sə̀-rɔ̀^{n} (Bi Fl Ji)	kā sɔ̀^{n}-sə̀-rɔ́^{n} (Ji Ma)	á sɔ̄^{n}-sə̀-rɔ́^{n} (Ji)
		á sɔ̄^{n}-sə̀-rɔ́^{n} (Ma)
	kā sɔ̀^{n}-sə̄-rɔ́^{n} (Fl)	á sɔ̄^{n}-sə̄-rɔ́^{n} (Fl)
	kā sɔ̀^{n}-sə́-rɔ́^{n} (Bi)	á sɔ̄^{n}-sə̀-rɔ́^{n} (Bi)

d. ‘small, thin, narrow’ (see comments below for intensive jə́rí-)

bí-bī (Bi Fl Ji)	kà bí-bī (Bi Fl Ji)	á bí-bī (Bi Fl Ji)

plural

bí-bə̄-rī (Fl Ji)	kà bí-bə̄-rī (Fl Ji)	á bí-bə̄-rī (Fl Ji)

e. ‘flat and broad’ (said of face, fish)

pà-pàʔà (Fl Ji)	—	á pā-pàʔá (Fl Ji)

plural

pà-pə̀-rà (Ji)	—	á pā-pə̀-rá (Ji)
		á pà-pə̀-rà-ʔá (Fl)

cf. plural participial pɛ́pərɛ̀-pɛ́pərɛ̀-kɔ̀ (Bi, 2017-10 @ 03:41, of fish)

The reduplication is omitted in some lexicalized noun-adjective combinations involving ‘long’ or ‘big’ where the adjective functions more or less as a compound final. For ‘long’ we can cite dɛ̀-sɔ̀^{n}ʔɔ̀^{n} ‘long field’ (Ma, 2018-08 @ 00:16). For ‘big’ the finals range from L to H tones; see (397) below for a list.

Semantically related verbs are invariant statives gbāʔā ‘be big’, bɛ́ ‘be wide’, and dìʔɛ̀ ‘be long’. ‘Be small’ is expressed by the suppletive verb kɛ̄^{n}/kí^n/kí^n.

‘Small’ (354d) also has a very common suppletive plural jə́rí-, with increased diminutive force. It has plural participial morphology: animate jə́rí-kɔ̀, inanimate jə́rí-rɛ̀ (§4.5.4).

There is also a semantically related reduplicated noun: singular ná-náʔá ‘tiny thing’ and plural ná-nə́-rá (Ji; for Fl the middle syllables are M-toned as expected: ná-nāʔá, ná-nə̄-rá). Both singular and plural are phonetically nasalized to the end: [ná̰ná̰ʔá̰], [ná̰nə́rá̤].

A widespread term for ‘blowfly’ is cə̄rɔ̄ jɔ̀^{n}-jɔ́^{n}ʔɔ́^{n} (Fl Ji). It consists of the generic term ‘fly’ plus what appears to be another reduplicative adjective, not otherwise attested. The cognate in Bi dialect, attested in the plural, is cə̄rɔ̄ jì^n-jì^{n}ʔì^n-ní (implying singular #jì^n-jī^{n}ʔī^n).

4.5.4 Participles (animate X-kàʔà, inanimate X-ɛ̀ʔɛ̀)

Participles are formed by compounding an initial stem, typically a Pfv verb, to a classifying final. The finals distinguish animacy and number. Human agentives (§4.2.2, §5.1.5.1) are similar but use finals based on the noun ‘person’.

(355)

animate	singular	-kàʔà	(all dialects)
	plural	-kɔ̀	"
inanimate	singular	-ɛ̀ʔɛ̀	"
	plural	-ə̀-rɛ̀	"

The inanimate participles are transparently based on L-toned forms of the noun ɛ̀ʔɛ́ 'thing'. Fl and Ma dialects have quasi-epenthetic initial y in the independent noun, hence yɛ̀ʔɛ́ '(the) thing' (§3.1.1.2, §3.4.1.2), but the participial final usually lacks the y. The animate finals are probably etymologically related to kàʔá 'meat' (by extension 'game animal or livestock animal'), and to -kà (plural -kɔ̀) in a few compounds denoting general classes of animals (§5.1.7.1).

Numerous participles are in common use as postnominal modifiers and can be translated as adjectives. A few examples are in (356).

(356)

singular	plural	gloss
a. inanimate -ɛ̀ʔɛ̀		
dɛ̀^{n}-ɛ̀ʔɛ̀	dɛ̀^{n}-ə̀-rɛ̀	'ripe (grain)'
dúʔú-ɛ̀ʔɛ̀	dúʔú-ə̀-rɛ̀	'heavy'
fá^{n}ʔá^{n}-ɛ̀ʔɛ̀	fá^{n}ʔá^{n}-ə̀-rɛ̀	'lightweight'
kə̀ɣà-ɛ̀ʔɛ̀	kə̀ɣà-ə̀-rɛ̀	'coarse'
kāʔā-ɛ̀ʔɛ̀	kāʔā-ə̀-rɛ̀	'hard; difficult'
nùgù-ɛ̀ʔɛ̀	nùgù-ə̀-rɛ̀	'smooth, sleek'
ɲɔ́-ɛ̀ʔɛ̀	ɲɔ́-ə̀-rɛ̀	'sour'
ɲɛ̄ʔɛ̄-ɛ̀ʔɛ̀	ɲɛ̄ʔɛ̄-ə̀-rɛ̀	'ripe, turned red (mango)'
tɛ́^{n}-ɛ̀ʔɛ̀	tɛ́^{n}-ə̀-rɛ̀	'bitter (taste)'
wē-ɛ̀ʔɛ̀	wē-ə̀-rɛ̀	'dry'
wùò-ɛ̀ʔɛ̀	wùò-ə̀-rɛ̀	'rotten'
yìè-fló-ɛ̀ʔɛ̀	yìè-fló-ə̀-rɛ̀	'full'
b. animate -kàʔà		
cɥ̀ʔɛ̀-kàʔà	cɥ̀ʔɛ̀-kɔ̀	'lean, skinny, emaciated'
lɛ̄^{n}-kàʔà	lɛ̄^{n}-kɔ̀	'slow'
lɛ̀-kàʔà	lɛ̀-kɔ̀	'old, aged (animal)'
pɔ́rɔ́-kàʔà	pɔ́rɔ́-kɔ̀	'slender (person)'
wūō-kàʔà	wūō-kɔ̀	'dead'
c. both inanimate -ɛ̀ʔɛ̀ and animate -kàʔà		
pɛ̄^{n}ʔɛ̄^{n}-kàʔà	pɛ̄^{n}ʔɛ̄^{n}-kɔ̀	'fast (animal)'
pɛ̄^{n}ʔɛ̄^{n}-ɛ̀ʔɛ̀	pɛ̄^{n}ʔɛ̄^{n}-ə̀-rɛ̀	'fast (thing)'
(flɔ̄-)flɔ̄-kàʔà	(flɔ̄-)flɔ̄-kɔ̀	'slippery, slick'
(flɔ̄-)flɔ̄-ɛ̀ʔɛ̀	(flɔ̄-)flɔ̄-ə̀-rɛ̀	'slippery, slick'

d. optional suppletive plural for bí-bī ‘small’

—	jə́rí-rɛ̀ (all)	inanimate
—	jə́rí-kɔ̀ (all)	animate

Participles can also be formed from expressive adverbials (§8.5.8), some of which have descriptive senses that make for good modifiers. However, adverbials can be made predicative just by adding kō ‘be’ without participial endings.

(357)

singular	plural	gloss
a. inanimate -ɛ̀ʔɛ̀		
cɛ̄ⁿ-cɛ̄ⁿ-ɛ̀ʔɛ̀	cɛ̄ⁿ-cɛ̄ⁿʔɛ̄ⁿ-ə̀-rɛ̀	‘brittle, crunchy, soft’
mlɛ̄ⁿ-mlɛ̄ⁿ-ɛ̀ʔɛ̀	mlɛ̄ⁿ-mlɛ̄ⁿ-ə̀-rɛ̀	‘supple, soft (skin, food)’
b. animate -kàʔà		
jùɔ̀ʔɔ̀-kàʔà	jùɔ̀ʔɔ̀-kɔ̀	‘listless’

Animate participles can function as more or less lexicalized modifiers in fauna terms, as in (358). For mò-mló see §4.1.4.4. The verb is jùɔ̀ⁿ/dɔ̄ⁿ/dīⁿ ‘bite’.

(358) [mò-mló]-jùɔ̀ⁿ-kàʔà
[ant]-bite.Pfv-**Ppl.An**
‘biting black ant species (*Brachyponera*)’

For lexicalized animate participles ending in -kàʔà functioning as nouns, see §4.2.3.1. For lexicalized inanimate participles in -ɛ̀ʔɛ̀, see §4.2.3.2. For complex compounds ending in -ɛ̀ʔɛ̀ specifying functions and uses of objects, see §5.1.10.2.

4.5.5 Reduplicative derivations of adjectives

From adjective nígbó ‘short’ is formed nígbərē-nígbərē ‘(various) short things’. It shows the rhotic as in the regular plural nígbə́-ró, with the back vowel fronted. From adjective pà-pàʔà ‘flat’ is derived pɛ́pə̀rɛ̀-pɛ́pə̀rɛ̀-kɔ̀ ‘flat ones’, applied to fish in a text (Bi, 2017-10 @ 03:41).

Another type of derivation is the abstractive ɲɔ́-ɲɔ́ʔɔ́ ‘sourness; something sour’ from the adjectival verb ɲɔ́ ‘be sour’.

4.5.6 Negative adjectives

Something like adjectival negative (or antonymic) *un-* in English is observed in (359). kā (dropped to L-tone before H-tone) in (359a) is the animate adjectival classifier, and mâ-kùʔó looks like a corruption of má kò=ʔ ‘is not good/pretty’. (359b) is based on inanimate participial kāʔā-ɛ̀ʔɛ̀ ‘hard’ (§4.5.4, §9.4)

(359)	singular	plural	gloss	
a.	kà mâ-kúʔó	kà mâ-kə́-ró	‘bad, evil; ugly’ (person)	Ji
	kà mâ-kūʔó	kà mâ-kə́-ró	"	Fl
b.	má-kāʔā-ɛ̀ʔɛ̀	má-kāʔā-ə̀-rɛ̀	‘easy’ (“not hard”)	

The composite term for ‘toad’ is shown in (360). Variant (360a) begins transparently with cíɛ́^{n} ‘frog’. The following -màkùʔɔ́ is another corruption of má kɔ̀=ʔ ‘is not good’, i.e., ‘is ugly’. The Bi variant (360b) appears to be a further mutation, now opaque.

(360) a. cíɛ́^{n}-mākùʔɔ́ (various)
b. cɛ́mɛ́-kūɔ̄ Bi

4.6 Numerals

4.6.1 Cardinal numerals

In the counting sequence, numerals ‘1’ to ‘10’ are as in (361). Of these, ‘1’ has a different form as a modifier (§4.6.1.1 below). Winkelmann’s transcriptions (1998:145-146) are in the right-hand column.

(361)	our transcription	Winkelmann
‘1’	jíɛ́-nì	diɛ̰ni
‘2’	jɔ̄^{n}	jɔ̰
‘3’	sá^{n}	sá̰
‘4’	wū^{n}ʔɔ̄^{n} (Ji)	ʔuʔɔ̰́ ~ ʔuɔ̰́
	ŋū^{n}ʔɔ̄^{n} (Bi)	ŋwɔʔɔ
	ŋūɔ̄ʔɔ̄ [ŋṵ̄ɔ̰̄ʔɔ̰̄] (Fl Ma)	ŋwɔʔɔ
‘5’	kà^{n}	kà̰
‘6’	kà^{n}-dí	kà̰-dḭ
‘7’	kà^{n}-jɔ̄^{n}	kà̰-jɔ̰
‘8’	kà-sá (Bi Fl Ji)	kà-sá
	kà-sáʔá (Ma)	
‘9’	kà-ŋū^{n}ʔɔ̄^{n} (Bi, and variants as with ‘4’)	kà̰-ʔuɔ̰́
‘10’	támm (Fl Ji Ma)	támú(wá)
	támú (Fl, careful pronunciation)	
	támwú (Bi)	

‘6’ through ‘9’ are transparent compounds beginning with ‘5’. For further analysis see §4.6.1.1 on ‘1’ and §4.6.1.2 on ‘2’ through ‘9’. The denasalization in kà-sá ‘7’ is not a typo; it was verified for all dialects and confirms Winkelmann’s transcription. For ‘10’, the common variant támm with rare final geminated nasal is likely from *támú.

When numerals function within phrases or clauses, these numerals are preceded by an article-like element, which is n (‘1’), ò (‘2’ to ‘9’), or ē (higher numerals). Of these, n and ò are specific to numerals, while ē is regular for all nouns.

4.6.1.1 ‘One’

The form jíɛ́-nì given above occurs only in the counting sequence. The forms used as nouns or as modifying numerals are in (362). n dɛ̀^{n}ʔɛ́(y)^{n} is the only occurrence in Tiefo-D of a simple nasal n as an article-like form. ‘1’ is the only numeral that has a distinctive human form (362b), which not only incorporates nā ~ ná(^{n}) (cf. ná-dɛ̄ ‘old man’ or ‘old person’, ná-bí ~ ná^{n}-bí ~ nà-bí ‘child’ or ‘person’, and nā-fɔ̄^{n} ‘visitor’) but also shifts the vowels of the numeral to back rounded. This is likely a vestige of the reconstructed O-class (better preserved in Tiefo-N), which includes humans.

(362)	category	form	dialect	reference
a.	usual form	ǹ dɛ̀^{n}ʔɛ́y^{n}	Ji	
		ǹ dɛ̀^{n}ʔɛ́^{n}	Bi Fl Ma	
b.	special human form	(ē) nā-dɔ̀^{n}ʔɔ́^{n}	Fl Ji Ma	
		(è) ná^{n}-dɔ̀^{n}ʔɔ́^{n}	Bi	
c.	locative adverbial PP	[ē dɛ̀^{n}ʔɛ́^{n}] nī	(various)	§12.2.3

(ē) nā-dɔ̀^{n}ʔɔ́^{n} functions as a complete NP meaning ‘one person’. It is not added as a modifier to other human nouns (‘woman’, ‘farmer’, etc.), which instead take the all-purpose modifying form n dɛ̀^{n}ʔɛ́(y)^{n}.

The n morpheme appears to have no intrinsic tone. When it follows another word, it simply carries forward the final tone of that word. In postpausal position, it is L-toned ǹ, arguably just an extension of the initial L-tone of dɛ̀^{n}ʔɛ́(y)^{n}.

(363a) illustrates modifying function. In (363b) n dɛ̀ʔɛ́y^{n} is a noun and functions as possessor of ‘name’.

(363)					
	a.	ē	wùʔú / sǒ / yǒ	[n	dɛ̀^{n}ʔɛ́y^{n}]
		Art	house / pig / woman	[Sg	one]
		‘one house/pig/woman’ (Ji)			
	b.	[ǹ	dɛ̀ʔɛ̀y^{n}]	yíé	
		[Sg	one]	name	
		‘the name of one (of them)’ (Ji)			

In allegro speech the ǹ syllabifies with a preceding vowel (if any) and its L-tone may vanish as the tone of the vowel spreads. Thus ē sǒ [n dɛ̀^{n}ʔɛ́y^{n}] ‘one pig’ can be realized as [ēsǒndɛ̰̀ʔɛ̰́j̰].

'One' and related forms can have the sense 'only, exclusively' (§19.2.3). 'One' can also connect two referents as '(one and) the same', as in (Bo, 2019-07 @ 00:42).

4.6.1.2 '2' to '10'

The numerals from '2' to '10' are shown in (364) as they occur within phrases and clauses. Numerals from '6' to '9' consist of kà^{n} '5' plus a numeral from '1' to '4', with two irregularities in the second element: '1' is reduced to -dí (unnasalized in our data), while expected #kà^{n}-sá^{n} is denasalized to kà-sá. '4' is fully nasalized, e.g. [ŋū^{n}ʔɔ̄^{n}], but since this is attributable to the initial nasal we write e.g. ŋūɔ̄ʔɔ̄ for Fl and Ma dialects following our transcriptional practice.

(364)	value	form	Winkelmann (pp. 145-6)
	'2'	(ò) jɔ̄^{n}	jɔ̄^{n}
	'3'	(ò) sá^{n}	sá^{n}
	'4'	(ò) wū^{n}ʔɔ̄^{n} (Ji)	ʔuʔɔ̰́ ~ ʔuɔ̰́
		(ò) ŋū^{n}ʔɔ̄^{n} (Bi)	ŋwɔʔɔ
		ŋūɔ̄ʔɔ̄ [ŋṵ̄ɔ̰̄ʔɔ̰̄] (Fl Ma)	ŋwɔʔɔ
	'5'	(ò) kà^{n}	kà^{n}
	'6'	(ò) kà^{n}-dí	kà^{n}-dī^{n}
	'7'	(ō) kà^{n}-jɔ̄^{n}	kà^{n}-jɔ̄^{n}
	'8'	(ō) kà-sá (Bi Fl Ji)	kà-sá
		(ō) kà-sáʔá (Ma)	
	'9'	(ō) kà-ŋū^{n}ʔɔ̄^{n} (Bi, and variants)	kà^{n}-ʔúɔ̄^{n}
	'10'	(è) támm (Fl Ji Ma)	támúwá ~ támú
		(è) támú (Fl, careful pronunciation)	
		(è) támwú (Bi)	

'10' is pronounced [tāmː] with prolonged nasal in most dialects and is transcribed támm. It is the only lexical item in common use that ends in a geminate or any other cluster. However, Winkelmann's támú still occurs in careful speech, and it may still be viable as an underlying transcription if we assume lexically specific apocope and compensatory lengthening (§3.4.1.1.1). Our Bi speaker has támwú.

For nonhuman reference, numerals '2' to '9' are preceded by an article-like plural morpheme ò. It does not rise to #ō before an L-tone, hence ò kà^{n} 'five', not #ō kà^{n}. For the syntax see §6.4.1.

When the noun is yúó 'people', it drops to M-tone before '2' and '3' (and therefore drops farther to L-tone before H-toned sá^{n} '3'). In Ji dialect the y also nasalizes to ɲ. These forms are also obligatory after nonsingular pronominals with human reference. For '4' and up the regular H-toned form yúó 'people' is used.

(365)	'people'	'we/you-Pl'	'they'	dialect
'2'	ē ɲūō jɔ̌^{n}	é-yùò/bùò ɲūō jɔ̌^{n}	ò ɲūō jɔ̌^{n}	Ji
	ē yūō jɔ̄^{n}	é-yùò/bùò yūō jɔ̄^{n}	ò yūō jɔ̄^{n}	Fl
'3'	ē ɲùò sá^{n}	é-yùò/bùò ɲùò sá^{n}	ò ɲùò sá^{n}	Ji
	ē yùò sá^{n}	é-yùò/bùò yùò sá^{n}	ò yùò sá^{n}	Fl
'4'	ē yúó wū^{n}ʔɔ̄^{n}	é-yùò/bùò yúó wū^{n}ʔɔ̄^{n}	ò yúó wū^{n}ʔɔ̄^{n}	Ji
	ē yúó ŋūɔ̄ʔɔ̄	é-yùò/bùò yúo ŋūɔ̄ʔɔ̄	ò yúó ŋūɔ̄ʔɔ̄	Fl

The 'people' forms are optional after other nouns with human reference. Thus either ē yə̀-rò sá^{n} or ē yə̀-ró yùò sá^{n} 'three women'.

The M-toned numerals jɔ̄^{n} 'two' and ŋūʔɔ̄ (or variant) 'four' are pronounced with a rising tone, transcribed jɔ̌^{n} and ŋùʔɔ́, where a preceding ò has been elided but leaves a tonal trace. Thus ē blō [Ø ŋùʔɔ́] 'four rains (=years)'.

4.6.1.3 Decimal numerals ('10', '20', …) and increments ('29', …)

The multiples of '10' are in (366). kplē- (Winkelmann: kpli-) replaces kpǎ^{n} '20' before numerals '2' and up. Together they constitute a vigesimal system. '100' is therefore phrased as "twenty five." The odd-numbered decimals ('30', '50', '70', '90') add -kà-támm or variant, i.e. 'and ten', etymologically *kà [è támú]. This is usually lenited to -gà-támm, and in Bi dialect it nasalizes to -ŋà-támwú after a nasalized vowel. M-toned jɔ̄^{n} '2' and ŋū^{n}ʔɔ̄^{n} (or variant) '4' are realized with rising LH-tones after kplē- in '40' and '80'. This LH-tone may be a trace of an original preceding *ò, or it may be that the rising tone pattern was original in '2' and '4'. When -gà-támm 'and ten' is added ('50' and '90'), '2' and '4' are usually L-toned, likely a low-level effect due to the length of the compound and the L-tone of the following -gà-. However, LH can be heard in careful pronunciation.

(366) gloss	form	Winkelmann (p. 146)
'10'	(è) támm	támúwá ~ támú
'20'	(ē) kpǎ^{n}	(ʔē) kpā^{n}
'30'	(ē) kpā^{n}-gà-támm	(ʔē) kpā^{n}-kā-támú
	(ē) kpā^{n}-ŋà-támwú (Bi)	
'40'	(ē) kplē-jɔ̌^{n}	(ʔē) kplī-jɔ̄^{n}
'50'	(ē) kplē-jɔ̀^{n}-gà-támm	(ʔē) kplī-jɔ̄^{n}-kā-támú
	(ē) kplē-jɔ̀^{n}-ŋà-támwú (Bi)	
'60'	(ē) kplè-sá^{n}	(ʔē) kplī-sá^{n}
'70'	(ē) kplè-sá^{n}-gà-támm	(ʔē) kplī-sá^{n}-kā-támú
	(ē) kplè-sá^{n}-ŋà-támwú (Bi)	
'80'	(ē) kplē-wù^{n}ʔɔ́^{n} (Ji)	
	(ē) kplē-ŋù^{n}ʔɔ́^{n} (Bi)	
	(ē) kplē-ŋùɔ̀ʔɔ́ (Fl Ma)	

‘90’	(ē)	kplē-wùⁿʔɔ̀ⁿ-gà-támm	
	(ē)	kplē-ŋùⁿʔɔ̀ⁿ-ŋà-támwú (Bi)	
‘100’	(ē)	kplē-kàⁿ	(ʔē) kplī-kàⁿ
‘110’	(ē)	kplē-kàⁿ-gà-támm	
	(ē)	kplē-kàⁿ-ŋà-támm (Bi)	

When these numerals follow a noun, the article ē preceding the numeral usually disappears, i.e. has no audible trace. Thus ē sə̀-ríⁿ kplē-jɔ̌ⁿ ‘forty trees’ with no tonal trace of a second ē. If the noun is human, classifier yúó is optional: è bí-ʃìò yúó kplē-jɔ̌ⁿ ‘forty children’.

Composite decimal-plus-digit numerals from ‘11’ to ‘19’ are based on támm ‘10’ or variant. This is followed by kà ‘and, with’ plus the digit in the latter’s full form. kà contracts with the particle ò before ‘2’ to ‘9’ as k= ò. Bi (and sometimes Fl) combines támwú ‘10’ and kà together as támw-á, which then combines with ò as támw-á =à, or támw-á =ā before L-tone. Three such combinations are illustrated in (367), the others up to ‘19’ follow the pattern of ’12-13’.

(367)	‘11’	è	támm	kà	[n	dɛ̀ʔɛ́(y)ⁿ]	Fl Ji Ma
		è	támw-á		[n	dɛ̀ʔɛ́ⁿ]	Bi
	‘12’	è	támm	k=	[ò	jɔ̄ⁿ]	Fl Ji Ma
		è	támw-á		[=à	jɔ̄ⁿ]	Bi
	‘15’	è	támm	k=	[ò	kàⁿ]	Fl Ji Ma
		è	támw-á		[=ā	kàⁿ]	Bi

Composite decimal-plus-digit numerals based on ‘20’ are in (368). The full forms based on kà are shown here but the k is usually weakened to w or (in ‘21’) elided. The forms shown are for Ji dialect.

(368)	‘21’	ē	kpǎⁿ	(k)à	[ǹ	dɛ̀ʔɛ́(y)ⁿ]
	‘22’	ē	kpǎⁿ	k/w=	[ò	jɔ̄ⁿ]
	‘23’	ē	kpǎⁿ	k/w=	[ò	sáⁿ]

4.6.1.4 Large numerals (‘100’, ‘1000’, …) and increments

‘(One) hundred’ is phrased as a compound of kplē- ‘20’ and kàⁿ ‘5’, i.e. five times twenty. It is not followed by ‘one’ in the precise sense ‘100’. Numerals ‘two hundred’ and up consist of kɔ̌- or flattened kɔ̄- plus the digit, dropping to kɔ̀- before sáⁿ ‘three’. kɔ̌- itself may be a severely contracted reflex of some variant of kplē-kàⁿ ‘hundred’ plus the plural article *ò. Digits jɔ̄ⁿ ‘2’ and wūⁿʔɔ̄ⁿ (or variant) ‘4’ become LH-toned after kɔ̌-, perhaps another tonal trace of original *ò.

(369)	gloss	form	dialect
a.	‘one hundred’	ē kplē-kàⁿ	(all)

b.	‘two hundred’	ē kɔ̌-jɔ̌^{n}	Fl
		ē kɔ̄-jɔ̌^{n}	Ji
		ē kɔ̌-jɔ̄^{n}	Bi
c.	‘three hundred’	ē kɔ̀-sá^{n}	(all)
d.	‘four hundred’	ē kɔ̌-ŋùɔ̀ʔɔ́	Fl Ma
		ē kɔ̌-ŋù^{n}ʔɔ́^{n}	Bi
		ē kɔ̄-wù^{n}ʔɔ́^{n}	Ji
e.	‘five hundred’	ē kɔ̌-kà^{n}	(all)

As with other bulky numerals, these ‘hundred’ numerals usually just omit the ē when they follow a noun: ē sə̀-rí^{n} kɔ̌-jɔ̌^{n} ‘two hundred trees’ (Fl).

Any worries about confusion between kɔ̌- in ‘hundred’ numerals and kɔ̌ ‘day’ are defused by the observation that (ē) dè ‘sun; day’ is the usual noun in counting days, as in ē dè [ò jɔ̄^{n}] ‘two days’. In archaic language (ē) kɛ̀ was used instead of dè.

wùʔɔ́ (or variant) ‘thousand’ is a noun. It is homophonous with ‘goat’, and perhaps not accidentally since ‘goat’ and ‘thousand’ are both bàá in (archaic) Jula. In the sense ‘one thousand’ wùʔɔ́ is followed by ‘1’, and in some dialects it is flattened to wūʔɔ̄ in this combination. In ‘two thousand’ to ‘ten thousand’, the digit follows a dialectally variable rhotic plural of wùʔɔ́. Our Ji speaker produced (ē) wə̀-rɔ̂= Ø as the regular output of /wə̀-rɔ́ ò/. In the other dialects, plural ‘thousands’ has essentially fused with pre-numeral ò into an unsegmentable form, whose tones are dialectally variable before a nonhigh tone, but which drops as a whole to L-toned before sá^{n} ‘3’.

(370)	a.	‘thousand’	(ē) wɔ̀ʔɔ́ \\ wə̀-rɔ́			Ji
			(ē) wùʔɔ́ \\ ɔ̀-rɔ́			Bi
			(ē) wūɔ̄ʔɔ̄ \\ ɔ̀-rɔ̀-ʔɔ́			Ma
			(ē) wùɔ̀ʔɔ́ \\ wə̀-rɔ̀-ʔɔ́			Fl
	b.	‘one thousand’	(ē) wɔ̀ʔɔ́	n	dɛ̀^{n}ʔɛ́y^{n}	Ji
			(ē) wūʔɔ̄	n	dɛ̀^{n}ʔɛ́^{n}	Bi
			(ē) wūɔ̄ʔɔ̄	n	dɛ̀^{n}ʔɛ́^{n}	Fl Ma
	c.	‘two thousand’	(ē) wə̀-rɔ̂=	Ø	jɔ̄^{n}	Ji
			(ē) ɔ̄-rɔ̄-ʔɔ̄		jɔ̄^{n}	Ma
			(ē) wə̄-rɔ̄-ʔɔ̄		jɔ̄^{n}	Fl
			(ē) wə̀-rɔ̀-ʔɔ́		jɔ̄^{n}	Fl
			(ē) ɔ̀-rɔ̄-ʔɔ̀		jɔ̄^{n}	Bi
	d.	‘three thousand’	(ē) wə̀-rɔ̂=	Ø	sá^{n}	Ji
			(ē) ɔ̀-rɔ̀-ʔɔ̀		sá^{n}	Bi Ma
			(ē) wə-rɔ̀-ʔɔ̀		sá^{n}	Fl

As with other bulky numerals, the pre-numeral article ē is omitted after a noun: ē sə̀-rí^{n} [wə̀-rɔ̄-ʔɔ̀ kà^{n}] ‘five thousand trees’ (Fl).

‘Million’, borrowed from French, is similar to ‘thousand’, but ‘1’ is optional in the sense ‘one million’. The reference is usually to millions of currency units and is not multiplied (from French to Tiefo-D) by five as are other currency phrases.

(371) ‘million’

‘one million’	(è) mílyɔ́^{n}	(n	dɛ̀ʔɛ́[y]^{n})
‘two million’	(è) mílyɔ́^{n}	[=ɔ̀^{n}	jɔ̄^{n}]

4.6.1.5 Currency

Currency under one million francs CFA is counted on the basis of a unit equal to 5 francs, as in all local native languages. Therefore ‘one hundred’ means ‘five hundred francs’, and so forth. The currency unit, called ə̀rá (Ji) or wə̀rá (Fl) can be added before the numeral, but usually it is tacitly understood.

4.6.1.6 Distributive numerals with stem iteration

Distributivity (cf. §6.6.2) is expressed by full iteration of simple numeral stems or of the final stem in composite numerals. With ‘1’ to ‘5’, i.e. the simple mono- and sesquisyllabbic numerals, the second iteration drops to L-toned if the stem is monosyllabic. This does not happen with numerals ‘6’ and up, which are either composite or (in the case of támm ~ támú ‘10’) are treated as bisyllabic. For ‘each person’, the distributive (372a) is based on nā-dɔ̀^{n}ʔɔ́^{n} ‘one person, someone’. The full form nā-dɔ̄^{n}-dɔ̀^{n} occurs optionally in modifying function, so ‘each child’ can be è bí-ʃīō [ǹ dɛ̄^{n}-dɛ̀^{n}] or è bí-ʃīō nā-dɔ̄^{n}-dɔ̀^{n}. For ‘each N people’ with N a nonsingular numeral, nā is replaced by yúó ‘people’, or (for ‘2’ and ‘3’) a variant form. Numerals ‘6’ to ‘9’ are iterated whole. The mm in ‘10’ is simplified to m. ‘20’ has an irregular form.

(372)

			distributive		
		numeral	general	human	
a.	‘1’	ǹ dɛ̀ʔɛ́(y)^{n}	ǹ dɛ̄^{n}-dɛ̀^{n}	ē nā-dɔ̄^{n}-dɔ̀^{n}	
			ǹ dɛ̄^{n}-də̀-rɛ̀^{n}-ʔɛ̀^{n}	è ná-dɔ̄^{n}-dɔ̀^{n}ʔɔ̀^{n} (2017-13 @ 00:59)	
b.	‘2’	ò jɔ̄^{n}	ò jɔ̄^{n}-jɔ̀^{n}	ē ɲūō jɔ̄^{n}-jɔ̀^{n}	Ji
				ē yūō jɔ̄^{n}-jɔ̀^{n}	Fl
	‘3’	ò sá^{n}	ò sá^{n}-sà^{n}	ē ɲùò sá^{n}-sà^{n}	Ji
				ē yùò sá^{n}-sà^{n}	Fl
	‘4’	wū^{n}ʔɔ̄^{n}	ò wū^{n}ʔɔ̄^{n}-wù^{n}ʔɔ̀^{n}	è yúó wū^{n}ʔɔ̄^{n}-wù^{n}ʔɔ̀^{n}	Ji
				è yúó ŋūɔ̄^{n}ʔɔ̄^{n}-ŋùɔ̄^{n}ʔɔ̀^{n}	Fl
	‘5’	ò kà^{n}	ò kà^{n}-kà^{n}	è yúó kà^{n}-kà^{n}	Fl Ji

	‘6’	ò kà^{n}-dí	ò [kà^{n}-dí]-[kà^{n}-dí]	è yúó [kà^{n}-dí]-[kà^{n}-dí]	Fl Ji
	‘10’	è támm	è tám-tám	è yúó tám-tám	Fl Ji
c.	‘20’	kpà^{n}	è kpɛ̄-kpɛ̀	è yúó kpɛ̄-kpɛ̀	Fl Ji

The pre-numeral particle ò or article ē is often audible even when the distributive numeral follows a noun. Thus ē sə̀-rí^{n} ò wū^{n}ʔɔ̄-wù^{n}ʔɔ̀ ‘trees three by three’. This may reflect the adverbial quality of distributive numerals.

A textual example is (373). It shows that ò or ē is omitted or inaudible in distributive numeral predicates after kō ‘be’.

(373)	[jə̀ró	pìɛ̀^{n}ʔɛ̀^{n}]	kō	[(Ø)	jɔ̄^{n}-jɔ̀^{n}]
	[Rel.AnPl	foot]	be	[(Art)	two-two]

‘those whose legs are two each’ = ‘those who have two legs (each)’
(women, 2017-13 @ 01:30)

Some other quantifiers also allow distributive iteration: jə́rí-jə́rí ‘a little each’, gbù^{n}ʔú^{n} ‘a lot each’.

4.6.2 Ordinal adjectives

‘First’ and ‘last’ (just below) are, for most speakers, structurally distinct from ordinals ‘second’ and up.

4.6.2.1 ‘First’ and ‘last’

‘First’ and ‘last’ can be expressed using the nouns ‘face, front’ and ‘behind, rear’, respectively. These nouns are also involved in postpositions ‘in front of’ and ‘behind’ (§8.3.5-6). As nouns, the forms are as in (374).

(374)	a.	wānàʔà	‘face, front’	Fl
		ānàʔà		Ji
		ānà^{n}ʔà^{n}		Bi
		n̄nàʔà		Ma
	b.	ʃīɛ̄	‘behind, rear’	(all)

Three constructions occur. In (375a), ‘face, front’ or ‘behind’ is preposed to the noun as a possessor or compound initial. In (375b). ‘face, front’ or ‘behind’ is postposed but ends with -dò, cf. dó ‘possession, share (n)’, also used as inanimate default possessum (§6.2.4.1). Since ‘first X’ and ‘last X’ presuppose the existence of a set of Xs, the discourse-definite partitive sense of -dò discussed in §6.2.4.3 is relevant here. (375c) presents forms with animate agentive endings (-nɔ̀, -yùò) or with inanimate -kɔ̀. The forms are good for at least Ji and Fl dialects.

(375)	a.	[ē (w)ānàʔà] kɔ̄	‘the first day’
		[ē (w)ānàʔà] yǎ	‘the first year’
		[ē ʃīɛ̄] kɔ̄	‘the last day'
		[ē ʃīɛ̄] yǎ	‘the last year’
	b.	ē kɔ̄ [Ø (w)ānàʔà-dò]	‘the first day’
		ē yǎ [Ø (w)ānàʔà-dò]	‘the first year’
		ē kɔ̄ [Ø ʃīɛ̄-dò]	‘the last day’
		ē yǎ [Ø ʃīɛ̄-dò]	‘the last year’
	c.	ē yǒ (w)ānàʔà-nɔ̀	‘the first woman’
		ē yə̀-ró (w)ānàʔà-yùò	‘the first women’
		ē yǒ ʃīɛ̄-nɔ̀	‘the last woman’
		ē yə̀-ró ʃīɛ̄-yùò	‘the last women’
		è ná ʃīɛ̄-nɔ̀	‘the last cow’
		è kɔ̄ ʃīɛ̄-kɔ̀	‘the last day’

There is also a verb gɛ̀ʔɛ̀/gàʔà/gàʔà ~ gìʔì ‘do firstly’ or ‘be the first to do’. It can combine with a following verb as a predicate, as in gɛ̀ʔɛ̀-dīē ‘was the first to enter’ (Ma, 2021-03 @ 01:02). Another relevant form is the adverb kɔ̀-kɔ̀ ‘first(ly)’ (i.e. before doing the next thing), as in (Bo, 2019-03 @ 00:28: ‘we plow first, then we …’). This is distinct from kɔ̄-kɔ̄ ‘days’ (§6.6.1.2), though the latter drops to L-toned before H-tone.

For ‘first, leading (person)’ in the context of rank, we have also recorded gàʔà-fó-nɔ̀ (Fl Ji), including fó ‘(sur)pass’ which is common in comparatives (§12.1.1). For -nɔ̀ in other human ordinals see §4.6.2.3 below.

4.6.2.2 Nonhuman ordinals ‘second’ and up (suffix -juʔo, -dəro)

There are two distinct nonhuman ordinal suffixes for nonsingular numerals starting with ‘2’. One is -jùʔò, most common in Ji and Bi but known elsewhere. The article-like proclitic ò is present before ‘2’ through ‘9’.

(376) a. single-digit numeral

ò jɔ̄ⁿ-jùʔò	‘second’	
ò wūⁿʔɔ̄ⁿ-jùʔò	‘fourth’	Ji
ò ŋūⁿʔɔ̄ⁿ-jùʔò	"	Bi
ò kàⁿ-jùʔò	‘fifth’	
ō kàⁿ-dí-jùʔò	‘sixth’	
ō kàⁿ-jɔ̄ⁿ-jùʔò	‘seventh’	
ò kà-sá-jùʔò	‘eighth’	Bi Ji
ò kà-sáʔá-jùʔò	"	Ma
ò kàⁿ-wūⁿʔɔ̄ⁿ-jùʔò	‘ninth’	Ji
ò kàⁿ-ŋūⁿʔɔ̄ⁿ-jùʔò	"	Bi
è tám(m)-jùʔò	‘tenth’	

b. decimal

ē kpă^{n}-jùʔò	‘twentieth’

c. decimal plus single-digit numeral

è támm kà ǹ dɛ̀^{n}ʔɛ́^{n}-jùʔò	‘eleventh’

d. hundred

ē kplē-kà^{n}-jùʔò	‘hundredth’

The other ordinal suffix is -dəro (i.e. -dɘ́ró ~ -dɘ̀rò), most common in Fl and Ma. The H-toned form is homophonous with dɘ́-ró, plural of dó ‘possession, share (n)’. As with ‘first’ and ‘last’, the Fl speaker allows two linear orderings. (377a) is a possessor-possessum construction, while (377b-c) have an appositional structure. In (377a) the article is ē rather than ò. In (377b-c) the underlying pre-numeral ò appears to have no phonetic expression.

(377) a.

ē	jɔ̀^{n}-dɘ́ró	kɔ̄
Art	two-**Ord**	day

‘the second day’ (Fl)

b.

[ē	kɔ̌=]	[Ø	jɔ̀^{n}-dɘ́ró]
[Art	day]	[Pl	two-**Ord**]

‘the second day’ (Fl)

c.

[ē	kɔ̀=]	[Ø	sá^{n}-dɘ́ró]
[Art	day]	[Pl	three-**Ord**]

‘the third day’ (Fl)

Forms of -dɘ́ró for Fl dialect are in (378). The suffix is H-toned before uncompounded numerals (‘2’ to ‘5’, ‘20’), but drops to L-toned after composite numerals.

(378) a. single-digit numeral

suffix H-toned

ò jɔ̀^{n}-dɘ́ró	‘second’
ò sá^{n}-dɘ́ró	‘third’
ò ŋùɔ̀ʔɔ̀-dɘ́ró	‘fourth’
ò kà^{n}-dɘ́ró	‘fifth’

suffix L-toned

ō kà^{n}-dí-dɘ̀rò	‘sixth’
ō kà^{n}-jɔ̄^{n}-dɘ̀rò	‘seventh’
ò kà-sá-dɘ̀rò	‘eighth’
ò kà^{n}-ŋūɔ̄ʔɔ̄^{n}-dɘ̀rò	‘ninth’
è támú-dɘ̀rò	‘tenth’

b. decimal

ē kpà^{n}-dɘ́ró	‘twentieth’

c. decimal plus single-digit numeral

è támm kà n dɛ̀ⁿʔɛ́ⁿ-də̀rò	‘eleventh’

d. hundred

ē kplē-kàⁿ-də̀rò	‘hundredth’

4.6.2.3 Human ordinal -nɔ̀

For human referent, the ordinal suffix is -nɔ̀. This is transparently related to singular -nɔ̀ in agentive compounds, and more distantly related to nā- ~ ná- as compound initial in various nouns denoting humans as well as in nā-dɔ̀ⁿʔɔ́ⁿ ‘one person’. If there is no other noun, yúó ‘people’ or a tonal variant occurs as human classifier.

(379) a.

ē	yùò	sáⁿ-nɔ̀
Art	people	three-**Ord.Hum**

‘the third person’ (Fl Ji)

b.

ē	yūō	jɔ̄ⁿ-nɔ̀
Art	people	two-**Ord.Hum**

‘the second person’ (Fl Ji)

c.

è	ná-bí	[ò	jɔ̄ⁿ-nɔ̀]
Art	child	[Art	two-**Ord.Hum**]

‘the second child’

In a textual passage where a walking stick (cane) was referred to as a ‘third leg’, the “human” form sáⁿ-nɔ̀ ‘third’ was used (380).

(380)

[bè	tóʔó]	k-ā	klè
[Dem.Def	Foc]	Infin-Ipfv	make.Ipfv
[ɔ̄ⁿ	pìɛ̀ⁿʔɛ̀ⁿ	[ò	sáⁿ-nɔ̀]]
[3AnSg	leg	[Pl	three-**Ord.Hum**]

‘That [focus] was made (=was functioning as) his third leg.’
(Ji, 2017-04 @ 03:20)

For interrogative mlɛ̄ⁿ-nɔ̀ ‘how many-eth?’ (e.g. what position in a class rank), see §13.2.3.5.2.

4.6.3 Fractions and portions

The noun gbɛ́-dɔ́ʔɔ́ (Ji) means ‘half’, or more generally ‘fraction, division’ (including e.g. ‘a third’). This noun usually occurs with a possessor or compound initial. The plural is gbɛ́-də́-rɔ́ (Ji). Fl dialect has gbɛ́-dɔ̄ʔɔ́, plural gbɛ́-də̄-rɔ̄-ʔɔ́, with regular tone shift due to the glottal. The noun is a compound of the base verb gbɛ́ ‘split’ and a glottalic nominal from dɔ́ ‘share, divide up’. Inanimate participial gbɛ́-dɔ́-ɛ̀ʔɛ̀ is also possible in the sense ‘half, fraction’.

5 Nominal and adjectival compounds

5.1 Nominal compounds

Compounds are generally binary at each level, so we speak of the **initial** and the **final**. One or the other of these may itself be a compound (or derived noun). In (381) both initial and final are composite, but the binary structure is still apparent and is indicated by bracketing,

(381)	[dè	-jū]	-[glō	-tɔ̀ʔɔ̀]
	[sun	-eye]	-[exit(v).Pfv	-place]
	‘east’ (Bi)			

There is no sharp distinction between “compound” and “derived noun/nominal.” Some derived nominals (verbal nouns, simple agentives, and lexicalized animate participles) are presented in §4.2 above. The present chapter includes not only equipollent compounds in which both initial and final are more or less open-ended, but also some constructions that verge on being nominal derivations, such as the ‘owner of X’ type (§5.1.9).

5.1.1 Tonal modifications in compounds

The following subsections describe tonal patterns in compounds. The simplest type of tonal process is the application of regular tone sandhi to the input forms of the initial and the final. Such tone sandhi affects the compound initial, lowering M to L before an H-tone.

The main tonal modification that is not attributable to regular tone sandhi is the dropping of the final to all-L tone. This happens in many, but far from all, compounds. Since this precedes tone sandhi in phonological derivations, we present it first in §5.1.1.1 just below.

There are also some tonally idiosyncratic compounds.

5.1.1.1 Tone-dropping of compound final

Many nominal compounds drop the tone of the final. Such tone-dropping is unrelated to the tones of the initial. In general, one can say that tone-dropping of the final is an indicator that the compound is fully lexicalized, or that the final itself (if it can combine with many different initials) is lexicalized as a compound final.

As pointed out above, there is no sharp break between nominal derivation and noun-noun compounding. It is therefore relevant that most nominal derivational suffixes are L-toned, even when they are associated with independent nouns that have other tones (382).

(382)	suffix	category	reference	related form(s)
a.	-nɔ̀	agentive singular	§4.2.2	ná-bí ‘person’
	-yùò	agentive plural	"	yúó ‘people’
b.	-kàʔà	animate participle	§4.5.4	kàʔá ‘meat’
	-ɛ̀ʔɛ̀	inanimate participle	"	ɛ̀ʔɛ́ ‘thing’

It is also relevant that the most archaic-looking adjectives (‘red’, ‘black’, ‘white’, ‘long’, ‘old’, ‘good’, ‘big’) have L-toned forms when postnominal (§4.5.3.1-2).

The majority of specialized compound finals are either consistently L-toned, or vary between L- and H-toned somewhat randomly depending on the initial. Skimming through the subsections of §5.1.6 and §5.1.7 reveals many examples. In some cases, these specialized finals have no uncompounded counterpart.

Some additional examples of ordinary noun-noun compounds with tone-dropped final are in (383).

(383)	noun	gloss	compound	gloss
a. final tone-dropped from H				
	fɛ́	‘words’	cɛ̀fɔ́-fɛ̀	‘Tiefo language’
	"	"	dè-fɛ̀	‘speech, language’
	fúʔú	‘heat (n)’	lá-fùʔù	‘sickness’
	wɛ́^{n}	‘egg’	lɔ̄^{n}-wɛ̀^{n}	‘chicken egg’
	(w)ú^{n}ʔú^{n}	‘head’	gó-(w)ù^{n}(ʔù^{n})	‘small termitary’
b. final tone-dropped from M				
	bū^{n}ʔɔ̄^{n}	‘dog’	pōʔō-bù^{n}ʔɔ̀^{n}	‘wild dog (lycaon)’
	cīɔ̄^{n}	‘bird’	sàmà-cìɔ̀^{n}	‘pied crow’
	lɔ̄^{n}	‘chicken’	dùgù-lɔ̀^{n}	‘stone partridge’
	nī	‘mother’	dɔ́(^{n})-nì	‘female affine’
	ɲū	‘water’	dɛ́-ɲù	‘bead of sweat’
c. final tone-dropped from LH				
	fɛ̀ʔɛ́	‘garment’	wɛ̄^{n}ʔɛ̄^{n}-fɛ̀ʔɛ̀	‘blanket’
	jù-júʔó	‘cockroach’	blāʔā-[jù-jùʔò]	‘water bug’
	ɲùʔɔ́	‘mouth’	dà^{n}-ɲùʔɔ̀	‘boundary’
	ʃì^{n}ʔí^{n}	‘wood, tree’	sɔ́-ʃì^{n}ʔì^{n}	‘(wooden) pestle’

By no means do all nouns drop to L as compound finals. There are many compounds where the final retains its regular tones. If the final begins in H-tone, this can trigger tone sandhi affecting the initial (see the following section).

5.1.1.2 Regular tone sandhi affecting compound initial

Before a final beginning in H-tone, the tone sandhi process M#H-to-L#H (§3.6.2.2) lowers an M-toned initial to L.

(384)	compound	gloss	literal gloss
a.	kā	‘way, manner’	
	kà-tó	‘manner’	
	kà-díⁿ	‘manner’	
b.	blāʔā	‘pond, body of water’	
	blàʔà-kpó	‘tree sp. next to water (*Alchornea*)’	
c.	cī	‘millet (and sorghum)’	
	cù-fɔ́ʔɔ́ (Ji)	‘porridge’	
d.	bɔ̄ⁿ	‘granary’	
	bɔ̀ⁿ-wí	‘granary owner’	
e.	lɔ̄ⁿ	‘chicken’	
	bɔ̀ⁿ-wí	‘chicken owner’	
	lɔ̀ⁿ-pɔ́	‘chicken’s leg’	
	lɔ̀ⁿ-úⁿʔúⁿ	‘chicken’s head’	
f.	sɔ̄ⁿ	‘salt’	
	sɔ̀ⁿ-wí	‘salt owner’	
g.	būⁿʔɔ̄ⁿ	‘dog’	
	bùⁿʔɔ̀ⁿ-pɔ́	‘dog’s leg’	
h.	gbīⁿʔīⁿ	‘peanuts’	
	gbìⁿʔìⁿ-wí	‘owner of peanuts’	

Like the M-toned initials just illustrated, LH-toned stems are lowered to L as initials before H-tone by LH#H-to-L#H (§3.6.2.3). Examples are in (385).

(385)	compound	gloss	literal gloss
a.	pòʔó	‘the bush, outback’	
	pòʔò-éé-ní	‘hunt (n)’	“the.bush-walk-VblN”
	pòʔò-[ʃúáⁿ-tɔ̀ʔɔ̀] (Fl)	‘wild sesame’	“the.bush-sesame”
	pòʔò-tɔ́ŋɔ́rɔ́	‘wild duck’	“the.bush-duck”

b. dàⁿʔáⁿ ‘fire’

dàⁿʔàⁿ-bú (Ji)	‘flame’	cf. -bù ‘digit’ (§5.1.7.5)
dàⁿʔàⁿ-wí	‘gun owner’	“fire-owner”

c. jɥ̀ʔɛ́ ‘God’

jɥ̀ʔɛ̀-ɲɔ́	‘sky’	“God-heart”
jɥ̀ʔɛ̀-wɛ́ⁿ	‘star’	“God-egg”
jɥ̀ʔɛ̀-[báⁿ-pɔ̀ⁿ]	‘giant longhorn beetle’	“God-[ram]”

d. tɔ̌ ‘earth, ground’

tɔ̀-ɲɔ́	‘underground (n)’	“earth-heart”

f. fɛ̀ʔɛ́ ‘wrap (n), garment’

fɛ̀ʔɛ̀-púⁿʔúⁿ	‘piece of fabric’

g. ʃìⁿʔíⁿ ‘tree, wood’

ʃìⁿʔìⁿ-dúʔú	‘thicket (of trees)’
ʃìⁿʔìⁿ-mə́ráⁿ	‘gum tree’ (with resin)

h. tì-tàplɔ́ ‘grasshopper’

tì-tàplɔ̀-dácɔ̀ⁿ	‘grasshopper sp. (*Hieroglyphus*)’

i. kě ‘issue, matter’

kè-úⁿʔúⁿ	‘main reason, cause’	“matter-head”

j. nàsə̀rá ‘white person’

nàsə̀rà-kúⁿ	‘cashew tree’	“white.person-*Blighia* (tree)’

k. klɔ̄ ‘calabash’

klɔ̀-bí	‘small calabash’	“calabash-child”
klɔ̀-gbáʔá	‘re-stitched calabash’	“calabash-ruined”

Only rarely does an LH initial surface before an H-initial final. Such combinations occurred infrequently in elicitation and were not confirmed by other speakers.

5.1.1.3 Irregular tone-raising of the final

In (386), the final is unexpectedly H-toned.

(386)	a. [fù-fùʔɔ̀]-ɛ́ʔɛ́	‘effervescence; beer’	fù-fùʔɔ́ ‘foam, froth’ ɛ̀ʔɛ́ ‘thing’
	b. cì-fíɛ́ⁿ	‘millet’	cī ‘millet (and sorghum)’ fìàⁿʔàⁿ ‘white’

c. cì-táʔá (Ji)	‘threshing area in field’	cī ‘millet (and sorghum)’ tàʔà ‘plot (of land)’
	(but cf. verb tá ‘beat (mass of fish)’)	
d. dà^{n}ʔà^n-bú (Ji)	‘flame’	dà^{n}ʔá^n ‘fire’ -bù ‘digit’ (§5.1.7.5)

5.1.1.4 Irregular tone-dropping of the initial

(387) is compositionally obscure, but given the sense ‘forehead’ one suspects that the initial is (w)ú^{n}ʔú^n ‘head’. If so, it is irregularly dropped to L-toned.

(387) ‘forehead’

ù^n-kǒ	Bi
ù^{n}ʔù^n-kóʔó	Ji
wù^{n}ʔù^n-kōʔó	Fl
wù^{n}ʔù^n-kòʔó	Ma

A complication here is that the glottal affects the tones of ‘head’ in two dialects (§3.6.1.5): wū^{n}ʔú^n (Fl), wù^{n}ʔú^n (Ma). However, the initial in ‘forehead’ is L-toned not only in these two dialects but also in Bi and Ji.

lē (Bi lé) can mean ‘homestead’ (house and surroundings or courtyard) or ‘settlement, village’. It is L-toned as initial in lè-nɔ̀ ‘household member’, lè-kò-dɔ̌ ‘male villager’, lè-kò-yǒ ‘female villager’, and lè-kòʔò ‘(ordinary) villager, commoner’

In transparent compounds with ‘head’ as initial, of which there are many, no irregular tone-dropping occurs. An example is ‘head louse’ (388). However, as compound initial ‘head’ may deglottalize as (w)ú^n-, especially in allegro speech, as in (390c) below.

(388) ‘head louse’

ú^n-gblɔ̌	Bi
ú^{n}ʔú^n-gblɔ̄	Ji
wū^{n}ʔú^n-gblɔ̄	Fl
wù^{n}ʔú^n-gblɔ̄	Ma

5.1.1.5 LH-tone flattened to M in compound initial

We have seen that some Cv and Clv nouns are M-toned in isolation but have LH-toned plurals, where the extra mora in the plural makes it easier to pronounce a contoured tone. An example is nī ‘mother’ with plural nì-ó (§3.6.2.4, §4.1.1.1). Other examples are ɲū ‘water’, nū ‘oil, butter’, and blō ‘rain (n)’. Such nouns remain M-toned as compound initials, except when dropped to L-tone by tone sandhi.

There are also some nouns that have Cv̌ singulars (with audible rising tone) but that flatten to M as initials in at least some compounds, except of course when dropped to L-tone by tone sandhi. Most such nouns are monosyllabic Cv or Clv (389).

(389)	compound	gloss
a.	kě	‘thing, matter, issue’
	kē-sù^{n}ʔɔ̀^{n}	‘work’
	kē-dìʔɛ̀	‘tradition, custom’
b.	yǒ	‘woman’
	yō-dɛ̀	‘old woman’
c.	kǒ	‘beads (collective)’
	kō-bìò	‘beads’

This tone-flattening can apply, especially in allegro speech, to bisyllabic or sesquisyllabic initials. In careful style the flattening is not systematic. pòʔó ‘the bush, outback’ is a common and probably grammaticalized compound initial, where it is usually heard as pōʔō- or deglottalized to pō-. See the following section on this initial.

5.1.2 Deglottalization of compound initials

Glottalic stems with shapes like Cvʔv and CvCvʔv sometimes deglottalize to Cv and CvCv as compound initials. In general, compounds that are in common use (i.e. at least partially lexicalized) are more prone to deglottalization than less common ones, such as nonce combinations obtained in elication (e.g. ‘goat head’). The phenomenon is difficult to study since the dialectal distribution of stem-final glottalic (sesqui-)syllables even in simple noun stems is ragged, and since speakers often aim for “correct” glottalic pronunciations in elicitation contexts.

Some cases of deglottalization of Cvʔv stems with fixed vowel quality are in (390).

(390)	noun	gloss	compound	gloss
a.	pòʔó	‘the bush’	pō-kà (Ji)	‘wild animal’
			pōʔō-kà (Bi Fl)	"
b.	dà^{n}ʔá^{n}	‘fire’	dà^{n}-flénı́ (Fl)	‘flame’
c.	(w)ú^{n}ʔú^{n}	‘head’	ú^{n}-kě (Bi)	‘problem’
			ú^{n}-kɔ̌ (Bi)	‘head louse’

5.1.3 Lexicalized noun-adjective combinations

5.1.3.1 Noun-adjective collocations with regular forms

Lexical elicitation turned up many fixed noun-adjective collocations where both noun and adjective present their regular forms. Such collocations are common when a mid-level taxon subsumes two or more well-defined subtaxa, as in (391). Color and dimension adjectives are common differentiators.

(391)	noun (+adjective)	gloss	comment/literal
a.	míɔ́^{n}	‘python’	
	míɔ́^{n} nígbó	‘python sp. (*Python regius*)’	“short python”
	míɔ́^{n} sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n}	‘python sp. (*P. sebae*)’	“long python”
b.	tákpóʔó	‘carp (tilapia)’	
	tákpóʔó fìà^{n}ʔà^{n}	‘mango tilapia’	“white carp”
	tákpóʔó yùàʔà	‘Nile tilapia’	“black carp”
c.	gblɛ̀^{n}ʔɛ̀^{n}	‘sorghum’	
	gblɛ̀^{n}ʔɛ̀^{n} fìà^{n}ʔà^{n}	‘white sorghum’	(for consumption)
	gblɛ̀^{n}ʔɛ̀^{n} ʃìɛ̀^{n}	‘red sorghum’	(for beer-making)

5.1.3.2 Noun-adjective compounds with reduced adjectives

Certain adjectives distinguish a full form used as an ordinary modifying adjective (as in the preceding section) from a reduced form. The latter occurs after the animate classifier kā and in some compounds denoting natural species. The reduced form usually lacks a glottal sesquisyllable if the latter occurs in the modifying form. In (392), the unreduplicated modifying forms shown also have reduplicative variants (not shown here, see §4.5.3.2.1).

(392)	modifying	reduced	animate kā	gloss
a. color				
	fìà^{n}ʔà^{n} (Fl Ji)	fìɔ̀^{n}	kā fìɔ̀^{n}	‘white’
	fìà^{n} (Bi)			
	ʃìɛ̀^{n}ʔɛ̀^{n} (Fl Ma)	sɛ̀^{n}	kā sɛ̀^{n}	‘red’
	ʃìɛ̀^{n} (Bi Ji)	[for glottalic variant sɛ̀^{n}ʔɛ̀^{n} see (395) below]		
	yùàʔà (Fl Ji)	yùɔ̀	kā yùɔ̀	‘black’
	yùà (Bi)			

b. age

fùɔ̀ⁿʔɔ̀ⁿ (Fl) fɔ̏ⁿʔɔ̀ⁿ (Ji)	fɔ̏ⁿ	kā fɔ̏ⁿ	‘new’
dìʔɛ̀ (Ji) dìɛ̀ʔɛ̀ (Fl)	dɛ̀	kā dɛ̀	‘old’

Some combinations are attested in both modifying and reduced forms, depending on speaker or dialect. In (393), the unreduced noun-adjective variant is shown above the reduced (compound) variant, which is hyphenated.

(393) a. “white liana” (*Baissea*)

kpó fìàⁿʔàⁿ	Fl Ji
kpó-fìɔ̀ⁿ	Bi

b. “white termite”

flí-kà fìàⁿʔàⁿ	Ji
[flí-kà]-fìɔ̀ⁿ	Fl

c. “black termite”

flí-kà yùàʔà	Fl
[flí-kà]-yùɔ̀	Ji

Other compounds that include reduced forms of adjectival finals are in (394).

(394)

compound		gloss
singular	plural	
a. ‘X-red’		
ká-sɛ̀ⁿ (Ji)	—	‘tree sp.’ (*Combretum* spp.)
káʔá-sɛ̀ⁿ (Fl Ma)	—	"
b. ‘X-black’		
kpò-yùɔ̀	kpò-yù-rɔ̀	‘starling’ (blackish)
də̀rúⁿ-yùɔ̀	də̀rúⁿ-yùɔ̀-rɔ̀	‘fieldmouse sp.’ (dark)
c. ‘X-white’		
də̀rúⁿ-fìɔ̀ⁿ (Ji)	də̀rúⁿ-fìò	‘fieldmouse sp.’ (light-colored)

We must be careful about -yùɔ̀. In (394b) it is indeed a short form of ‘black’. However, there is also a noun yùɔ́ (Fl Ji) denoting a caterpillar with stinging hairs. In Bi dialect, wìɔ́ ~ vìɔ́ can denote either this type of caterpillar or winged termites. Therefore [pì-ná]-yùɔ̀ (Bi) ‘large edible winged termite (*Macrotermes*)’ means literally not “black herder,” rather “herder(’s) winged termite.” A dialectal synonym is [kpɛ̀-kpɛ́]-yùɔ̀ (Fl Ji) with otherwise unattested reduplicative initial, and this too we dissociate from -yùɔ̀ ‘black’. Both dialectal ‘winged termite’ terms have plurals in -yùò, distinct from the rhotic plurals of ‘black’ in (394b) above.

For ‘red’ (394a), in addition to -sɛ̀^{n} as in kā-sɛ̀^{n} there is a glottalized variant -sɛ̀^{n}ʔɛ̀^{n} (395a) that differs only slightly from unreduced modifying ʃì^{n}ʔɛ̀^{n}. Dialectal terms for ‘scorpion’ (395b) appear to show further reduced variants (note the unexpected plural -ʃìò), alongside unreduced nùgbó ʃìà^{n}ʔà^{n} (Fl). Taboo deformation is a possibility here.

(395)

	compound		
	singular	plural	gloss
a.	cɛ́^{n}-sɛ̀^{n}ʔɛ̀^{n}	—	‘air-breathing catfish’
	wú-sɛ̀^{n}ʔɛ̀^{n}	—	‘red-flanked duiker’
	dərú^{n}-sɛ̀^{n}ʔɛ̀^{n}	—	‘fieldmouse sp.’ (brown)
	wàtítəró-sɛ̀^{n}ʔɛ̀^{n}	—	‘laughing dove’

b. ‘scorpion’	plural	dialect
nìgbé-ʃìà^{n}	nìgbé-ʃìò	Ji
nì^{n}gbó-ʃìà^{n}	nì^{n}gbó-ʃìɔ̀	Bi
nìgbí-ʃìà^{n}ʔà^{n}	nìgbí-ʃìò	Ma
nùgbó-ʃìà^{n}ʔà^{n}	nùgbó-ʃìò	Fl

For ‘white’, in addition to the reduced form -fìɔ̀^{n} (392a, 393a-b, 394cc), there is also an archaic variant -fíɛ́^{n} with H-tone and fronted vowel. It occurs in only one combination (396). The initial, somewhat disguised, is cī ‘millet’ (broad sense including both pearl millet and sorghum), cf. also cù-fɔ́ʔɔ́ (and variants) ‘porridge’. The compound in (396) therefore originally meant ‘white millet’, implying that sorghum may once have been called ‘black (i.e. dark) millet’ and/or ‘red millet’.

(396) ‘pearl millet’

cì-fíɛ́^{n}	Fl Ji
cù-fíɛ́^{n}	Bi Ma

As a regular adjective, tù-tùʔù (or tonal variant) ‘big’ is unreduced in all contexts, including after kā-. However, in (397a) it is reduced dialectally to -tù-tù by dropping the glottalization. (397b), if it is in fact a compound (the initial is not attested elsewhere), shows the same reduction but ends in LH-toned -tù-tú (such tonal alternations are typical of adjectives). In (397c), tù-tùʔù is reduced to -tùʔù by dropping the reduplicative segment. In (397d) it is reduced as in (397c), but is irregularly raised to H-toned -túʔú. Any reductions and other idiosyncracies like these are taken to indicate compounded status (shown by hyphenation).

(397)	compound	dialect	literal gloss
a.	sícúʔó-[tù-tù]	Ji	“big stomach” (i.e. rumen, of ruminant animals)
b.	sǎ-[tù-tú]	various	‘puff adder’ (segmentation uncertain)

c.	bàʃí^{n}ʔí^{n}-tùʔù	Fl Ji	“big knife” (i.e. machete)
	cɔ̌^{n}-tùʔù	Fl	“big fig” (*Ficus sur*)
	jɔ̀ʔɔ̀-tùʔù	Fl Ji	“big boubou (garment)”
	klɔ̄-tùʔù	Fl Ji	“big calabash”
d.	fíʔé-túʔú	Bi Fl Ji	“big hoe” (long-handled)
	ɲə̀rà-túʔú	Fl Ji	‘large balaphone
	ú^{n}ʔú^{n}-túʔú	Ji	“big-head” (high authority)

sícúʔó-[tù-tù] ‘rumen’ in (397a) is syllabically and prosodically parallel to its antonym sícúʔó-[bì-bì] “small stomach” (i.e. reticulum or omasum). These different “stomachs” occur in ruminants (cattle, sheep, goats). (tù-)tùʔù ‘big’ is already L-toned as a modifier, but ‘small’ is bí-bī as a modifier. We take bì-bì in sícúʔó-[bì-bì] to be a compound final because of its dropped tones. Tone-dropping is typical of compound finals but not of ordinary modifying adjectives.

bí-bī ‘small’ is suppleted by jə́rí-kɔ̀, most often in inanimate plural form jə́rí-rɛ̀ (and variants). The species term glō-jə̀rò (Bi only) ‘barn owl’ may be a compound of ‘eagle-owl’ (Ji glǒ, in other dialects glòʔó) plus an archaic reduced compounding form related to jə́rí-kɔ̀. The plural is glō-jə̀rò-ní with the default plural suffix.

The adjective ‘long’ is reduplicative sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n} (or tonal variant) as true modifier and after animate kā-. An example is pànúʔú sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n} ‘long tail’. However, it reduces to unreduplicated sɔ̀^{n}ʔɔ̀^{n} in the bahuvrihi (§5.2.2.1) pànúʔú-sɔ̀^{n}ʔɔ̀^{n} ‘long-tailed’. See also dɛ̀-sɔ̀^{n}ʔɔ̀^{n} ‘long field’ (Ma, 2018-08 @ 00:16).

5.1.4 Verbal nouns with incorporated noun as initial

For simple verbal nouns with suffix -ní, see §4.2.1.1. As a reminder, the verbal noun suffix is normally added to the base of the verb, and M-toned bases drop to L before the H-toned suffix by tone sandhi. The examples in (398) additionally contain a nominal initial denoting a characteristic object or location.

(398) Verbal nouns with incorporated nominal

VblN	gloss	verb	gloss of verb
a. initial is characteristic object			
ú^{n}ʔú^{n}-dá^{n}-ní	‘head-shaving, baptism’	dɛ̄^{n}/**dá^{n}**/dá^{n}	‘shave’
ú^{n}ʔú^{n}-lá^{n}-ní	‘head-washing’	lɛ̄^{n}/**lá^{n}**/lá^{n}	‘wash’
pə́rí^{n}-plà-ní	“shit-wiping” (herb sp.)	plɛ̀/**plā**/plā	‘wipe, clean’
b. initial is characteristic location			
pòʔò-yé-ní	‘hunt (n)’	yé (invariant)	‘walk (around)’

A fuller object NP may also be “incorporated,” in which case we transcribe the NP separately.

(399)	ā	pìɛ̀^{n}	[[à	kútə́rú]	sò-ní]	də̀-rɛ̀
	3Inan	remain.Pfv	[[**3Inan**	**entirety**]	carry.on.head.Base-**VblN**]	now

‘It remained to carry the whole thing (on his head) now.’ (Ji, 2017-08 @ 07:18)

These examples differ from verbal noun -ní following verb-verb compounds.

5.1.5 Compounds based on ‘person’

5.1.5.1 Agentives with verb plus -nɔ̀ plus incorporated nominal

Simple agentives are described in §4.2.2. The examples presented below additionally incorporate a noun as initial. This noun usually denotes the characteristic object. It occasionally denotes a location, or it is a pro forma cognate nominal for the verb. As with uncompounded agentives, the verb usually takes Pfv form, but the base is attested in some combinations. Only singular forms are shown in (400); the plurals replace -nɔ̀ with -yùò, and in some cases also pluralize the initial. The Pfv form in the “related verb” column is bolded.

(400) Compounded agentives

agentive	literal	idiomatic	related verb	gloss
bɛ́^{n}ʔɛ́^{n}-blɛ̄^{n}-nɔ̀	“tomtom-beater”	‘drummer’	**blɛ̄^{n}**/bɛ́^{n}/blí^{n}	‘beat’
bú-mlɛ̄^{n}-nɔ̀	“cowry-tosser”	‘diviner’	**mlɛ̄^{n}**/mɛ́/mlí^{n}	‘throw’
dəràʔá-gbà-nɔ̀	“tale-hitter”	‘storyteller’	**gbà**/gɔ̄/gō ~ gū	‘hit’
dɔ̄-dɛ̀-nɔ̀	“sleeper”	‘sleepy one’	**dɛ̀**/dɔ̄/dɛ̄ (Fl)	‘sleep (v)’
fɛ̀ʔɛ́-gbɛ̀^{n}-nɔ̀	“garment-sewer”	‘tailor’	**gbɛ̀^{n}**/gbā^{n}/gbā^{n}	‘sew’
kàʔá-dè-nɔ̀	“meat-seller”	‘butcher’	**dè**/jùò/jùò	‘sell’
kpɛ̀ʔɛ́-tərɛ̀^{n}-nɔ̀	“beside-sitter”	(w. sick person)	**tərɛ̀^{n}**/tərā^{n}/tərɛ̄^{n}	‘sit’
ná-nɛ̄-nɔ̀	“cow-herder”	‘cowherd’	**nɛ̄**/ná/ná	‘tend’
pòʔò-yé-nɔ̀	“bush-walker”	‘hunter’	yé (invariant)	‘walk’
ú^{n}ʔú^{n}-tərɛ̀^{n}-nɔ̀	“head-sitter”	(sitting in front)	**tərɛ̀^{n}**/tərā^{n}/tərɛ̄^{n}	‘sit’

An example of double pluralization is the plural variant in (401). This compound is attested for Fl dialect. The bracketed initial means ‘shoe(s)’: singular ʃī-tàʔà, plural ʃī-tə̀-rà-ʔà (in this dialect). This is followed by the agentive (singular -nɔ̀, plural -yùò) from the verb kpɛ̀^{n}ʔɛ̀^{n}/kpà^{n}ʔà^{n}/kpì^{n}ʔì^{n} ‘nail (v); make (shoes)’, cf. Eng *cobble*.

(401) ‘shoe-maker, leatherworker’ (Fl)

Sg	[ʃī-tàʔà]	-kpɛ̀^{n}ʔɛ̀^{n}-	nɔ̀
Pl	[ʃī-tə̀-rà-ʔà]	-kpɛ̀^{n}ʔɛ̀^{n}-	yùò

In cases like this the pluralization of the initial appears to be driven by sympathy to the pluralization of the agent. A shoemaker makes many shoes, though one at a time. A cowherd ná-nɛ̄-nɔ̀ tends many cows (nɔ́), not just one cow (ná), but plural nɔ́ appears in the plural agentive nɔ́-nɛ̄-yùò.

In (402), the agentive contains an initial plus a verb-verb compound. In verb-verb compounds, only the first verb can take Pfv form.

(402) a. dīⁿʔɔ̄ⁿ-[gbà-kú]-nɔ̀
firewood-[hit.Pfv-cut.Base]-Agent.Sg
‘woodcutter’

b. kàʔá-[dè-ló]-nɔ̀
meat-[sell.Pfv-turn.Base]-Agent.Sg
‘meat re-seller’

In such compounds the first verb fairly often takes base rather than Pfv form, hence -[gɔ̀-kú]- is possible in (402a) and -[jùò-ló]- is possible in (402b)

5.1.5.2 Final -dɔ̀ ~ -nɔ̀ in affinal kin terms

Array (403) compares terms for male affines (father- and brother-in-law) and female affines (mother- and -sister-in-law).

(403)	‘in-law’	dialect
	a. male	
	dɔ́ⁿ-dɔ̀	Bi Ji
	dɔ́(ⁿ)-nɔ̀	Fl
	b. female	
	dɔ́(ⁿ)-nì	Bi Fl Ji

Both terms begin with the initial dɔ́ⁿ-, which evidently means ‘affine’. (403b) adds -nì, an L-toned compound-final form of nī ‘mother’ that also occurs in terms for adult female animals (§5.1.6.6). The variants in (403a) may ultimately reflect a dialectal alternation of ⁿd with n (§3.4.4.2), but synchronically they point ambiguously to two analyses. In one, the final -dɔ̀ is the L-toned compound final form of dɔ̌ ‘man; male’. This is undoubtedly correct etymologically and is supported synchronically by the Bi and Ji forms. The second analysis, most relevant to Fl dialect, is that the ending is -nɔ̀ ‘person’, as in singular agentives. However, this reanalysis is not carried through to completion, as shown by the rhotic plurals: Fl dɔ́(ⁿ)-nə̀-rɔ̀ parallel to Bi Ji dɔ́ⁿ-də̀-rɔ̀. By contrast, true agentive singular -nɔ̀ has a suppletive plural -yùò.

The term for ‘male affine’ is also part of a larger compound (404), meaning ‘earwig’ (insect order Dermaptera). The literal sense is “scorpion(’s)-affine’. Scorpions use their tails to sting their prey while earwigs use their split tails as forceps to grasp their prey.

(404) ‘earwig’

a.	[nùgbó-ʃìàⁿʔàⁿ]-[dɔ́ⁿ-dɔ̀]	Ji
b.	[nìⁿgbó-ʃìàⁿ]-[dɔ́ⁿ-dɔ̀]	Bi
c.	[nùgbó-ʃìàⁿʔàⁿ]-[dɔ́(ⁿ)-nɔ̀]	Fl

5.1.5.3 ‘Thief’ (w)úⁿ-fúɔ́

The term for ‘thief’ is in (405). Its composition is less than transparent.

(405)	singular	plural	dialect
a.	úⁿ-fúɔ́	ú-fə́-rɔ́	Bi Ji
b.	wúⁿ-fúɔ́	wú-fə́-rɔ́	Fl

One speaker suggested a literal parsing as “village-replasterer” on the grounds that the thief picks the village clean, cf. (w)úⁿ ‘village’ and verb fùɔ̀ ‘replaster (wall)’. A diachronically more likely source for the final is invariant fɛ̄ ‘steal’ (Bi Fl Ji).

5.1.5.4 pì-ná ~ pè-ná ‘herder’

This noun is semantically agentive but its morphology is obscure. The forms are in (406).

(406) ‘herder, pastoralist’

	singular	plural	dialect
a.	pì-ná	pì-nɔ́	Fl Ma
	pì-náⁿ	pì-nɔ́	Bi
b.	pè-ná	pè-nɔ́	Ji

Assuming that the hyphenation is correct, at least diachronically, there is still no clarity about the morphology. The pì- ~ pè- is obscure. The second element could be (a variant of) any of the elements in (407).

(407)	a.	verb nɛ̄/ná/ná	‘tend (livestock)’	
	b.	ná- ~ nā-	‘person’	see the following subsection
	c.	ná (Bi náⁿ)	‘cow’	plural nɔ́ (including Bi)

Since ‘herder’ is clearly an agentive semantically, a secondary association with suffix -nɔ̀ is possible, even though the grammatical number is discordant.

A regular agentive based on the verb ‘tend (livestock)’ in (407a) is attested when a nominal initial denoting the animal species is added: ná-nɛ̄-nɔ̀ ‘cattle herder’.

5.1.5.5 Compounds with ná- ‘person’

An element ná- or nà- occurs in a few frozen compounds denoting humans. It is likely related to agentive singular -nɔ̀ (preceding section), and a reconstruction *nɔ́ or *nɔ̄ is indicated. The irregular combination è ń jī ‘someone’ (§4.4.2.3) may also contain a vestige of this noun.

In (408a) ná- or dialectally nà-, the latter dropped from M- to L-tone before an H-tone, combines with -bí, originally ‘child’ (§5.1.6.1). The compound finals in (408b) and (408c), which in the plural differ only in tone, may be connected. Compare dɛ̄ ‘elder sibling’, plural dì-ɔ́. The final in ná-díɛ́ may have been back-formed from its plural. In (408d), ná- combines with a variant of fɔ̀^{n}ʔɔ̀^{n} ‘new’ (plural fə̀-rɔ̀^{n}).

(408)	singular	plural	
a. ‘person’ or ‘child’ (depending on dialect)			
	ná-bí	ná-bí-ó	Ji
	~ ná^{n}-bí	~ ná^{n}-bí-ó	Bi
	~ nà-bí	~ nà-bí-ó	Fl
b. ‘maternal uncle’			
	ná-díɛ́	ná-díɔ́	Bi Fl Ji
c. ‘old man’ or ‘old person’			
	ná-dɛ̀	ná-dì-ɔ̀	Ji Ma
	ná^{n}-dɛ̀	ná^{n}-dì-ɔ̀	Bi
	nā-dɛ̀	nā-dì-ɔ̀	Fl
d. ‘visitor, guest’			
	ná-fɔ̄^{n}	ná-fō	Fl
	"	nɔ́-fō	Bi Ma
	nā-fɔ̄^{n}	nā-fō	Ji

The wider use of ná- in compounds or as a simple noun is likely discouraged by homophony with ná (Bi ná^{n}) ‘cow, bovine’, plural nɔ́.

5.1.6 Compound finals expressing sex and life-stage

The following subsections present compounds whose initial denotes a natural species or human type (e.g. an ethnicity), and whose final denotes a sex and/or a life-stage. Pluralization is marked on the final, and sometimes additionally on the initial.

Some of these finals are restricted to animals, especially domestic animals: -bɛ̀^{n} ‘juvenile’, -cùʔɔ̀ ‘young adult female’ (i.e. soon to be a mother), -pɔ̀^{n} ‘adult male’, -pɛ̀^{n}ʔɛ̀^{n}

‘male’. Others are just special cases of human terms: -nì ~ -nìʔì ‘mother’, -yò ‘woman’. The finals are predominantly L-toned, compare nī ‘mother’, yǒ ‘woman’ as uncompounded nouns. The noun ná ‘cow’ is atypical in having H-toned versions of some of the finals (-cúʔɔ́, -pɔ́ⁿ).

5.1.6.1 Final -ná-bí ~ -nà-bí or -bí ~ -bì ‘child’

A wide range of animal taxa allow compounding with the forms in (409) to denote juveniles. (For human uses, see below.)

(409)	dialect	singular	plural
	Ji	-ná-bí	-bí-ó
	Fl	-nà-bí	"

Examples are in (410). The initial is sometimes, but not always, pluralized morphologically along with the final. ‘Kite’ (410c) is a type of hawk.

(410)	dial.	singular	plural	gloss	source
a.	Ji	wúʔó-[ná-bí]	[wə́-ró]-bí-ó	‘baby snake’	wúʔó ‘snake’
	Fl	wūʔó-[nà-bí]	[wə̄-rō-ʔó]-bí-ó	"	wūʔó ‘snake’
b.	Ji	cìɔ̀ⁿ-[-ná-bí]	cìò-bí-ó	‘bird chick’	cīɔ̄ⁿ ‘snake’
	Fl	cīɔ̄ⁿ-[-nā-bí]	"	"	"
c.	Ji	tàʔà-plò-[ná-bí]	[tàʔà-plò]-bí-ó	‘baby kite’	tàʔà-pló ‘kite’
	Fl	tàʔà-pló-[nà-bí]	"	"	"
d.	Ji	gbáⁿ-gbàⁿ-[ná-bí]	[gbáⁿ-gbə̀-ràⁿ]-bí-ó	‘lion cub’	gbáⁿ-gbàⁿʔáⁿ ‘lion’
e.	Ji	bɔ̀-[ná-bí]	[bə̀-rɔ̀]-bí-ó	‘elephant cub’	bɔ̌ ‘elephant’
	Fl	bɔ̌-[nà-bí]	"	"	"
f.	Ji	sàkpèʔè-[ná-bí]		‘donkey foal’	sàkpèʔè ‘donkey’

The few basic domestic animals (‘dog’, ‘chicken’, ‘sheep’, ‘goat’, ‘cow’) that take the alternative final -bɛ̀ⁿ, plural -bùò (§5.1.6.3), do not allow this formation. This increases the suspicion that -bɛ̀ⁿ and -bí are related etymologically.

(411) presents special cases of L-toned -bì without the -ná- ~ -nà- element. In (411a) the absence of -ná- ~ -nà- may be due to haplology. (411b) is itself a species term, not specifically for juveniles, and wòló is not otherwise known.

(411)	singular	plural	gloss	source
a.	nɔ̄-bì	nō-bì-ò	‘guinea-fowl chick’	nɔ̌ ‘guinea-fowl’
b.	wòló-bì	wòló-bì-ò	‘helmet-shrike (bird)’	(unknown)

A proto-form *bí ‘child’ is likely preserved in the frozen compounds in (412) below, see §4.1.4.3. In (412b), the -ná- ~ -nà- morpheme occurs in the plural as well as in the singular. It is likely a reflex of a term for ‘person, human’, which is also preserved in agentive singular -nɔ̀. There is a cognate in Tiefo-N meaning ‘person’. So -ná- ~ -nà- likely spread from the human form to the nonhuman forms in (410) above, but in the singular only.

(412)	singular	plural	dialect	gloss
a.	bí-sīɔ̄ⁿ	bí-sīō	Ji	‘child’
	bí-ʃīɔ̄ⁿ	bí-ʃīō	Bi Fl	
b.	ná-bí	ná-bí-ó	Ji	‘person’ or ‘child’ (depending on dialect)
	náⁿ-bí	náⁿ-bí-ó	Bi	
	nà-bí	nà-bí-ó	Fl Ma	

In the sense ‘child’ (412a) and (412b) compete dialectally with each other. In the sense ‘person/people’ (412b) competes with yúó (§4.1.4.2).

The final in bí-sīɔ̄ⁿ, plural bí-sīō (412a), may have originally been a compounding form of the adjective ‘red’, compare (Ji dialect) animate kā ʃìɛ̀ⁿ ‘red one’ and plural ká ʃìò. The singular in bí-sīɔ̄ⁿ may have been back-formed from the plural, based on the productive alternation of singular ɔⁿ with plural o. If this is correct, bí-sīɔ̄ⁿ originally meant “red child,” a phrasing that is in use in the region for ‘newborn baby’. bí-sīɔ̄ⁿ is no longer restricted to babies. See also bí-sə̀-rɛ̀-ní ‘childishness’ (254a) above.

In addition to compound final -bɛ̀ⁿ in juvenile domestic animal terms (§5.1.6.3), with plural -bùò, other possible relatives of -bí ~ -bì are the initials in bī-dɔ̌ ‘younger sibling’ and bí-má ‘grandfather’ (§5.1.8), final -bù in ‘finger-toe-nail’ compounds (§5.1.7.5), and by extension final -bú in dàⁿʔàⁿ-bú ‘flame’ from dàⁿʔáⁿ ‘fire’.

In (413), H-toned -bí follows an L-toned stem, which has dropped from LH or M before the H. In (413b) the initial is a Pfv verb ‘died’.

(413)	singular	plural	gloss	source
a.	sàⁿʔàⁿ-bí	sàⁿʔàⁿ-bí-ó	‘arrow’	sàⁿʔáⁿ ‘bow’
b.	wùò-bí	wùò-bí-ó	‘orphan’	wūō ‘died’ (Pfv)

Since both nɔ̄-bì ‘guinea-fowl chick’ (411a) and wùò-bí ‘orphan’ (413b) have M-toned inputs as initials, the choice between -bì and -bí is not completely predictable based on the tone of the input.

(414) presents a more complex picture. At first sight the terms for ‘honey’ in (414a) are the bases for the terms for ‘honey bee(s)’ in (414b). But ‘honey’ (414a) can also be used loosely for ‘honey bees (collective)’, and it is compatible with a plural form (final o). The

terms for ‘honey bee(s)’ (414b) occur most often in the plural (with o), but singular forms denoting individual bees are elicitable and their initials end in ɔⁿ. For the ɔⁿ/o number alternation see §4.1.2.3.1. Of special interest are the forms of the finals in (414b), plural -bìò and singular -bìɔ̀ⁿ. Since -bì-ò is elsewhere the (segmentable) plural of -bì as in several examples given above, it seems likely that singular -bìɔ̀ⁿ is a back-formation. This in turn implies that -bìò is in the process of becoming an unsegmentable singular (with collective or mass sense) in connection with small objects that normally cluster in groups. See also the following subsection on this matter.

(414)	singular	plural	gloss	dialect
a.	tīʔō	—	‘honey’	Bi Ji
	tīōʔō	—	"	Fl Ma
b.	tīⁿʔɔ̄ⁿ-bìɔ̀ⁿ	tīʔō-bìò	‘honey bee’	Fl Ji Ma
	tīɔ̄ⁿ-bìɔ̀ⁿ	tīō-bìò		Bi

Another curious case is ‘small calabash’ (415b). ‘Calabash’ (415a) has an unusual plural including a shift ɔ to ɛ and (usually) addition of plural suffix -ní (§4.1.2.5.3). In the diminutive, Ji has H-toned -bí which drops the tone of the preceding stem from M to L. Bi and Fl have M-toned -bī which does not affect the preceding M-tone. However, in Bi the suffix -ní is re-added after /kplɛ̄-bī/, which then drops to L-toned.

(415)	singular	plural	dialect
a. ‘calabash’ (omitting uncommon rhotic plurals)			
	klɔ̄	kplɛ̀-ní	Bi Fl(var) Ji Ma
	"	kplɛ̄	Fl(var)
b. ‘small calabash’			
	klɔ̀-bí	kplɛ̀-bí	Ji
	klɔ̄-bī	kplɛ̄-bī	Fl
	"	kplɛ̀-bì-ní	Bi

5.1.6.2 Final unsegmentable -bìò ~ -bíó ‘fruit’

For the noun bíó ‘fruit, seed’, likely an old plural *bí-ó ‘children’ reinterpreted as singular/collective, see §4.1.4.3.

Several compounds with collective or plural sense end in L-toned -bìò following a nonlow tone (416). There is also one case of H-toned -bíó after an L-tone (416b). Distinct singular counterparts were unelicitable for these compounds.

(416)	compound	gloss	components
a. L-toned -bìò (no singular/plural distinction)			
	kō-bìò	‘beads’	cf. kō-blòʔò ‘sacrifice (n)’
	bə̀ró-bìò	‘clods of moist earth’	bə̀ró ‘soil, earth’
	blō-bìò	‘raindrops’	blō ‘rain (n)’
	ɲátɛ́^{n}-bìò	‘larynx, internal throat’	ɲátɛ́^{n} ‘throat’
	[nàgblà-có]-kō-bìò	‘shrub sp. (*Abrus*)’	nàgblà-có ‘circumcised boy’
b. H-toned -bíó			
	[ná-bɛ̀^{n}]-bíó	‘tree sp. (*Lannea acida*)’	ná-bɛ̀^{n} ‘calf’ (§5.1.6.3)

We have seen that tíʔō-bìò (and variants) ‘honey bee(s)’, (414b) in the preceding section, is another case of -bìò, but that a singular -bìɔ̀^{n} has been back-formed from it. A term for a stingless bee sp. that also produces a little honey is presented in (417).

(417) ‘stingless bee’ (tribe Meliponini)

	collective	singular	compound	dialect
a.	lɛ̀díʔó	—	lɛ̀díó-bíó	Ji
b.	lɛ̀dīōʔō	lɛ̀dīɔ̄^{n}ʔɔ̄^{n}	lɛ̀dìòʔò-bíó	Fl
c.	lɛ̀dīō	—	lɛ̀dìò-bíó	Bi

The terms in the “collective” column can be used to denote the bees or their nest and honey. Only Fl has a distinct singular form, following the pattern where singular ɔ^{n} is denasalized as o in the plural (§4.1.2.3.1). The bees, but not their nest or honey, can also be denoted by the -bíó compounds in the right-hand column.

5.1.6.3 Final -bɛ̀^{n} for young domestic animals.

Compounds with final -bɛ̀^{n} denote young or half-grown domestic animals. The plural is -bùò. Both initial and final are independently pluralizable. It is likely that -bɛ̀^{n} is etymologically related to -bì (originally ‘child’) and variants (plural -bì-ò). The small set of domestic animal terms that allow -bɛ̀^{n} do not allow the -bì final. All known examples of -bɛ̀^{n} are in (418).

(418)	singular	plural	gloss	dialect
	bá^{n}-bɛ̀^{n}	bɔ́-bùò	‘lamb’	(various)
	lɔ̄^{n}-bɛ̀^{n}	lō-bùò	‘half-grown chicken’	(various)
	ná-bɛ̀^{n}	nɔ́-bùò	‘calf’	Fl Ji
	bū^{n}ʔɔ̄^{n}-bɛ̀^{n}	būʔō-bùò	‘puppy’	Fl Ji
	wùʔɔ́-bɛ̀^{n}	wə̀-rɔ́-bùò	‘goat kid’	Ji

bū^{n}ʔɔ̄^{n}-bɛ̀^{n} 'puppy' has a variant pronunciation with -mɛ̀ even in Fl and Ji dialects, where full forward nasalization of voiced stops after nasalized vowels is not otherwise found. The plural is always unnasalized: būʔō-bùò.

For bɛ̀^{n}- as compound initial in a somewhat different sense, see bɛ̀^{n}-kà 'beast' in §5.1.7.1.

5.1.6.4 Final -pɔ̀^{n} ~ -pɔ́^{n} for adult male domestic animals

This final occurs with a few terms for domestic animals. Most examples have L-toned -pɔ̀^{n}. The final is H-toned (Fl Ji) or M-toned (Bi) with 'cow, bovine' as base (419b); this noun is also the only animal term to take H-toned -cúʔɔ́ (§5.1.6.9). The plural is -pò ~ -pó, or rhotic plural -pə̀-rò. The initials inconsistently pluralize along with the final.

(419)	singular	plural	gloss	dialect
	a. L-toned -pɔ̀^{n}			
	lɔ̄^{n}-pɔ̀^{n}	lō-pò	'rooster'	Bi Fl Ji
	bá^{n}-pɔ̀^{n}	bɔ́-pə̀-rò	'ram'	Ji
	"	bɔ́-pò	"	Bi Fl
	"	bá^{n}-pò	"	Ma
	wùʔɔ́-pɔ̀^{n}	wùʔɔ́-pò	'billy-goat'	Fl Ji
	b. H-toned -pɔ́^{n}			
	ná-pɔ́^{n}	nɔ́-pó ~ ná-pó	'bull'	Fl Ji
	ná-pɔ̄^{n}	nɔ́-pō	"	Bi

This element may also be part of the complex compound kɛ̄tɛ̀klú-[bū^{n}ʔɔ̄^{n}-pɔ̀^{n}] 'praying mantis', assuming that bū^{n}ʔɔ̄^{n}-pɔ̀^{n} literally means 'male dog'. The remaining initial portion may contain 'hand' (whose dialectal variants include kɛ̀-tɛ̀ʔɛ̀). The insect is predacious and has long limbs.

5.1.6.5 Final -pɛ̀^{n}ʔɛ̀^{n} for adult male animals

The noun pɛ̄^{n}ʔɛ̄^{n} 'adult male animal' occurs chiefly as an L-toned compound final (or modifying adjective) -pɛ̀^{n}ʔɛ̀^{n}. The compound in (420c) denotes the larger of two pots used to strain off liquid soda ash. The smaller one, sòʔó, has holes in its bottom and is placed over the larger one which collects the liquid.

(420)		singular	plural	gloss	dialect
	a.	pɛ̄^{n}ʔɛ̄^{n}	pə̄-rɛ̄^{n}	'adult male animal'	(Ji)
	b.	bá^{n}-pɛ̀^{n}ʔɛ̀^{n}	bá^{n}-pə̀-rɛ̀^{n}	'ram (n)'	(various)
		bɔ̌-pɛ̀^{n}ʔɛ̀^{n}	bɔ̌-pə̀-rɛ̀^{n}	'elephant bull'	(various)

	[cì-có]-pɛ̀ⁿʔɛ̀ⁿ		‘adult male agama’	(various)
	sàkpèʔè-pɛ̀ⁿʔɛ̀ⁿ		‘adult male donkey’	(various)
c.	sòʔó-pɛ̀ⁿʔɛ̀ⁿ	[sə̀-rò-ʔó]-[pə̀-rɛ̀ⁿ-ʔɛ̀ⁿ]	‘large soda-ash pot’	Fl Ji

The range of animal terms that allow -pɛ̀ⁿʔɛ̀ⁿ is broad. The few animal terms that allow -pɔ̀ⁿ also allow -pɛ̀ⁿʔɛ̀ⁿ. In such cases there is at least a slight difference in meaning, with -pɔ̀ⁿ tending to denote an more or less dominant male.

We have not observed -pɛ̀ⁿʔɛ̀ⁿ in compounds with human reference. -kɛ̀ⁿ is the usual compound final for adult male humans.

5.1.6.6 Final -nì ~ -nìʔì for adult female animals

The compound final -nì, or in some compounds -nìʔì, denotes adult female animals, chiefly large mammals, who have reproduced or are assumed to have done so. The plural is -nì-ò (never glottalic). This is an L-toned compound-final variant of of the human kin term nī ‘mother’, plural nì-ó. For animals, -nì ~ -nìʔì is the female counterpart of -pɛ̀ⁿʔɛ̀ⁿ and/or -pɔ̀ⁿ.

(421)	singular	plural	gloss	dialect
a.	ná-nì	nɔ́-nì-ò	‘cow that has calved’	(various)
	wùʔɔ́-nì	wùʔɔ́-nì-ò	‘adult nanny-goat’	(various)
	bá-nì	bɔ́-nì-ò	‘adult ewe’	(various)
b.	bɔ̌-nìʔì	bɔ̌-nì-ò	‘adult female elephant’	(various)
	sàkpèʔè-nìʔì	sàkpèʔè-nì-ò	‘adult female donkey’	Fl

For animals, this compound final competes with -yò ‘woman/female’, which does not specify age or reproductive history. One might expect a form of sē ‘father’ to function as the male term corresponding to female -nì, but ‘father’ does not occur with animal terms to mark sex. For -pɛ̀ⁿʔɛ̀ⁿ in this function see §5.1.6.5.

5.1.6.7 Final -yò for female humans and animals

This is a compound final denoting females, with plural -yə̀-rò. It is an L-toned form of yɔ̌ ‘woman’, plural yə̀-ró. The compound final occurs with a wide range of human and animal terms, though for full-grown female animals it competes with -nì (preceding section).

(422) singular	plural	gloss
cìcó-yò	—	‘female agama lizard’
ɲánɔ̀-yò	ɲánɔ̀-yə̀-rò	‘female friend’
nàsə̀rá-yò	—	‘white woman’
blɛ̀jɔ̀-yò	blɛ̀jɔ̀-yə̀-rò	‘Jula woman’

5.1.6.8 Final -kɛ̀ⁿ for male humans

The simple noun ‘man; husband’ is dɔ̌. It is not productively used as a compound final meaning ‘(adult) male’. Instead the usual compound final for humans is -kɛ̀ⁿ, related to the noun kɛ̌ⁿ, which means ‘(male) companion, pal’ when possessed. kɛ̌ⁿ and variants kɛ̂ⁿ and kɛ̄mɛ̀ are used, in unpossessed form, in the sense ‘fellow, guy’, i.e. as an unnamed but specific male discourse referent. See §4.1.4.1 on these forms.

All known examples of compound final -kɛ̀ⁿ have adult male human reference, versus -pɛ̀ⁿʔɛ̀ⁿ or -pɔ̀ⁿ for adult male animals. The plural is -kə̀-rɛ̀ⁿ. Some initials are also morphologically pluralized before -kə̀-rɛ̀ⁿ.

(423)

singular	plural	gloss	dialect
dòsó-kɛ̀ⁿ	[dòsə̀-ró]-[kə̀-rɛ̀ⁿ-ʔɛ̀ⁿ]	‘hunter’	Fl
nàsərá-kɛ̀ⁿ	—	‘white man’	Ji
ɲánɔ̀-kɛ̀ⁿ	ɲánɔ̀-kə̀-rɛ̀ⁿ	‘male friend’	Fl Ji
ófórɛ́-kɛ̀ⁿ	—	‘forestry agent’	Fl Ji
ʃíó-kɛ̀ⁿ	ʃíó-kə̀-rɛ̀ⁿ	‘fortune-teller’	Fl Ji
blɛ̀jɔ̀-kɛ̀ⁿ	blɛ̀jɔ̀-kə̀-rɛ̀ⁿ	‘Jula person’	Fl Ji

5.1.6.9 Final -cùʔɔ̀ ~ -cúʔɔ́ for young adult female animals

The compound final -cùʔɔ̀ ~ -cúʔɔ́ occurs in expressions denoting young adult female livestock animals who have not yet reproduced. It may be related to cī-cùʔɔ̀ ~ cū-cùʔɔ̀ ‘young man’. The initial sometimes pluralizes along with the final. The final is H-toned (Fl Ji) or M-toned (Bi) only with ‘cow’ (424b), which likewise has H-toned -pɔ́ⁿ or M-toned -pɔ̄ⁿ (§5.1.6.4).

(424)

	singular	plural	gloss	dialect
a.	bɔ́ⁿ-cùʔɔ̀	bɔ́-cə̀-rɔ̀	‘young ewe’	Ji
	báⁿ-cùʔɔ̀	bɔ́-cə̀-rɔ̀-ʔɔ̀	"	Fl
	lɔ̄ⁿ-cùʔɔ̀	lō-cə̀-rɔ̀	‘young hen’	Ji
	sàkpèʔè-cùʔɔ̀		‘young she-donkey’	Fl Ji
	wùʔɔ́-cùʔɔ̀		‘young nanny-goat’	Ji
b.	ná-cúʔɔ́	ná-cə́-rɔ́	‘heifer’	Ji
	ná-cūʔɔ́	ná-cə̄-rɔ̄-ʔɔ́	"	Fl
	ná-cūʔɔ̄	ná-cə̄-rɔ̄	"	Bi

Once the animal has reproduced, -cùʔɔ̀ ~ -cúʔɔ́ is replaced by -nì ~ -nìʔì ‘mother’.

5.1.7 Other common or specialized compound finals

5.1.7.1 Final -kà 'animal' (plural -kɔ̀) or rarely -kɔ̀ 'person'

The compounds in (425) denote general classes of animal defined by size and habitat (domestic or wild). These are the only known cases of -kà denoting open-ended animal classes. The plural is -kɔ̀ (see below for human singular function of -kɔ̀). -kà here is semantically and probably etymologically unrelated to the homophonous -kà in manner compounds (see the following subsection).

(425)	singular	plural	gloss
	pō-kà ~ pōʔō-kà	pō-kɔ̀ ~ pōʔō-kɔ̀	'wild animal, animal of the bush'
	blá-kà	blá-kɔ̀	'domestic animal'
	bɛ̀^{n}-kà	bɛ̀^{n}-kɔ̀	'beast, large wild animal'

The initials appear to be phonologically reduced. pō-kà ~ pōʔō-kà clearly begins with a form of pòʔó '(the) bush, outback', with the LH tones leveled to M. There are no clearcut sources for blá- or bɛ̀^{n}-. blāʔā 'pond' occurs as initial in compounds meaning 'aquatic X' and deglottalization can occur in initials, but 'pond' is poor match semantically for 'domestic' even if we overlook the tonal difference. Likewise, -bɛ̀^{n} is a compound final denoting half-grown animals (§5.1.6.3), but bɛ̀^{n}-kà denotes large wild animals (beasts).

Two fauna species terms appear to end in this final (426), but one of them ends in H-toned -ká.

(426)		singular	plural	gloss
	a.	flí-kà	flí-kɔ̀	'mound-building termite (*Macrotermes*)'
	b.	blú-ká	blú-kɔ́	'roan antelope (*Hippotragus*)'

-kà and its plural -kɔ̀ are undoubtedly cognate to the animate participial endings, namely singular -kàʔà and plural -kɔ̀ (§4.2.3.1). Both sets may be more distantly related to the noun kàʔá 'meat', hence 'game animal', which has no plural in common use.

We have one instance of (singular) -kɔ̀ with human reference (427a). It takes a rhotic plural.

(427)	singular	plural	gloss	dialect
	flì-kɔ̀	flì-kə̀-rɔ̀	'crazy one'	(all)

'Crazy one' (427) is derived from flìʔì (Bi Fl Ji) varying with flèʔè (Ma) 'craziness, mental illness'. We have no other example of human -kɔ̀. There is no reason to think that flì-kɔ̀ was originally plural or collective since its singular form is more common in speech than its plural.

It is possible that -kɔ̀ is an archaic human singular counterpart to nonhuman animate singular -kà, in addition to being the plural of -kà. This can be added to the list of possible vestiges of old noun-class oppositions (§4.1.3).

5.1.7.2 Final -kà 'manner (of doing)'

The noun 'manner, style, behavior pattern' is kā after a possessor: ɔ̀ⁿ kā 'his/her manner'. This noun is also part of a common phrase bè-kà-tó 'in that way, thus', and the less common bè-kā-ʃìʔé 'that (ugly) manner'.

When it follows a compound-initial in the form of a verb or a fuller clause, it is L-toned -kà, added to the Pfv stem of a verb. If the verb is a compound (428b), perfectivity is marked in Vb1 while Vb2 is base, as usual for compounds. The examples here are for Ji dialect. There is a homophonous compound final -kà added to nouns in terms for types of animal (preceding subsection).

(428)	compound	gloss	Pfv verb
	dē-kà	'manner of picking (cotton)'	dē
	dīē-kà	'manner of eating'	dīē
	fīē-kà	'significance, usefulness'	fīē '(sur)passed'
	glō-kà	'manner of exiting'	glō
	jərɔ̀-kà	'manner of swallowing'	jərɔ̀
	klè-kà	'method, manner of doing'	klè 'did'
	klɛ̄-kà	'manner of returning'	klɛ̄
	klɛ̄ⁿʔɛ̄ⁿ-kà	'manner of ascending'	klɛ̄ⁿʔɛ̄ⁿ
	sɛ̄ʔɛ̄-kà	'manner of jabbing'	sɛ̄ʔɛ̄
	sərɔ̄ⁿ-kà	'manner of descending'	sərɔ̄ⁿ
	ʃìⁿʔɛ̀ⁿ-kà	'manner of running'	ʃìⁿʔɛ̀ⁿ
	yé-kà	'manner of walking'	yé
b.	klɛ̄-bà-kà	'manner of coming back'	klɛ̄-bà
	kɛ̀ⁿʔɛ̀ⁿ-sō-kà	'manner of replying'	kɛ̀ⁿʔɛ̀ⁿ-sō
	sɔ̀ⁿ-kɔ̄ⁿ-kà	'manner of remembering'	sɔ̀ⁿ-kɔ̄ⁿ

Other complements and adjuncts may be added. In (429a), a nominal compound initial 'meat' is added. It does not follow the verb as it would in a main clause. A fuller object NP can also be added, resulting in a phrase-like compound (429b-c).

(429) a. ɔ̀ⁿ kàʔá-cìè-kà
3AnSg meat-eat.meat.Pfv-**manner**
'his/her way of eating meat' (Ji)

b. [ē ʃìⁿʔíⁿ-klɛ̄ⁿʔɛ̄ⁿ-kà] nà gbərɛ̀yá =dɛ̄ʔ
[Art tree-ascend.Pfv-**manner**] Fut be.difficult Emph
'That way of climbing the tree sure will be difficult!' (Ma, 2017-01 @ 02:05)

c. [[[è ná-dì-ɔ̀] dó] gbà] -kà] nī
[[[Art old.person.Pl] share(n)] be.told.Pfv] -**manner**] Loc
'in the way the old people's (story) was told' (Bi, 2017-07 @ 09:29)

When the logical subject of the activity is overt, like 'dog' in (430a) we take it to be the possessor of the 'manner' compound. The literal parsing is then "he watched [the dog's dig-manner." However, there is no difference in form between possessors and subjects, and we cannot rule out a parsing where 'manner' has wide scope including dog'. The same issue arises with (430b), where -cógó-yá 'manner, procedure' (< Jula) is added to -kà. In both cases, if 'dog' and 'chief' are taken as subjects inside the compound, the initial article has scope over the entire compound.

(430) a. k-ā ɲũ= [[Ø būɔ̄ⁿʔɔ̄ⁿ] gbɛ̄ʔɛ̄-kà]
Infin-Ipfv look.at.Ipfv [[**Art** **dog**] dig.Pfv-**manner**]
'(And he) watched the way the dog was digging.' (Ma, 2017-02 @ 00:50)

b. [[ē cɔ̀fɔ́-[màsà-cɛ́]] [tərɛ̀ⁿ-kà]-[cógó-yá], [ē cɔ̀fɔ́] bàʔà
[[Art **Tiefo-[chief]**] [sit.Pfv-**manner**]]-[**manner**], [Art Tiefo] chez
'the way a Tiefo chief is seated (=enthroned), among the Tiefo.'
(Ma, 2018-01 @ 00:02)

5.1.7.3 Final -tɔ̀ʔɔ̀ 'place'

The noun tɔ̀ʔɔ̀ 'place' forms place-of-action compounds with a preceding verb in Pfv form. 'Place' here is semantically flexible and can mean 'situation' or 'occasion'. The compound is often followed by the locative postposition.

(431) a. [à kūō-tɔ̀ʔɔ̀] nī
[3Inan cut.Pfv-**place**] Loc
'where (and when) it was dug out.' (Bi, 2017-10 @ 04:54)

b. [ē dīē-tɔ̀ʔɔ̀] nī
[Art eat.Pfv-**place**] Loc
'at the eating place' (Ma, 2017-10 @ 02:16)

c. [ē úⁿ-dìè-tɔ̀ʔɔ̀] nī
[Art village-enter.Pfv-**place**] Loc
'at the entrance to the village' (Ji, 2017-11 @ 09:27)

d. [ē [tɛ̀ⁿ-jūʔɔ̄]-tɔ̀ʔɔ̀] ní-mā
[Art [help.Pfv]-**place**] not.be.Loc
'There is no way to help (=repay).' (Ji & Ma, 2017-04 @ 06:59)

Other examples with -tɔ̀ʔɔ̀ are in (432).

(432)	compound	gloss	initial
a. after uncompounded verb (Pfv)			
	dè-tɔ̀ʔɔ̀	‘shop (n), store (n)’	dè ‘sell.Pfv’
	lɛ̄^{n}-tɔ̀ʔɔ̀	‘boundary; responsibility’	lɛ̄^{n} ‘stop.Pfv’
	tərɛ̀^{n}-tɔ̀ʔɔ̀	‘sitting place; residential area’	tərɛ̀^{n} ‘sit.Pfv’
b. after verb compound (Pfv)			
	dè-ló-tɔ̀ʔɔ̀	‘shop (n), store (n)’	dè-ló ‘sell-turn.Pfv’
c. after incorporated noun and verb (Pfv)			
	jʉ̀ʔɛ́-nɛ̀ʔɛ̀-tɔ̀ʔɔ̀	‘place of worship’	jʉ̀ʔɛ́ ‘God’, nɛ̀ʔɛ̀ ‘pray.Pfv’
	ɲū-gbā-tɔ̀ʔɔ̀	‘well (n)’	ɲū ‘water’, gbā ‘draw.water.Pfv’
d. initial obscure			
	klà-tɔ̀ʔɔ̀	‘distant place’	(ē) klà ‘apart, away’

Compounds with Pfv verb plus -tɔ̀ʔɔ̀ also have a more abstract function. With a locative postposition, they function as purposive complements (§17.6.2.5).

5.1.7.4 Final -tàʔà ‘plot (field)’

The noun tàʔà ‘plot (of land), small field or garden’, plural tə-rà-ʔà (Fl), which may or may not be etymologically connected in some way with tɔ̀ʔɔ̀ ‘place’ (preceding section), also occurs as compound final. In one pattern (433a), the initial is variable, denoting a crop. In (433b), however, the sense appears to be just ‘place, location’. (433c-f) present reduplicative nouns and compounds (some frozen) that may be related.

(433)	compound	gloss	initial
a.	mɛ̀-tàʔà	‘plot/field of okra’	mɛ̀ ‘okra’
	gbī^{n}ʔī^{n}-tàʔà	‘peanut plot’	gbī^{n}ʔī^{n} ‘peanuts’
	(w)āklàʔà-tàʔà	‘roselle plot’	(w)āklàʔà ‘roselle’
b.	wà^{n}ʔá^{n}-tàʔà	‘market (place)’	wà^{n}ʔá^{n} ‘market’
	bíklí^{n}ʔí^{n}-tàʔà	‘finished (mud) roof’	
c.	tá-tàʔà	‘open area in courtyard’	
	"	‘tree sp. (*Burkea*)’	
d.	tī-tàʔà (Bi Ma)	‘shoe(s)’	
	tē-tàʔà (Ji)	"	
	ʃī-tàʔà (Fl)	"	
e.	nā-[tì-tàʔà]	‘cheek, side of face’	

f.	tàʔà-cɔ́^{n}	‘leech’
	tàʔà-pló ~ tàʔà-fló	‘kite (hawk)’
	tàʔà-ʃìò	‘army (driver) ant’ (Fl)

5.1.7.5 Final -bù (finger/toe)

This final occurs in the compounds meaning ‘finger’ and ‘toe’. For ‘finger’ the final is added directly to ‘hand’ (434a). For ‘toe’ the final is added to ‘foot’ plus an obscure intervening nasal morpheme -ná- ~ -nɛ́- ~ -ɲɔ́^{n}- (434b). The plural is rhotic, by vocalic fronting (u → i), or both combined (-bə̀-rì). The initial ‘hand’ or ‘foot’ is optionally pluralized along with the final, when the reference is to digits of both limbs.

(434)	singular	plural	dialect
a. ‘finger’, based on kè-tɛ̀ʔɛ̀ and variants ‘hand’			
	[kè-tɛ̀ʔɛ̀]-bù	[kè-tɛ̀ʔɛ̀]-bìè ~ [kè-tə̀-rɛ̀]-bə̀-rù	Ji
	[kɛ̀-tɛ̀ʔɛ̀]-bù	[kɛ̀-tɛ̀ʔɛ̀]-bì ~ [kɛ̀-tə̀-rɛ̀-ʔɛ̀]-bì	Fl
	[kì-tɛ̀ʔɛ̀]-bù	[kì-tɛ̀ʔɛ̀]-bə̀-rì	Ma
	[kɛ̀-tɛ̀]-bù	[kɛ̀-tɛ̀]-bì	Bi
b. ‘toe’, based on pìɛ̀^{n}ʔɛ̀^{n} and variants ‘foot’ (§4.1.2.3.2)			
	pìɛ̀^{n}-ná-bù	pìè-ná-bì	Ji
	pìɛ̀^{n}ʔɛ̀^{n}-nɛ́-bù	pìɛ̀^{n}ʔɛ̀^{n}-nɛ́-bə̀-rù ~ pìè-nɛ́-bə̀-rù	Fl
	pìɛ̀^{n}-ná-bù	pìè-ná-bə̀-rì	Ma
	pìɛ̀^{n}ʔɛ̀^{n}-ɲɔ́^{n}-bù	pìɛ̀^{n}ʔɛ̀^{n}-ɲɛ́^{n}-bì	Bi

Comparison with the somewhat isolated compound dà^{n}ʔà^{n}-bú ‘flame’ from dà^{n}ʔá^{n} ‘fire’ suggests that the original form may have been H-toned *-bú, which in the digit expressions dropped to L-tone. Such dropping is common in compound finals (§5.1.1.1).

Semantically, digits could be thought of metaphorically as the ‘children’ of hands and feet. An etymological relationship with compound final -bí ~ -bì ‘child’ (§5.1.6.1) is very likely. This would also account for the obscure -ná- ~ -nɛ́- in the ‘toe’ compounds in (434b), cf. ná-bí (and variants) ‘child’.

5.1.7.6 Final -ɲɔ́ ‘heart’

As a simple noun, ɲɔ́ (Bi ɲɔ́^{n}) means ‘heart’ in the sense ‘seat of courage’, or ‘essence, core’. The collocation bɔ́ [= ɔ̀ ɲɔ́] ‘take heart!’ makes this sense clear. -ɲɔ́ occurs as final in a number of compounds (435).

(435)	compound	gloss	literal	dialect
	jṳ̀ʔɛ̀-ɲɔ́	‘sky’	“God-core”	Ji
	jṳ̀ɛ̀ʔɛ̀-ɲɔ́	"	"	Fl

pìɛ̀ⁿʔɛ̀ⁿ-ɲɔ́	‘bottom of foot’	“foot-heart”	Ji
tɔ̀-ɲɔ́	‘underground (n)’	“earth-core”	Fl Ji

5.1.7.7 Final -dáʔá ~ -dàʔà ‘time’

The simple noun dáʔá means ‘time’, either a point in time or an extended but nonetheless bounded period. As compound final, dáʔá remains H-toned after nominal initials (436a-b), but is L-toned after verbs (436c). Verbs are usually Pfv in form.

When the noun already denotes a time, the compound final is rather redundant (436a). The complex compounds in (436d) consist of dè ‘sun; day (unit of time)’, a Pfv verb, and L-toned -dàʔà.

(436)		singular	gloss	comment
	a.	dɔ̀ʔɔ̀-dáʔá	‘afternoon (3-6 pm)’	< dɔ̀ʔɔ́
		kùⁿʔɔ̀ⁿ-dáʔá	‘early afternoon’	< kùⁿʔɔ́ⁿ
	b.	[dī-nā-dɛ̀ⁿ]-dáʔá	‘the old days’	“[olden.time]-time”
		Blaise-dáʔá	‘the era of Blaise (Campaoré)’	
	c.	dɛ̀-dàʔà	‘time to sleep’	
		dīē-dàʔà	‘time to eat’	
		ɲùɔ̀-dàʔà	‘time to drink’	
		sē-dīē-dàʔà (Fl)	‘twilight (time)’	“(sun)set-enter-time”
		tɛ̀ⁿʔɛ̀ⁿ-lɛ́ⁿ-dàʔà (Fl Ji)	‘times of plenty (after harvest)’	
	d.	dè-ʃɛ̀ⁿ-dàʔà	‘noon, mid-day’	“day-be.red-time”
		dè-klɛ̀ⁿ-dàʔà (archaic)	‘mid-afternoon’	“day-tilt-time”
		dè-lɛ̄ⁿ-dàʔà (Bi Ji)	"	“day-cool(v)-time”
		dè-līɛ̄ⁿ-dàʔà (Fl Ma)	"	

In 2017-04 @ 00:28, [ɲùⁿʔɔ́ⁿ-sūʔō]-dàʔà means ‘origin, starting point’, literally ‘mouth-catch(ing)-time’, cf. sūʔō/súʔú/súʔú ‘catch’. The collocation ‘catch mouth’ in Tiefo-D and some other local languages means ‘begin’.

Political eras are often referred to by the name of the head of state, e.g. [*Blaise* dáʔá] nī ‘in the time of Blaise (Campaoré)’ (436b).

See §15.4.2 for dáʔá in temporal adverbial relatives: ‘(at the time) when …’.

5.1.7.8 Final -plùʔù (and variants) ‘bag’

The noun ‘bag, sack’ is plùʔú, plural plɔ̀-rú. There is a variant plòʔó in Ji. The noun occurs as compound final in (437), either in its lexical LH tones or L-toned. For Ji, change u to o.

(437)	compound	gloss	gloss of initial
a.	[ɲū-gbā]-plùʔù	‘bag lowered into well’	‘water-draw.Pfv’
b.	cèʔé-plùʔú	‘animal-hide bag’	‘skin, hide (n)’
c.	bɔ̀tɔ́-plùʔù	‘grain sack’	‘grain sack’

5.1.7.9 Final -pìɔ́^{n} (and variants) ‘larva’

The general term for larvae, caterpillars, small insects, and worms is pìɔ́^{n}, denasalized plural pìó. Many larvae are associated with a host species or substance. In (438a), the initial denotes this host. In (438b), the initial is more obscure. In (438c), the initial is a locative PP (§5.1.11) denoting the habitat. In (438d), the initial is a Pfv verb ‘drank’ preceded by an incorporated object denoting the host. pìɔ́^{n} generally retains its LH tones as compound final, but drops to L in a few compounds (438d).

(438)	compound	gloss	initial
a.	gbī^{n}ʔī^{n}-pìɔ́^{n}	‘grub on peanut plant’	‘peanuts’
	[súmá-klàʔà]-pìɔ́^{n}	‘maize weevil’	‘maize’
	ʃì^{n}ʔí^{n}-pìɔ́^{n}	‘wood-boring beetle’	‘tree, wood’
	tàkpóʔó-pìɔ́^{n}	‘saturniid caterpillar sp’	‘tree sp. (*Terminalia*)’
b.	kə́rɔ́^{n}fə́rá-pìɔ́^{n}	‘army worm (caterpillar)’	‘plant sp.’
	ɲī-pìɔ́^{n}	‘ant-lion larva’	ɲǐ ‘breast’ (??)
c.	[ɲū-tɔ̀^{n}]-pìɔ́^{n}	‘aquatic insect (any)’	‘water-in’
d.	kɛ̄-ɲùɔ̀-pìɔ̀^{n}	‘beanpod borer’	‘cowpea-drink.Pfv’
	dí^{n}-kèʔè-pìɔ́^{n}	‘stored-grain beetle’	‘crop-ruin.Pfv’

5.1.7.10 Final -tìʔɛ̀ ‘hole’

The uncompounded noun for ‘(excavated) hole, pit’ is (439). The interdialectal correspondences are phonologically regular.

(439) singular	plural	dialect
tìʔɛ́	tə̀-rɛ́	Bi Ji
tìɛ̀ʔɛ́	tə̀-rɛ̀-ʔɛ́	Fl Ma

The noun is L-toned as compound final (440). The complex compounds in (440c) begin with an incorporated noun and a Pfv verb. The initials in (440a-b) are obscure. sō- vaguely resembles certain verbs but there is no compelling match. For (440b) a possible match for Bi dialect is ɲɥ̀ɛ̀ⁿ/wɛ̀ⁿ/ɲɥìⁿ (Bi Ji) ‘burn’, compare yɥ̀ɛ̀ⁿ/wɛ̄ⁿ/yɥ̄īⁿ (Fl). But verbs as compound initials are normally Pfv’s, not bases.

(440)	compound	dialect	gloss	initial
a.	sō-tìʔɛ̀	Bi Ji	‘burial pit, grave’	‘grave (n)’
	sō-tìɛ̀ʔɛ̀	Fl	"	
b.	wāⁿ-tìʔɛ̀	Ji	‘hearth’	‘burn/roast.Pfv’
	wāⁿ-tìɛ̀ʔɛ̀	Fl Ma	"	
	wɛ̄ⁿ-tɛ̀	Bi	"	
c.	[ɲū-lɛ̄ⁿ]-tìʔɛ̀	Fl Ji	‘waterhole’	‘water-stand.Pfv’
	[ɲū-gbā-]-tìʔɛ̀	(various)	‘well (n)’	‘water-draw.water.Pfv’
d.	glɔ̀-tìʔɛ̀	Bi	‘aardvark burrow’	‘aardvark’
e.	[nā-tɔ̀]-tìʔɛ̀	Fl Ji	‘earhole’	‘ear’
	mɛ́ʔɛ́-tìʔɛ̀	Fl Ji	‘nostril’	‘nose’
f.	dùʔù-tìʔɛ̀	Fl Ji	‘cave’	‘cliff’

‘Anus’ is pàtìɔ̀. The final in pɛ̀tɛ̀-ɲùŋɔ̀ ‘buttock’ is the noun ‘mouth’, leaving the initial pɛ̀tɛ̀- (not otherwise attested). It is possible that an ancestral form of tìʔɛ́ gave rise to tì and/or tɛ̀ in these forms.

5.1.7.11 Final -wùʔú ‘house’

The noun ‘house’ is wùʔú in all dialects. Compounds with this as final are in (441). In (441a), the initial denotes construction material. In (441b), it denotes the occupants. In (441c), the initial is a Pfv verb, and (441d) is similar but adds an incorporated nominal. The lexical LH tones of wùʔú are retained in some compounds, in others the tones are dropped to L.

(441)	compound	gloss	initial
a.	[m̩̄-pùⁿʔɔ́ⁿ]-wùʔú	‘thatch-roofed house’	‘grass’
b.	lō-wùʔù	‘chicken coop’	‘chickens’
c.	dè-wùʔù	‘store, shop’	‘sell.Pfv’
d.	jɥ̀ʔɛ́-nɛ̀ʔɛ̀-wùʔú	‘house of worship’	‘God-pray.Pfv’

It is unclear whether kā-wùʔù ‘bone’ is related to wùʔú ‘house’.

5.1.7.12 Final -pùʔɔ̀ ‘stick’ and -pɔ̀ʔɔ̀ ‘twig’

Two obscurely related nouns are púʔɔ́ ‘stick’ and its semantic diminutive pɔ̀ʔɔ̀ ‘twig, small stick’. The latter fronts its vowels in plural pə̀-rɛ̀(-ʔɛ̀). On these forms see (83) in §3.3.9.

pùʔɔ́ ‘stick’ retains its LH melody as compound final in some combinations, and drops to -pùʔɔ̀ in others. (442a-b) are clear compounds. The two dialectal synonyms in (442b) are based on the noun ʃíó ‘fortune-teller’ and the Pfv verb kplɛ̀^{n} ‘tell fortunes’, respectively. (442c) is more obscure. (442d) may be an irregular reduplication; its initial is unrelated to the verb ‘knead’ (tɛ̄^{n}/tɔ́^{n}/tɔ́^{n}).

(442)	singular	plural	gloss
a.	ʃí-pùʔɔ́	ʃí-pə̀-rɔ́	‘millet stalk’
b.	ʃíó-pùʔɔ̀ (Fl) kplɛ̀^{n}-pùʔɔ̀ (Ji)	ʃíó-pə̀-rɔ̀	‘fortune-teller’s stick’ "
c.	pìtì-púʔɔ́	—	‘tree sp. (*Ekebergia*)’, variant kpɔ̀tɔ̀pɔ̌
d.	pú-pùʔɔ̀ (Ji) pú^{n}-pùʔɔ̀ (Bi Fl Ma)	 pú^{n}-pù-rɔ̀ (Bi)	‘kneading stick’

‘Twig’ is a compound final in (443a-b), verified by the fronting of ɔ to ɛ in the plural: Ji pə̀-rɛ̀, Fl pə̀-rɛ̀-ʔɛ̀. (443b) is based on a Pfv verb. In (443e) the unmutated vocalism of the plural suggests either a secondary semantic dissociation or an etymologically unrelated final. In favor of the former interpretation is the segmentability of nā-, which occurs in a number of semi-frozen compounds denoting facial features.

(443)		singular	plural	gloss
	a.	[súmá-klàʔà]-pɔ̀ʔɔ̀	[súmá-klàʔà]-pə̀-rɛ̀	‘maize stalk’
		kàcà^{n}ʔà^{n}-pɔ̀ʔɔ̀	kàcà^{n}ʔà^{n}-pə̀-rɛ̀-ʔɛ̀	‘stick in fishtrap’
		klɔ́-pɔ̀ʔɔ̀	klɔ́-pə̀-rɛ̀	“sorceror(’s)-stick” (*Flueggea* tree)
		cī-pɔ̀ʔɔ̀	cī-pə̀-rɛ̀	‘millet stalk’
	b.	klɔ̄^{n}-pɔ̀ʔɔ̀	klɔ̄^{n}-pə̀-rɛ̀	‘chewstick’
	c.	nā-pɔ̀ʔɔ̀	nā-pə̀-rɔ̀ (Ji) nā-pə̀-rɔ̀-ʔɔ̀ (Fl)	‘beak’

5.1.7.13 Final -ù^{n}ʔù^{n} ~ -ú^{n}ʔú^{n} ‘head’

‘Head’ as simple noun is ú^{n}ʔú^{n} (Bi Ji), and with regular dialectal phonology wū^{n}ʔú^{n} (Fl) and wù^{n}ʔú^{n} (Ma).

As final in highly lexicalized compounds it is L-toned, the examples being [ná-bí]-ù^{n}ʔù^{n} ‘person’s head’ or ‘human being’ (text 2019-05 @ 03:00), and dō-ù^{n}ʔù^{n} ‘elevation, high spot’ (topography) with nontransparent initial. In other compounds, it keeps its H-tones. This is the case with animal terms as initials, e.g. ná-úⁿʔúⁿ 'cow's head' and wùʔò-úⁿʔúⁿ 'snake's head'. It is also true with human initials other than 'person', as in yò-úⁿʔúⁿ 'woman's head'.

When the initial denotes livestock, 'head(s)' can be used in counting, in singular or plural form depending on the number, as in (è) ná-wə́-rúⁿ [Ø támm] 'ten head of cattle'.

5.1.7.14 Body parts and products as finals

Needless to say, most terms for body parts of animals, parts of plants, and natural products ('egg', 'excrement') can combine with species terms in compounds, e.g. 'snake-foot', 'baobab-root', and 'chicken-egg'. We omit examples here.

5.1.7.15 Life-form terms as finals

General life-form terms such as wùʔó 'snake', cīɔ̄ⁿ 'bird', fùɔ́ 'fish', and ʃìⁿʔíⁿ 'tree' are common as compound finals. The compound initial may denote a habitat or a host species, as with the initials blāʔā- 'pond' (hence 'aquatic') or for fauna ʃìⁿʔíⁿ- 'tree' (hence 'arboreal X'). Or the life-form term may be added, perhaps redundantly, to what is already a species name (cf. Eng *maple tree*, *cobra snake*). We omit examples here, but the range of compounds with final -pìɔ́ⁿ 'larva' (§5.1.7.9) is indicative.

5.1.8 Composite kin terms

Some kin terms are composite, though rather fused, making segmentation obscure.

(444)	singular	plural	gloss	comment
a.	ná-díɛ́	ná-díɔ́	'maternal uncle'	
b.	bī-dɔ̌	bī-dɔ̀-rɔ́	'younger sibling'	
c.	bí-má mà-má	bí-mə́-rá mà-mə́-rá	'grandfather' 'grandmother'	 [màmə́ɾa̰]
d.	dɔ́ⁿ-nì dɔ́ⁿ-nɔ̀	dɔ́ⁿ-nì-ò dɔ́ⁿ-nɔ̀-rɔ̀	'female in-law' 'male in-law'	-nì 'mother; §5.1.6.6 (Bi Ji dɔ́ⁿ-dɔ̀)

ná-díɛ́ 'maternal uncle' (444a) may be compared to ná-dɛ̀ (Fl nā-dɛ̀) 'old man' or 'old person', plural ná-dì-ɔ̀. bī-dɔ̌ (444b) is sex-neutral though it seems to end in dɔ̌ 'man, husband'. For bī- (444b) and bí- (444c), cf. bí- 'child' and its relatives (§5.1.6.1). For the affinal terms (444d), see (118) above.

5.1.9 Compounds with final -wí (plural -yúó) ‘owner of X’

wí can occur as a simple noun: (è) wí in the literal sense ‘owner, proprieter’ when the entity owned is tacitly understood.

Much more common are compounds of the type X-wí. X can denote a possession, or more broadly any characteristic feature of the denoted entity. In this construction, the plural is X-yúó with yúó ‘people’ in all dialects. This -yúó is tonally distinct from agentive plural -yùò (§5.1.5.1 above), though both are cognate.

Regular compounds ending in -wí/-yúó are in (445a). In (445b), the LH-toned initial drops by regular tone sandhi to L-toned before -wí/-yúó. In (445c) irregularly L-toned -wì and -yùò follow an H-toned initial.

(445)		compound	gloss	initial
	a.	bú-wí/-yúó	‘rich person’	bú ‘money’ or ‘cowries’
		də́ráʔá-wí/-yúó	‘head of household’	də́ráʔá ‘courtyard’
		[lá-fùʔù]-wí/-yúó	‘sick person’	lá-fùʔù ‘illness’
		nə̀rù-wí/-yúó	‘plump one’	nə̀rú ‘fat (n)’
		[nā-bə̀-rɔ̀-ʔɔ̀]-wí/-yúó	‘bearded man’	nā-bə̀-rɔ̀-ʔɔ̀ ‘beard’ (Fl Ma)
		ú^{n}ʔú^{n}-wí/-yúó	‘leader’	ú^{n}ʔú^{n} ‘head’
	b.	wùʔù-wí/-yúó	‘homeowner’	wùʔú ‘house’
	c.	klɔ́-wì/-yùò	‘sorceror’	klɔ́ ‘sorcery’

See also the bahuvrihi compounds (‘black-headed’, ‘two-headed’, etc.) in §5.2.2.

For wí ‘owner’ in expressions denoting nonspecific indefinite individuals, see §18.5.1.2, along with (116b) in §14.1.8 and (1018) in §14.1.10.

5.1.10 Deverbal function and instrument nominals

In the following subsections we present a range of compounds and noun-modifier collocations that denote an entity but also include a verb denoting an associated activity. The semantic range can be suggested by Eng *weeding hoe* (hoe used for weeding), *drinking water* (water to be drunk), and *clothes to wear*.

5.1.10.1 Verb-noun compounds

In this type, the noun denotes the type of entity and the verb (in Pfv form) denotes the associated activity.

(446) presents two more or less synonymous compounds denoting a type of fíʔé ‘native hoe (daba)’ used to weed carefully around crop plants that have sprouted or grown halfway. These data were elicited during lexicographic sessions.

(446)	compound	gloss	verb
	kplì^{n}-fíʔé	‘weeding hoe’	**kplì^{n}**/klù^{n}/klù^{n} ‘weed (v)’
	sɛ̀^{n}-fíʔé	‘weeding hoe’	**sɛ̀^{n}**/sā^{n}/sɛ̄^{n} ‘pick out’

Textual examples of the same general construction (Pfv verb plus noun) are in (447).

(447)	compound	gloss	verb	reference
	glō-kɔ̀	‘emergence day’	**glō**/glú/glú ‘exit (v)’	(women, 2017-19 @ 00:31)
	sɛ̄^{n}-wùʔù	‘sleeping house’	**sɛ̄^{n}**/sɛ́^{n}/sɛ́^{n} ‘lie down’	(Fl, 2017-11 @ 05:23)
	wìè-[fə̂-rɛ̀]	‘clothes to wear’	**wìè**/wē/wī ‘put in/on’	(Bi, 2017-08 @ 00:11)

The use of the Pfv verb form is notable, regardless of the time signature or generality of the referents, not only in these examples but also in participles.

5.1.10.2 Noun followed by participial modifier with -ɛ̀ʔɛ̀ ‘thing’

In this construction, the noun denoting the general class of the referent is followed by an inanimate participle in -ɛ̀ʔɛ̀ (§4.5.4). The verb of the participle describes the activity that the entity is used in. For example, in (448a) ‘drinking water’ is a subtype of ‘water’.

(448) a. ē ɲū ɲùɔ̀-ɛ̀ʔɛ̀
Art water drink.Pfv-**Ppl.Inan**
‘drinking water’ (Ma)

b. ē ɲū wè-ɛ̀ʔɛ̀
Art water bathe.Pfv-**Ppl.Inan**
‘bathing water’ (Ma)

c. ē nū sɛ̄ʔɛ̄-ɛ̀
Art oil rub.Pfv-**Ppl.Inan**
‘rubbing oil (skin lotion)’ (Ma) [< /sɛ̄ʔɛ̄-ɛ̀ʔɛ̀/]

d. è tə́rɔ́^{n} kpɛ̀^{n}ʔɛ̀^{n}-ʔɛ̀
Art iron tap.Pfv-**Ppl.Inan**
‘bell (for cow or donkey)’ (Fl Ji) [< /kpɛ̀^{n}ʔɛ̀^{n}-ɛ̀ʔɛ̀/]

5.1.10.3 Noun plus modifying compound with -dò ‘share (n)’

In this construction, default inanimate possessum dó ‘(someone’s) share, possession’ in L-toned form replaces -ɛ̀ʔɛ̀ in the noun plus modifying participle construction (preceding subsection).

(449) ē nū diē-dò
Art oil eat.Pfv-**share(n)**
‘eating (i.e. cooking) oil’ (Ma)

For a different compound type with final -dò, see §6.2.4.3.

5.1.10.4 Incorporated non-agent noun plus participial modifier

This construction superficially resembles compounds like ‘drinking water’ (§5.1.10.2). In both there is a noun, a verb, and -ɛ̀ʔɛ̀ ‘thing’ as final. However, in the current construction the first noun is not the semantic head as in ‘drinking water’. Rather, the compound denotes an object that performs the relevant activity on the referent of the first noun. Compare Eng *dishwasher* (appliance, not person). An example is (450).

(450) è [súmá-klàʔà]-nɛ̀-ɛ̀ʔɛ̀
Art [maize]-grind.Pfv-**Ppl.Inan**
‘maize grinder’ (mill or grinding machine)

Further examples are in (451). As with (450) they end in -ɛ̀ʔɛ̀ ‘thing’.

(451)	compound	dialect	gloss	literal gloss
a.	bə̀rò-lí-ɛ̀ʔɛ̀	Ji	‘mud-brick mold’	“mud-shape(v).Pfv-Ppl.Inan”
	bə̀rò-lé-ɛ̀ʔɛ̀	Fl	"	"
b.	dà^{n}ʔà^{n}-mlɛ̄^{n}-ɛ̀ʔɛ̀	Fl Ji Ma	‘rifle, gun’	“fire-shoot.Pfv-Ppl.Inan”
c.	dà^{n}ʔá^{n}-fɛ̄-ɛ̀ʔɛ̀	Fl Ji	‘fan for fire’	“fire-fan(v).Pfv-Ppl.Inan”

5.1.10.5 Noun-verb compounds

In (452), ɲū ‘water’ is followed by a variant of the verb sə̄rɔ̄^{n}/sə́rú^{n}/sə́rú^{n} ‘descend’, either glottalic (452a) or not (452b). Since Bi and Ji sometimes lack glottalization present in Fl and Ma, and since Fl and Ma lower vocalic pitch before the glottal, we propose ɲù-sə́rú^{n}ʔú^{n} as a pandialectal transcription. For other glottalic nominals see §4.2.1.2.

The sense ‘gutterspout (on roof)’ can be parsed thematically as either locative (‘the place where water descends’) or instrumental (‘the thing by which water descends’).

(452) ‘gutterspout’

a. ɲù-sə̀rù^{n}ʔú^{n} Ma
ɲù-sə̄rū^{n}ʔú^{n} Fl

b.	ɲù-sə́rú^{n}	Ji
	ɲù^{n}-sə̄rū^{n}	Bi

5.1.11 Compounds with locative PP initials

When the initial denotes the habitat or host of a natural species, it may take the form of a reduced PP consisting of a noun and a locative postposition. The postposition is tɔ̄^{n} ‘inside (covered structure)’ (§8.3.2.3) rather than what is elsewhere the predominant locative postposition nī (§8.3.2.1). In the compounds, it is heard as L-toned -tɔ̀^{n}.

(453)	[kpó-tɔ̀^{n}]-sàmɛ̀ʔɛ̀	‘serval cat or genet’	“[liana-in]-wild.cat”
	[ɲū-tɔ̀^{n}]-bàkùɔ̀	‘aquatic tortoise’	“[water-in]-tortoise”
	[ɲū-tɔ̀^{n}]-pìɔ́^{n}	‘aquatic insect’	“[water-in]-grub”

All examples of this type involve Cv stems (kpó, ɲū). Habitat terms with heavier shapes such as pòʔó ‘the bush’ and blāʔā ‘pond’ function as compound initials without -tɔ̀^{n}.

Superficially similar are terms for the shrub *Guiera senegal*ensis (454), but these are actually based on the inner compound ɲī-tɔ̀^{n} ‘breastmilk’, cf. ɲǐ ‘breast’. The final in (454a) is obscure, and (454b) is further contracted.

(454)		form	dialect
	a.	[ɲī-tɔ̀^{n}]-ɔ̀^{n}ʔɔ́^{n}	Fl
		[ɲī-tɔ̀^{n}]-wà^{n}ʔá^{n}	Bi
	b.	ɲī-tɔ̀^{n}ʔɔ́^{n}	Ji Ma

5.1.12 Noun-verb-noun compounds

These compounds have two nouns flanking a medial verb.

In (455) the final denotes the general type of the referent. This referent is constructed as the agent. The preceding noun-verb combination indicates the agent’s characteristic activity. The verb is in Pfv form. The final is sometimes dropped to L-tone. The first example in (455) denotes a bird who calls (summons or announced) the rains. The second denotes a tiny insect pest that infests stored cowpeas and other crops, and so forth.

(455)	compound	final	gloss	literal gloss
	a. with -kà (§5.1.7.1)			
	[ʃúá^{n}-tɔ̀ʔɔ́]-kèʔè-kà	-kà	‘sesame bug’	“sesame-ruin.Pfv-animal”
	dí^{n}-sɛ̄ʔɛ̄-kà	-kà	"	“crops-rub.Pfv-animal”

b. with nominal final

blō-lē-cìɔ̀^{n}	cīɔ̄^{n}	‘cuckoo’	“rain-call.Pfv-bird”
dí^{n}-kèʔè-pìɔ́^{n}	pìɔ́^{n}	‘cowpea beetle’	“crops-ruin.Pfv-larva”
ʃì^{n}ʔí^{n}-pēʔē-pìɔ́^{n}	pìɔ́^{n}	‘wood-boring beetle’	“wood-plow.Pfv-grub”
tīʔō-ɲùɔ̀-[mò-mló]	mò-mló	‘honey ants’	“honey-drink.Pfv-ants”

In (456), on the other hand, the final denotes a type of instrument, and the preceding noun-verb combination specifies what unnamed agents do with it. For ‘dung beetle’ (scarabaeids that push along balls of dung), the final is not otherwise attested but it presumably means ‘beetle’ or similar.

(456)	compound	final	gloss	literal gloss
	lī^{n}-būɔ̄-ʃì^{n}ʔì^{n}	ʃì^{n}ʔí^{n}	‘liana sp. (*Opilia*)’	“guts-tie.Pfv-tree”
	fùɔ̀-tərē-cùʔò	cúʔó	‘wicker fishtrap’	“fish-catch.fish-fishtrap”
	lā^{n}-flè-bɛ̀ʔɛ̀	bɛ̀ʔɛ́	‘grass sp. (*Eragrostis*)’	“beer-filter.Pfv-broom”
	ɲū-cərē-bɛ̀ʔɛ̀	bɛ̀ʔɛ́	"	“water-filter.Pfv-broom”
	pərí^{n}-tá-[kpè-kpléʔé]	??	‘dung beetle’	“shit-bump-??”

The instrument examples in (456) have the same semantics as many noun-verb-noun instrument compounds ending in -ɛ̀ʔɛ̀ ‘thing’ (§5.1.10.2).

Similarly, noun-verb-noun compounds ending in -tɔ̀ʔɔ̀ ‘place’ or in -tìʔɛ̀ ‘hole’ denote locations in which unnamed agents carry out the action specified by the noun-verb combination (§5.1.7.3, §5.1.7.10).

5.1.13 Phrasal compounds

Some “compounds” are really phrases or sentences, though they function syntactically as nouns. Some are only partially analyzable.

5.1.13.1 Phrasal compounds including negation

The compound in (457) contains prohibitive mâ, the base of pɛ́^{n}/pá^{n}/pá^{n} ‘touch’ (the correct stem for the prohibitive construction), and the noun ‘thing’ (as lexicalized inanimate participle). This is from prohibitive mâ pá^{n} =ʔ ‘do not touch!’

(457) mâ-pá^{n}-ɛ̀ʔɛ̀ ‘taboo thing, prohibition’

The term for ‘sesame’, a widely cultivated crop plant, has several variants including two recorded from the Fl speaker (458).

(458) ‘sesame’

a.	ʃíó-má-tɔ̀ʔɔ̀	Fl
b.	sámá-tɔ̀ʔɔ́	Ji
	súmá-tɔ̀ʔɔ́	Ma
	ʃúáⁿ-tɔ̀ʔɔ́	Fl
	súáⁿ-tɔ̀ʔɔ́	Bi

Of these, only (458a) is reasonably transparent as a phrase. ʃíó means ‘fortune-teller’. The combination má tɔ̀ʔɔ̀ resembles prohibitive mâ tɔ̀ʔɔ̀ ‘must not disturb (or: nibble)’ and future negative mediopassive má tɔ̀ʔɔ̀ =ʔ ‘will not be disturbed (nibbled)’, cf. compound verb tɔ̀ʔɔ̀-dí ‘nibble, eat by nibbling’. The forms in (458b) are more opaque. Their variable initial may be, or may have converged secondarily with, the initial in ‘maize’ (459). However, súmá- occurs only in ‘maize’ and for Ji dialect in ‘sesame’, while -klàʔà as the final in ‘maize’ has no clean semantic and phonological match elsewhere. A comparison with wāklàʔà ‘roselle’ (another crop plant) is suggestive. klàʔá ‘rainy season’ is more of a stretch.

(459) ‘maize’

súmá-klàʔà	Fl Ji Ma
súáⁿ-klàʔà	Bi

Another compound with a negative element is the term for *Datura*, a bush with narcotic properties (460). The initial is wùʔɔ́ ‘goat’. The underlying phrase would be imperfective negative [ē wùʔɔ̀] má dí =ʔ ‘goat doesn’t eat’ (Fl Ji) or [ē wùʔɔ̀] má dí =nì =ʔ ‘goat doesn’t/won’t eat it’ (Bi) with object pronominal =nì. wùʔɔ́ drops to wùʔɔ̀- before the H-tone.

(460) ‘bush sp. (*Datura*)’

wùʔɔ̀-má-dí	Fl Ji
wùʔɔ̀-máⁿ-dí-nì	Bi

Another compound has quite different forms across the dialects (461).

(461) ‘misfortune, accident, taboo’

kà-má-kò	Ji
kè-má-kò	Bi
kè-má-kòʔò	Ma
kò-má-kò	Fl

Our native speakers connect this with the phrase [(ē) kě] má kò =ʔ ‘(the) situation is not good’. However, it may really be a nativization of Jula kàbàkó ‘misfortune’. Other Tiefo-D forms that may be related are màkó ‘need (n)’ (also from Jula) and mâ-kúʔó, see (19c).

5.1.13.2 Phrasal compounds without negation

The two dialectal variants in (462a-b) denote the sensitive plant (*Biophytum umbraculum*), whose leaves close up when touched. The image is of people taking shelter when a rainstorm approaches. (462b) is based on the plural-subject hortative with ò jó kò (§10.4.2.1.2).

(462) ‘sensitive plant’ dial. literal

a. [blō-à-bē]-[blō-à-bē] Bi Ji “rain comes, rain comes!”
b. [blō-à-bē]-[ò-jó-kò-[sà^{n}-tó]-[ə̀-rɛ́]] Fl “rain comes, let’s gather things up!”

In (463), the initial is a verb kpɛ̄^{n}ʔɛ̄^{n}/kɔ́^{n}ʔɔ́^{n}/kɔ́^{n}ʔɔ́^{n}, in Pfv form. The final is ‘disease’. Leprosy is associated with digits (such as fingers) falling off.

(463) kpɛ̄^{n}ʔɛ̄^{n}-[là-fùʔù] ‘leprosy’ lit. “cut.off.Pfv-[disease]”

Example (464) begins with a compound verb consisting of sɛ̄ʔɛ̄/sɔ́ʔɔ́/sɔ́ʔɔ́ (Ji) ‘jab’ and ʃìɛ̀^{n}/ʃìà^{n}/ʃìà^{n} ‘emerge, appear’. The verb-verb combination is in base rather than Pfv form. The compound ends with reciprocal object dígə̀-rɔ̀ (§18.4.1), without its usual plural ò ~ ó. The literal sense is therefore something like ‘jabs (all the way) through each other’.

(464) sɔ́ʔɔ́-ʃìà^{n}-[dígə̀-rɔ̀] ‘herb sp. (*Uraria*)’ lit. “jab-emerge-Reciprocal”

A more opaque phrasal compound is (465), whose literal sense is “soumbala (black spice) and X.” However, X (-píá^{n}ʔá^{n}) is obscure.

(465) yə̀rú-kà-píá^{n}ʔá^{n} ‘herb sp. (*Senna*)’ lit. “soumbala-with-??”

Finally, we have the phrase in (466). Here we take dó- to be the inanimate default possessum, -dè- to be the verb ‘say’, and -fɛ̀ to be an L-toned compound final form of fɛ́ ‘talk (n)’.

(466) [ɔ̀^{n} dó-dè-fɛ̀] nī^{n}
[3AnSg Poss.Inan-say.Pfv-talk(n)] Loc
‘in her words; according to her’ (Bi, 2017-09 @ 03:08)

5.1.13.3 Phrasal compounds borrowed from Jula

There are also some Jula borrowings that are phrasal in Jula (which all Tiefo-D speakers understand).

(467) Jula phrasal compounds

compound	gloss	literal gloss in Jula
jààtìgì-fɔ́ɣá	‘strangling fig tree’	“host-kill”
náfɔ́^{n}-kù^{n}-dá^{n}	‘mistletoe sp.’	“vine-head-without”
báɣá-tò-tá-rá	‘lizard sp. (*Hemitheconyx*)’	“porridge-leave-fire-on”

5.2 Adjectival compounds

5.2.1 Exemplars (similative compounds)

These are nouns, generally compounds, that denote entities that exemplify an adjectival quality. Cf. Eng *snow white*, *jet black*, etc., but in Tiefo-D the adjective itself is absent. Instead, -táʔá is added as final, compare the similative particle ká ~ tá (§8.5.1.1).

(468)				
	a.	ē [sə̀rù^{n}-pù^{n}ʔù^{n}]-táʔá	‘yellow’	“[néré.tree-powder]-like”
	b.	ē [(w)à-bì^{n}ʔɛ̀^{n} [á blìʔì]]-táʔá	‘green’	“[leaf moist]-like”

Pods of the néré tree (*Parkia biglobosa*) have a bright yellow powder that is used throughout the region as the exemplar for yellow color. Fresh green vegetation is likewise widely used as exemplar for green color.

5.2.2 Bahuvrihi (“Blackbeard”) compounds

In bahuvrihis, a characteristic or defining feature of an entity is overtly expressed by a noun (usually denoting a body part) plus a descriptive adjective or a numeral. The bahuvrihi may function as a modifier following a noun (cf. Eng *redheaded boy*), or sometimes as an independent noun (cf. Eng *redhead*).

5.2.2.1 With adjectival compound final

Adjectival bahuvrihis are common in terms for natural species, and can also be applied to humans. The most common finals are adjectives of size (469a) and color (469b). The initial has its regular tones. Adjectives that distinguish a regular modifying form from a compound-final form are attested in bahuvrihis in both forms. ‘Long’ appears in (469a) both in reduplicative and simple form, and ‘black’ appears in (469b) both in full form yùàʔà and in compound-final form -yùɔ̀.

(469)			
	a.	pànúʔú-sɔ̀^{n}ʔɔ̀^{n} (Ji)	‘long-tailed’
		pànúʔú-[sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n}] (Bi Fl)	"
		pɔ́-[sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n}]	‘long-legged’
		ú^{n}ʔú^{n}-[tù-tùʔù]	‘big-headed’
		plɔ̀ʔɔ̀-[tù-tùʔù]	‘big-bellied (=pot-bellied)’

	ú^{n}ʔú^{n}-[bí-bī]	‘small-headed’
	jù-jə́rí ~ jù-jə́rí-rɛ̀	‘small-eyed’ (< jū)
b.	[gbè-gbè]-fìà^{n} (Bi)	‘white-chested’
	jɔ́^{n}ʔɔ́^{n}-yùɔ̀	‘black-necked’
	ú^{n}ʔú^{n}-yùàʔà	‘black-headed’
	ú^{n}ʔú^{n}-ʃí^{n}ʔɛ́^{n}	‘red-headed’
	cēʔē-[ʃɛ̀^{n}-ʃɛ̀^{n}ʔɛ̀^{n}] (Fl)	‘red/brown-skinned’
	cèʔè á ʃì^{n}ʔɛ̀^{n} (Ma)	"
	cēʔē-[yùà-yùàʔà] (Fl)	‘black-skinned’

These bahuvrihis typically follow nouns (‘snake’, ‘bird’, ‘person’, etc.). Some bahuvrihis, however, can function as nouns, like the fish species term in (470) which is confirmed for all dialects. The species in question has an elongated straight shape.

(470) kɛ̄-sɔ̀^{n}ʔɔ̀^{n} ‘Cornish jack (*Mormyrops*)’ lit. “arm-long”

5.2.2.2 With numeral compound final

Noun-numeral bahuvrihis preserve the pre-numeral particle, singular n or plural ò (for ‘2’ through ‘9’). When the numeral is ‘1’, a construction with additional -wí ‘owner’ seems to be usual (471).

(471) a. ē yǒ [jū-[n-dɛ̀^{n}ʔɛ̀^{n}]]-wí
Art woman [eye-[Sg-one]]-owner
‘one-eyed woman’ (Ma)

b. ē yǒ jū-[n-dɛ̀^{n}ʔɛ́^{n}]
Art woman [ege-[Sg-one]]
‘one-eyed woman’ (Fl)

c. ē wùʔó wù^{n}ʔú^{n}-[ò-jɔ̄^{n}]
Art snake head-[Pl-two]
‘a two-headed snake’ (Fl)

d. ná pì-[ò-kà^{n}]
cow foot.Pl-[Pl-five]
‘a five-legged cow’ (Fl)
(< /pìè ò kà^{n}/)

A special case is the phrase ‘one father, one mother’ to denote full siblings. Similar phrases occur widely in other languages of the region.

(472) [ē dɔ̌] kà [=ā yɔ̌]
[Art man] with [Art woman]
[ē sē [n dɛ̀ʔɛ́^{n}]] [ē nī [n dɛ̀ʔɛ́^{n}]]
[Art father [**Sg** **one**]] [Art mother [**Sg** **one**]]
'a man and a woman, (of) one father and one mother' (Ma)

6 Noun Phrase structure

6.1 Organization of NP constituents

6.1.1 Linear order

The basic order within multi-word NPs is (473). The abbreviations in the second row are those used in formulae later in this section. “q” is for quantifier. Numerals and determiners are sometimes themselves composite. A key point is that only the article or a possessor may precede the noun; other modifiers are postnominal.

(473)	article/possessor	noun	adjective	numeral	determiner	‘all’
	e/p	n	a	num	d	q

Some examples that collectively show the linear order are in (474). The formulae are on the right.

(474)

						type
a.	ē	wùʔú	yùàʔà			[e-n-a]
	Art	house	black			

‘a black house’ (Ma)

						type
b.	ē	wùʔú	yùàʔà	[ò	kà^{n}]	[e-n-a-num]
	Art	house	black	[Pl	five]	

‘five black houses’ (Ma)

						type
c.	ē	wùʔú	[ò	sá^{n}]	[íɲərè yá]	[e-n-num-d]
	Art	house	[Pl	three]	[Dem.InanPl]	

‘these three houses’ (Ma)

					type
d.	ē	wùʔù	[íɲərè yá]	bíɛ́ʔ	[e-n-d-q]
	Art	house	[Dem.InanPl]	all	

‘all (of) these houses’ (Ma)

						type
e.	ē	wùʔú	[ò	sá^{n}]	bíɛ́ʔ	[e-n-num-q]
	Art	house	[Pl	three]	all	

‘all three (of the) houses’

			type
f.	zàkí	wùʔú	[p-n]
	Z	house	

‘Zaki’s house’

In relative clauses, the relative marker follows demonstrative determiners but precedes ‘all’ (chapter 14).

6.1.2 Headless NPs (absolute function of modifiers)

A modifying adjective may occur absolutely, i.e. without a preceding head noun. This absolute construction is uncommon, but it can occur when the noun has been previously given, as with ‘the white one’ in (475). A preadjectival classifier such as inanimate á is optional after an overt head noun as in the first line of (475), but a classifier is required when the head noun slot is empty as in the second line. For the effect of classifiers on the segmental and tonal form of the adjectives, see §4.5.3.1-2.

(475) [ē wùʔú Ø yùàʔà] kō [zàkí dó],
[" " [á yùàʔá]] " [" "],
[Art house [(Inan) **black**] be [Z share],
[è [á fìà^{n}ʔá^{n}]] kò [nó dó]
[Art [Inan **white**]] be [1Sg share]
‘The black house is Zaki’s, the white one is mine.’ (Ma)

Demonstratives (476a) and numerals (476b) occur more freely without a head noun. Numerals ‘2’ to ‘9’ take their usual article-like ò. Quantifier ‘all’ normally has at least a pronominal “possessor” when no noun is present (476c).

(476) a. fùɔ̀ʔɔ̀ yá [ɔ̀^{n} nó]
give.Base **Dem.InanSg** [Dat 1Sg]
‘Give me that!’ (Ma)

b. fūɔ̄ʔɔ̄ [ò sá^{n}] [ɔ̀^{n} nó]
give.Base [**Pl** **three**] [Dat 1Sg]
‘Give me three!’ (Ma)

c. fūɔ̄ʔɔ̄ [à bíɛ́] [ɔ̀^{n} nó]
give.Base [**3Inan** **all**] [Dat 1Sg]
‘Give me all of it!’ (Ma)

For default possessums, see §6.2.4 below.

6.2 Possessives

Under most conditions, the possessor (pronominal or noun-headed) is simply preposed to the possessum with no overt genitive morpheme. A nonpronominal possessor takes full-NP form. Unless the possessor is a personal name, it may begin with the article ē under the usual conditions. The possessor may itself be a possessed NP, as in ‘[[my father]’s friend]’s house’.

Either the possessor or the possessum, or both, may be pluralized and may include modifiers (numeral, adjective, demonstrative). A nonpronominal possessor, but not the possessum, can be preceded by the article ē. (Personal names do not co-occur with articles.) Since the possessum is normally immediately preceded by its possessor, one might think that the absence of an article before the possessum is due to clause-medial elision. However, the article is also absent when the possessum is suffixally possessed (2Sg possessor, §6.2.5.2). This shows that articles cannot occur on possessed nouns.

Examples with nonpronominal preposed possessors are in (477).

(477) a. [ē yǒ] wùʔú
[Art woman] house
'the woman's house' (Ma)

b. [ē yə̀-ró kɔ̄-yə̀rò] wùʔú
[Art woman-Pl Dem.An-Pl] house
'the house of these/those women' (Ma)

c. [ē yǒ] nɔ́
[Art woman] cow.Pl
'the woman's cows' (Ma)

d. zàkí wùʔú
Z house
'Zaki's house' (Ma)

e. [ē yə̀-ró [ò sá^{n}]] wùʔú
[Art woman-Pl [Pl three]] house
'the house of (the) three women' (Ma)

f. [ē yǒ] wə̀-rú [ò sá^{n}]]
[Art woman house-Pl [Pl three]]
'the woman's three houses' (Ma)

Since there is no genitive marker, possessor-possessum combinations are not sharply distinguishable from noun-noun compounds, particularly the less lexicalized compounds. However, many lexicalized compounds drop tones on the final (§5.1.1.1), which does not happen with possessums. In addition, some compounds do not allow separate pluralization or modification of the initial.

6.2.1 Recursive possession

Recursive possession is freely possible. An already possessed noun functions as possessor of another noun in (478).

(478) [nó sē] wùʔú
[1Sg father] house
'my father's house' (Ma)

Such combinations take the form P N_1 N_2, where a possessor P is followed by two nouns. In true recursive possession, the bracketing is [P N_1] N_2, as in (478). Since the syntactic bracketing is inaudible, and since the article ē is not allowed before possessums, the construction [P N_1] N_2 is not always audibly distinguishable from a possessed noun-noun compound, i.e. P N_1-N_2.

6.2.2 ŋ̀ hesitation filler in possessive NPs

In (479), a hesitation pause after 'children' allows a nasal ŋ̀ to appear before the following possessum.

(479) [bè fə́râⁿ =] Ø-mā mā, [ē bí-ʃīō]—
[Dem.InanSg too] be.Loc there.Def, [Art child.Pl]—
ŋ̀ dɛ́-bɔ̀-ní
(nasal) body-be.hot-VblN
'That too is there, the children's illness(es).'
(Ma, 2018-05 @ 00:53)

The ŋ̀ is not really a genitive morpheme, rather an element introduced after any hesitation pause within a sentence (§3.1.1.10).

6.2.3 Kin and relationship terms

Kin terms have distinctive possessive constructions or morphology in some languages of the zone. This is not the case in Tiefo-D. Possessors (denoting the propositus, i.e. the Ego of reference) have the same form as in alienable possession.

(480) a. nó / zàkí dɛ̄
1Sg / Z elder.sib
'my/Zaki's older sibling' (Ma)

b. nó / zàkí dì-ɔ́
1Sg / Z elder.sib-Pl
'my/Zaki's older siblings' (Ma)

c. mó nī
2Sg mother
'your-Sg mother' (Ma)

6.2.4 Default possessum

6.2.4.1 Inanimate possessum dó

The noun dó ‘(someone’s) possession’ generally requires an overt possessor. It has the very general sense ‘(someone’s) share, alloted portion, role’. It is also used as a default inanimate possessum when the nature of the possessum is already established in preceding discourse. In (481), ‘house’ is replaced by dó in its second occurrence.

(481)	[zàkí	wùʔú]	ā	dìɛ̀ʔɛ̀,	[nó	dó]	k-ȁ	kplō
	[Z	house]	Ipfv	be.long,	[1Sg	**Poss.Inan**]	Infin-Ipfv	be.short.Ipfv

‘Zaki’s house is far away, mine is nearby.’ (Ma)

The plural is dɔ́-ró (Fl Ji), as in nó dɔ́-ró ‘my ones’.

Two textual examples of dó are in (482).

(482) a.	ɔ̀ⁿ	ŋ-ȁ	té	=nì
	3AnSg	Infin-Ipfv	put.Ipfv	3InanObj
	[[[ɔ̀ⁿ	wí]	dó]	nī]
	[[[3AnSg	owner]	**Poss.Inan**]	Loc

‘(so that) he (=Masa Solo) accepts it in the fellow’s (djinn’s) benefit,’ (Ma, 2017-04 @ 03:56)

b.	lɛ᷄ⁿ=	[[Ø	jɥ̀ɛ̀ʔɛ̀	dó]	nī]
	accept.Base	[[Art	God	**Poss.Inan**]	Loc]

‘accept God’s (role)!’ (Fl, 2017-03 @ 03:10)

Invariant dó is also a key part of the ‘Y belong to X’ predicate construction (§11.5.2). For L-toned -dò see §6.2.4.3 below.

A parsing difficulty is that when the [X dó] phrase meaning ‘X’s (possession)’ is subject of its clause, it can be confused with the combination of X as subject plus subject-final particle dó ~ dé (and other variants) ‘however’ (§19.3.8). Both parsings are at least possible in (Ji, 2017-04 @ 03:43), for example.

6.2.4.2 Animate default possessum júó

When the possessum is animate, the form is júó, invariant for number. It occurs in all dialects as the animate counterpart of dó. It is not attested outside of this construction. We gloss it as ‘Poss.An’ in interlinears.

(483)	[zàkí	sē / ná]	fīē,	[nó	júó]	kō	pɛ̄ⁿ	mā
	[Z	father/cow]	pass.Pfv,	[1Sg	**Poss.An**]	Infin	remain.Base	there.Def

‘Zaki’s father/cow went away, mine stayed there.’ (Ma)

Textual examples are in (484).

(484) a. kō wē [ɔ̄ⁿ júó]
Infin put.in.Base [3AnSg **Poss.An**]
'(and then) put in his (people). ' (Bi, 2017-10 @ 01:41)

b. [ē yǒ-dɛ̀] d= [[ɔ̄ⁿ júó] =yà]
[Art woman-old] say.Pfv [[3AnSg **Poss.An**] it.is]
'The old woman said, "he is yours." ' (women, 2017-13 @ 02:26-29)

c. dè [bùò júó] má kò bíɛ́ʔ
Quot [3Pl **Poss.An**] Neg be all
'Not everything is theirs. ' (Ji, 2017-09 @ 07:40)

For L-toned -jùò see the next subsection below.

dó versus júó looks at first sight like suppletion. However, initial j/d alternations in verbs are also associated with the presence or absence of an intrusive u, as in dè/jūō/jūō (and variants) 'sell' (§3.4.2.5). The situation is complicated by the possibility that the animacy-marking dó/júó pairing as default possessums might be distantly connected to the pairing of lō ~ rō (inanimate) versus júò (animate) as third person "pronouns" after the preposition kà 'with, and' (§4.3.2.4), bearing in mind that d/r alternations are fairly common (§3.4.2.9) and that l could be a dialectal mutation of *r.

6.2.4.3 L-toned -dò and -jùò as discourse-definite partitives

We have a handful of textual examples where default possessums dó (inanimate) and júó (animate), described in the preceding subsections, take L-toned forms after a noun (not a pronoun). Since tone-dropping is common with compound finals, we treat the forms with -dò and -jùò as compounds.

-dò in (485) seems to have discourse-definite partitive function. The phrase refers to the second of the series of incidents implied in preceding discourse.

(485) bè [jɔ̄ⁿ-dùʔó]-dò,
Dem.Def [two-Ordinal]-**Poss.Inan**,
bè wā= à-klè= [í-yùò bàʔà] mùsɔ̀kɔ́rɔ́]
Dem.Def Infin come.Base-be.done.Base [1Pl chez] M]
'The second one (=incident) of those, that one happened in our (zone) to Musokoro (a woman).' (Bi, 2017-09 @ 02:30)

A similar discourse-definite partitive reading of -dò seems possible in (w)ānāʔā-dò 'first' and ʃīē-dò 'last', see (375b) in §4.6.2.1.

In (486), -dò is added to a PP rather than directly to an NP. Again, the reference is to one member of a previously introduced set.

(486) bè bèrè ā kò-à-fó,
Dem.Def still Ipfv be.good.Ipfv-Ipfv-pass.Ipfv,
[[è [blí-kɛ́]-yò] bàʔà] dò]
[[Art [hare]-woman] **Dat**] **Poss.Inan**]
‘That was (still) better than the one that was with hare woman.’
(Bi, 2017-08 @ 03:11)

-dò can be added to nouns denoting times and places. dɛ̀yà-dò ‘this year’s (debt)’ is contrasted with implied dɛ̀-dò ‘last year’s (debt)’ in (Bo, 2019-03 @ 03:02). In (Bo, 2019-10 @ 02:58 through 03:06), kúⁿʔúⁿ-dò ‘today’s’ and synonymous dɛ̀-dɛ̀-dò ‘that of now(adays)’ is contrasted with ē [dī-nā-dɛ̀ⁿ]-dò ‘that of the old days’, referring to changes in marriage rites.

One can argue whether a discourse-definite partitive sense is present in ē nū dīē-dò ‘eating (=cooking) oil’ (§5.1.10.3).

The only textual example of -jùò is (487). Preceding discourse had introduced a trio of two brothers and one sister. Therefore adding -jùò to a subsequent mention of the sister is consistent with the discourse-definite partitive pattern illustrated above for -dò.

(487) [ò bī-dɔ̀ tóʔó] kō— [ē yǒ-jùò]
[3Pl younger.sibling Foc] be— [Art woman-**Poss.An**]
‘Precisely their younger sibling (=sister) was that woman.’
(Ji, 2021-02 @ 01:26)

The plural is ē [yə̀-ró]-jùò with the noun pluralized and -jùò invariant.

6.2.5 Pronominal possessor

6.2.5.1 Same as subject pronominals for non-2Sg possessors

With exceptions involving 2Sg possessor (see below), the same pronominal forms that occur in subject and postpositional complement functions also function as possessors. These include proclitic third-person pronominals (ɔ̀ⁿ, à, ò).

(488) a. é-yùò ná / wùʔú
1Pl cow / house
‘our cow/house’

b. nó ná / wùʔú
1Sg cow / house
‘my cow/house’

c. ɔ̀ⁿ ná
ɔ̄ⁿ wùʔú
3AnSg cow / house
‘his/her cow/house’

The form of 1Pl possessor can be full é-yùò (or variant) or short é ~ ó, with a preference for the fuller form. Textual examples of the full form as possessor are: í-yùò nī ‘our mother’ (Bi, 2017-07 @ 02:17 and 06:58), (í)-yùò sə́rɛ́ ‘our peer’ (Bi, 2017-08 @ 01:11), í-yùò ná^{n}-dì-ɔ̀ ‘our elders’ (Bi, 2017-10 @ 00:08), í-yùò kə́rú ‘our generation’ (Bi, 2017-10 @ 06:40), í-yùò dó ‘our share’ (Bi, @ 07:02), é-yùò bí-ʃīō ‘our children’ (Ji, 2017-11 @ 02:57), é-yùò dɛ́-lɛ̄^{n}ʔɛ̄^{n}-tɔ̀ʔɔ̀ ‘our good health (=prosperity) place’ (Fl, 2017-11 @ 05:58), é-yùò dè-fɛ̀ ‘our language’ (Fl, 2017-11 @ 11:13), ó-yùò bī-dɔ̌ ‘our younger sibling’ (Fl, 2017-11 @ 11:20), é-yùò dəràʔá ‘our tale’ (women, 2017-12 @ 00:47). This list excludes appositions of the type ‘we men’, though they are identical in form to possessives with é-yùò (§6.8).

Short é ~ ó occurs in ó ná-dì-ɔ̀ ‘our old men (=elders)’ (Ji, 2017-09 @ 05:59 and 2017-11 @ 02:57), é sāwāʔā ‘our rattle(s)’ (Bi, 2017-10 @ 05:36 and 05:39), é *garde-corps* ‘our protector’ (Fl, 2017-11 @ 05:39), ó fɛ̄-nī ‘our greeting’ (Ji, 2017-11 @ 11:01 and 11:05).

6.2.5.2 Optional suffix -à for 2Sg possessor

For 2Sg possessor, an alternative to the regular preposed pronoun mó is a special suffixed form -à. It occurs chiefly in reflexive possessor function as in ‘Did you see your father?’ and imperative ‘sell your goat!’ (§18.1.1), and as in conjunctions like ‘you and your father’ (§18.1.4). The suffixed form does not allow a prenominal article or another possessor. It is synchronically isolated and likely an archaism, and it has a homologue in Tiefo-N.

The suffix is not exclusively reflexive and there are some textual examples in nonreflexive contexts: dɔ́-à ‘your (possession)’ (Ji, 2017-04 @ 02:59), sɔ̀^{n}-à^{n} ‘your heart (=disposition)’ (Ji, 2017-07 @ 08:06), kě-à ‘your matter’ = ‘about you’ (Bi, 2017-07 @ 08:56).

Representative forms of nouns with the 2Sg suffix are in (489). In (489a), ‘father’ undergoes diphthongization (§3.4.5.3) before the suffix, and this in turn feeds into palatalization of the sibilant (§3.2.1.2). The same phonology occurs in plural ʃì-ó ‘fathers’. No diphthongization occurs with other Cv stems (489b) or compound finals (489c), or with longer stems (489d). Suffix -à can partially assimilate to a preceding vowel to become -ɛ̀ (sē-ɛ̀ ‘your father’ in Ji) or -ɔ̀ (bí-ʃīɔ̄-ɔ̀ ‘your children’ in Fl).

(489)	noun	‘your’	dialect	gloss	reference
a.	sē	ʃī-à	(all)	‘father’	
	"	sē-ɛ̀	Ji (variant)		
b.	lē	lē-à	Fl	‘village’	
	dɛ̄	dɛ̄-à	Fl	‘elder sib’	
	nī	nī-à	Fl	‘mother’	
	dó	dó-à	Fl Ji	‘possession’	Ji, 2017-04 @ 02.59
	yǒ	yō-à ~ yɔ̄-à	Fl Ji	‘woman, wife’	
	pɔ́	pɔ́-à	Fl Ji	‘leg’	
	sɔ̀^{n}	sɔ̀^{n}-à	Fl JI	‘heart (emotion)’	Ji, 2017-07 @ 08:06

c.

bí-ʃīō	bí-ʃīɔ̄-ɔ̀	Fl	‘children’
ná-díɛ́	ná-dí-à	Fl	‘uncle’
gbɛ́sɛ́	gbɛ́sɛ́-à	Fl	‘chewstick’
wùʔɔ́	wùʔɔ́-ɔ̀	Fl	‘goat’

The noun-like reflexive marker míʔá has a 2Sg form realized as míʔ-â [mḭ́ʔâ̰], in ‘you-Sg Vb-ed yourself’ (§18.1.2)

The 2Sg suffix can be added to a noun-adjective combination, as in (490). This too can occur in reflexive contexts (‘why did you sell your small house?’). The suffix can also be added to postpositions like tɔ̄^{n} (491a) and ʃīē (491b) in reflexive contexts (§18.1.3).

(490) ē wùʔù á bí-bī] -à
[Art house Inan small] -2**SgPoss**
‘your-Sg small house’ (Fl Ji)

(491) a. ɲɔ́ pɔ̀^{n}-tɔ̄^{n}-à
look.Base under-**2SgPoss**
‘Look under you!’ (Fl Ji)

b. ɲɔ́ ʃī-à
look.Base behind-**2SgPoss**
‘Look behind you!’ (Fl Ji)

6.3 Core NP (noun plus adjective)

6.3.1 Noun plus regular adjective

A modifying adjective follows the noun. If the referent is plural, both noun and adjective (unless they lack plural forms) are marked for plurality. The article is present before the noun under the same conditions as without the adjective. The article is not repeated before the adjective.

There are two N-Adj constructions, one without and one with an intervening classifier. In (492), the adjective directly follows the noun.

(492) a. ē būʔɔ̄^{n} tù-tùʔù
Art dog big
‘a/the big dog’ (Ji)

b. ē būʔō tù-tə̀-rù
Art dog.Pl big-Pl
‘(the) big dogs’ (Ji)

In (493), the noun and adjective are separated by an adjectival classifier, inanimate á or animate kā. Tthe choice of classifier has segmental and/or tonal consequences for some adjectives (§4.5.3.1-2). We bracket the classifier with the adjective.

(493)	a.	ē	wùʔú	[á	kòʔó]	jī
		Art	house	[**Inan**	good]	Indef
		‘a good house.’ (Fl)				
	b.	ē	yǒ	[kā	kòʔò]	jī
		Art	woman	[**An**	good]	Indef
		‘a pretty woman’ (Fl)				

Some adjectives cannot occur directly after nouns in the fashion of (492). Instead, the classifier is obligatory even after a noun. Adjectives of this type at least for our Fl speaker are ‘foreign’ (kā kùɔ̀ʔɔ̀), ‘empty’ (á kāʔā), and ‘ruined’ (á bāʔá). kāʔā ‘empty’ is distinguished from kāʔā ‘hard’ by this construction, since kāʔā ‘hard’ directly follows the noun. ‘Empty’ directly follows the noun only in tɔ̀ʔɔ̀-kàʔà ‘empty place’, where it is an L-toned compound final. For the morphology see §4.5.3.1.2.

Some expressive adverbials (§8.5.8) have adjective-like senses, but they cannot be incorporated into noun-headed NPs unless they are participialized or relativized on, and they do not combine with adjectival classifiers.

6.3.2 Adjective sequences

Two or (in theory) more adjectives may modify the same noun (494).

(494)	ē	wùʔú	yùàʔà	tù-tùʔù
	Art	house	black	big
	‘a/the big black house’ (Ma)			

6.4 NPs including a numeral

For the forms of numerals, see §4.6 above. Numeral predicates (e.g., ‘the children are three’) are based on the same forms the numerals have in absolute function (i.e. without a noun), see §11.6.

6.4.1 Noun or pronoun plus nonsingular numeral

Numerals follow nouns (and modifying adjectives). In such phrases, the article ē is present before the noun under the usual conditions. The noun usually takes plural form before nonsingular numerals, but this is not strict, and some inanimate nouns are not readily pluralized. The numerals ‘2’ to ‘9’ are preceded by ò as an article-like plural marker after nonhuman (including animate) nouns (for human yúó see below). The result is a bipartite phrase of the type [Art N] [Class Num] for ‘2’ through ‘9’ (495a-c,e). The presence of ò may be obscured by vv-Contraction when the noun ends in a back rounded vowel, but at least a tonal trace is usually audible.

Numerals from ‘10’ up are treated morphologically as nouns and take the regular ē article when they follow nonhuman nouns. However, the pre-numeral ē is sometimes inaudible before ‘10’ and higher numerals, except after a prosodic break. One consequence of this is that an M-toned noun preceding ‘10’ may undergo M#H-to-L#H or LH#H-to-L#H as though the pre-numeral ē were not present (as a buffer). So sə̀-ríⁿ ‘trees’ drops to L-toned before támm ‘10’ (495d). If the ē preceding támm were phonologically relevant we would expect #ē sə̀-rîⁿ Ø támm from /ē sə̀-ríⁿ è támm/. On the other hand, when ‘10’ is postpausal (i.e. clause-initial, or following an interruption) it is always è támm with the article clearly pronounced. With numerals ‘2’ to ‘9’, the classifier ò is not usually elided the way ē is with ‘10’ and its presence blocks the tone-dropping processes (495e).

(495) a. ē būʔȍ= [Ø jɔ̄ⁿ]
[Art dog.Pl] [**Pl** two]
‘(the) two dogs’ (< būʔō) (Ji)

b. ē cīō [ò sáⁿ]
Art bird.Pl [**Pl** three]
‘three birds’ (Bi, 2017-06 @ 00:03)

c. ē dò= [ò sáⁿ]
Art sun [**Pl** three]
‘three days’ (women, 2017-14 @ 00:43)
(< /ē dè/)

d. ē sə̀-rìⁿ [(Ø) támm]
Art tree-Pl [(Art) ten]
‘(the) ten trees’ (Ji)

e. ē sə̀-ríⁿ [ò sáⁿ]
Art tree-Pl [Art three
‘(the) three trees’ (Fl)

If the noun denotes a human, all numerals ‘2’ and up including ‘10’, ‘20’, etc. are preceded by yúó (or a tonal variant, or allomorph ɲūɔ̄) as plural classifier (496a-c). The morpheme ò is absent. If yúó in the sense ‘people’ itself is the quantified noun, it is directly preceded by the article (496d).

(496) a. ē yə̀-ró [yúó támm]
Art woman-Pl [**people** ten]
‘ten women’ (Fl)

b. ē kɛ̄ⁿ-dì-ɔ̀ [yūō jɔ̄ⁿ]
Art old.man-Pl [**people** two]
‘two old men’ (Fl & Ma, 2017-03 @ 00:12 and 00:15)

c. ē lɔ̄ [yūō jɔ̄ⁿ]
Art young.women [**people** two]
‘two young women’ (Fl, 2017-05 @ 00:19)

d.	ɔ̄^{n}	ɲɔ́	[[ò	yūō	jɔ̄^{n}]	nī]
	3AnSg	look.at.Base	[[3Pl	**people**	two]	Loc]

‘(said:) look-2Pl at (=consider which of) the two (people)’
(Fl, 2017-05 @ 03:53)

If there is a prosodic break between the counted noun and the numeral, yúó can itself be expanded as è yúó with its own article. Thus è bí-ʃīō, è yúó sá^{n} ‘three children’ (phrased with a break as ‘children, three (of them)’ from our Bi speaker at 2017-07 @ 07.46.

An independent pronoun may also be juxtaposed to a numeral. The pronoun takes independent (not proclitic) form. 2Pl or logophoric plural bùò requires yúó ‘people’ as human classifier before the numeral: bùò yúó jɔ̄^{n}/támm (Fl Ji) ‘you two/ten’ or ‘they two/ten’, cf. bùò jɔ̄^{n} (497, Bi dialect). For 1Pl we have recorded é-yùò ɲùò sá^{n} (Ji) and é-yùò yùò sá^{n} (Fl) ‘we three’; note the tones and the nasal allomorph in Ji.

(497)	a.	kō	yūā-gbɛ̄	[bùò	jɔ̄^{n}]	[kò	fó]
		Infin	grope.Base-pick.up.Base	[**3Pl**	**two**]	[Infin	pass.Base]

‘… seized the two of them (=children) and went away.’
(Bi, 2017-07 @ 03:56)

b.	bùò	[yūō	jɔ̄^{n}]
	2Pl	[people	**two**]

‘you two’ (Fl)

The noun or pronoun preceding a numeral may be focalized (498a). However, the focalizer may also follow the numeral (498b). There appears to be no semantic difference.

(498)	a.	[é-yùò	tə́-ró]	[ɲūō	jɔ̄^{n}]	klɛ̄-bà
		[1Pl	**Foc-AnPl**]	[people	two]	return.Pfv-come.Base

‘It’s us [focus] two who have come back.’ (Ji, 2017-04 @ 00:02)

b.	[é-yùò	[yūō	jɔ̀^{n}]	tə́-ró]	nà	yīʔí
	[1Pl	[people	two]	Foc-AnPl]	Fut	go.Base

‘It’s us two [focus] who will go.’ (Fl)

Interrogative mlɛ̌^{n} ‘how much/many?’ also takes nonhuman ò and human yúó classifiers (§13.2.3.5.2).

6.4.2 Noun-adjective plus nonsingular numeral

If a modifying adjective is present the order is N-Adj-Num, or more accurately Art-N-Adj-[Class-Num] when a plural classifier is present (499). Both the noun and the adjective usually take plural form before nonsingular numerals.

(499) ē būʔō tù-tə̀-rù [ò kàⁿ]
Art dog.Pl big-Pl [Pl five]
'(the) five big dogs' (Ji)

6.4.3 Absolute numerals

A numeral '2' to '9' preceded by ò, or another numeral preceded by the article ē, may occur without a preceding noun, i.e. absolutely (§6.1.2). This construction is not common and we can cite no textual examples. Examples with nonhuman NPs in subject position are in (500).

(500) a. [ò sáⁿ] fīē
[Pl three] pass.Pfv
'Three (goats etc.) ran away.'

b. [è támm] kèʔè
[Art ten] be.ruined.Pfv
'Ten (sacks of grain) were ruined.'

c. [ǹ dɛ̀ⁿʔɛ́ⁿ] fīē
[Sg one] pass.Pfv
'One (goat etc.) ran away.'

Examples with human NPs in subject position are in (501). Even without a preceding noun, these forms are the usual way to say 'three/ten people' and 'one person'.

(501) a. [è yùò sáⁿ] bà
[Art people three] come.Pfv
'Three people came.' (Fl Ji)

b. [è yúó támm] bà
[Art people ten] come.Pfv
'Ten people came.' (Fl Ji)

c. [ē nā-dɔ̀ⁿʔɔ́ⁿ] bà
[Art person-one] come.Pfv
'One person came.'

d. [ē yǒ] [n dɛ̀ⁿʔɛ́ⁿ] bà
[Art woman] [Sg one] come.Pfv
'One woman came.'

6.4.4 'One' in an NP

After a noun (human or nonhuman) or pronouns, 'one' takes the form n dɛ̀^{n}ʔɛ́y^n (Ji) or n dɛ̀^{n}ʔɛ́^{n} (Bi Fl Ma) (§4.6.1.1).

(502) a. [tɔ̀ʔɔ̀ [n dɛ̀^{n}ʔɛ́^{n}]] nī
[place [Sg one]] Loc
'in the same place' (Bi, 2017-08 @ 08:31)

b. [ē yǒ] [n dɛ̀^{n}ʔɛ́^{n}]
[Art woman] [Sg one]
'one woman' (Ji)

'One person' takes the form (ē) nā-dɔ̀^{n}ʔɔ́^{n} (Fl Ji Ma) or (è) ná-dɔ̀^{n}ʔɔ́^{n} (Bi). The initial element is an archaic noun meaning 'person', surviving also as agentive singular -nɔ̀ and in some compounds like ná-bí ~ nà-bí 'person' or 'child'.

The locative PP à^{n}dɛ́^{n}ʔɛ́^{n} nī means 'as though, seemingly' (Bi, 2017-08 @ 03:11). It is most likely a partial nativization of Fr *on dirait* 'one would say'. The latter is very common in French in the epistemic sense 'it looks like …'. However, à^{n}dɛ́^{n}ʔɛ́^{n} nī comes close to being parsable as Tiefo-D [à [n dɛ̀^{n}ʔɛ́^{n}]] nī, which would mean 'in [its one]'.

6.4.5 'X times' (nī)

The sense 'X times (instances, repetitions' with reference to event types is expressed as a noun-like morpheme nī (Bi ní^n) plus a numeral. It is dropped to nì before H-tone by regular tone sandhi except in Bi dialect. There is no plural ò morpheme before numerals '2' to '9'.

(503)

nī jɔ̄^{n}	'twice'	(Fl Ji)	ní^n jɔ̄^{n} (Bi)
nì sá^n	'three times'	(Fl Ji)	ní^n sá^n (Bi)
nī wū^{n}ʔɔ̄^{n}	'four times'	(Ji)	
nī kà^n	'five times'	(Fl Ji)	

A fuller form is (ē) piè-nī, where piè appears to be the plural noun 'feet'. 'How many times?' is then ē piè-nī mlē^n. 'Many times' is nī kərɛ̀^{n}ʔɛ̀^{n} or nì á kərɛ̀^{n}ʔɛ́^{n}.

6.5 NP including a determiner

An NP based on a common noun (i.e. a noun like 'person', 'dog', or 'house' that denotes a set of individuals, or a mass noun like 'water'), as opposed to a place name or personal name, requires either an article, a demonstrative, or a possessor. Articles and possessors precede nouns and are always NP-initial. Demonstratives follow nouns.

6.5.1 NP with prenominal article ē

The article ē (§4.4.1.1) precedes the noun if there is one. It may directly precede an adjective in absolute function, i.e. if there is no noun so that the adjective is NP-initial. Numerals '10' and up are preceded by ē when they are NP-initial, and under some conditions when they follow a noun. The article occurs regularly before place names, as in ē dəràmáⁿdùgú 'Daramandugu', but not before simple personal names like zàkí 'Zaki'. Some spatiotemporal adverbs are noun-like and can take ē. However, ē is only sporadically found before kúⁿʔúⁿ 'today' and does not occur before fāⁿʔāⁿ 'here' or dɛ̀-dɛ̀ 'now'. It occurs before several content interrogatives like ē sē 'where?', but not before others like sò-mó 'who?' and variants.

Unless contracted with a preceding vowel clause-medially, the article is invariant in form except that it drops to è by regular tone sandhi before an H-tone. There is no number distinction in the article when it precedes a noun or adjective.

The article is optional when a demonstrative follows the noun (504c), and it is absent (#) before possessed nouns (504d-e).

(504) a. ē būⁿʔɔ̄ⁿ
Art dog
'a/the dog'

b. ē būʔō
Art dog,Pl
'(the) dogs'

c. (ē) būⁿʔɔ̄ⁿ kǎⁿ
(Art) dog Dem
'this/that dog'

d. nó būⁿʔɔ̄ⁿ
1Sg dog
'my dog'

e. (#è) dɔ́-à
Poss.Inan-2SgPoss
'yours, your (possession)' (Ji, 2017-04 @ 02:59)

The article is normally present before a noun plus indefinite jī (or variant) within a sentence. Our Fl speaker volunteers that absence of the article suggests an epithet (505d).

(505) a. ē kě jī
Art matter Indef
'something' (Ji, 2017-01 @ 02:55)

b. è sǒ jī
Art pig Indef
‘a pig’ (Fl, 2017-03 @ 00:58)

c. ē nā-dɛ̀ dígɔ̀ʔɔ̀ jī
Art old.man other Indef
‘another old man’ (Fl, 2017-03 @ 03:00)

d. būɔ̄^{n}ʔɔ̄^{n} jī =rɛ̄ʔ
dog Indef Emph
‘(you) dog!’ (insult) (Fl)

6.5.2 NP with deictic demonstrative (kǎ^{n}, yá, etc.)

Deictic demonstratives (§4.4.2.2) follow nouns and any inner postnominal modifiers, i.e. adjectives and numerals. Articles are optional when a demonstrative is present.

(506) a. (ē) bū^{n}ʔɔ̄^{n} tù-tùʔù kǎ^{n}
(Art) dog big Dem
‘this/that big dog.’ (Bi Ji)

b. (ē) būʔ= [ò sá^{n}] kɔ̄-yùò
(Art) dog.Pl [Pl three] Dem.AnPl
‘these three dogs.’ (Bi Ji)

Textual examples with clear ē before noun and demonstrative are è blí-kɛ́ kǎ^{n} ‘this hare’ (Fl, 2017-05 @ 02:53) and ē jùʔò yá ‘this talk’ (Ji, 2017-07 @ 03:47). Examples clearly without ē are tɔ̀ʔ= á ‘this place’ (Ji, 2017-11 @ 06:40) and dùʔ= á ‘those cliffs’ (Ji, 2017-11 @ 10:10).

Demonstratives and preceding nouns and/or adjectives are separately marked for grammatical number. The noun, adjective, and demonstrative in (507) are all morphologically plural.

(507) (ē) būʔō tù-tə̀-rù kɔ̄-yùò
(Art) dog.Pl big-Pl Dem.AnPl
‘these big dogs’ (Bi, Ji)

A demonstrative may occur without a noun, i.e. absolutely (§6.1.2). Examples are in (508).

(508) a. [ò gō gbɛ̄ [ō sūʔ= [ɔ̀^{n} kǎ^{n}]]
[3Pl Infin pick.up.Base [Infin give.Base [Dat **Dem.AnSg**]]
‘They took (it) and gave it to that one’ (Bi, 2017-07 @ 03:08)

b.	yá	klɛ̌=	[Ø	kě]
	Dem.InanSg	be.done.Pfv	[Art	matter]

‘That is a (serious) matter!’ (Ji, 2017-08 @ 10:00)

6.5.3 NP with discourse-definite bè (rarely bó)

The inanimate or abstract discourse-definite demonstrative is invariant bè. When used absolutely (without a noun), it often resumes a general situation that has been described in preceding discourse. It occurs, for example, in the PP bè nī ‘in that (situation)’. See §4.4.2.1 for more examples and discussion of absolute bè.

When bè occurs at the end of an NP, bè functions as a topic marker for inanimates, parallel to animate singular bó and animate plural bùò (§19.1.2.1)

Here we focus on combinations of bè with a following inanimate noun in discourse-definite function. The most frequent combination in the texts is likely bè tɔ̀ʔɔ̀ ‘that (same) place’. In the locative PP [bè tɔ̀ʔɔ̀] nī ‘in that (same) place’, e.g. (Ji, 2017-09 @ 07:20), it gives some competition to the mā ‘there (definite)’ and à nī ‘in it, therein, there’. The same [bè tɔ̀ʔɔ̀] nī can also have the more abstract sense ‘(in) that situation’, as in (Ma, 2017-10 @ 02:52).

Additional high-frequency combinations are those with bè preceding other primary adverbial nouns (‘day’, ‘time’, ‘year’, ‘manner’). However, bè can precede any inanimate noun in the right discourse frame. Some textual examples are listed in (509).

(509)	a.	bè fɛ́	‘that talk (=tale)’	(Ji, 2017-01 @ 04:09)
	b.	bè dərìⁿʔíⁿ	‘that song’	(Bi, 2017-07 @ 01:02 & 06:31)
	c.	bè kɔ̄	‘that day’	(Bi, 2017-07 @ 02:23)
		"	"	(Ji, 2017-09 @ 08:24)
		bì kɔ̄	"	(women, 2017-15 @ 00:32)
	d.	bè mùⁿ-díⁿ	‘that voice’	(Bi, 2017-07 @ 02:50)
	e.	bè dí-cùⁿʔùⁿ	‘the next morning’	(Bi, 2017-07 @ 06:50)
	f.	bè yǎ	‘that year’	(Ji, 2017-09 @ 04:58 & 05:03)
	g.	bè ɛ̀ʔɛ́	‘that thing’	(Ji, 2017-09 @ 08:13)
		"	"	(Ji, 2017-11 @ 08:03)
	i.	bè díⁿ	‘that manner’	(Bi, 2017-10 @ 00:30)
	j.	bè dáʔá	‘that time’	(Bi, 2017-10 @ 03:14)
	k.	bè tìʔ(ɛ́)= á jərɔ́ⁿ	‘that hole’	(Ji, 2017-11 @ 04:35)
	l.	bè plákí	‘that (road-)sign’	(Ji, 2017-11 @ 08:23)

The construction with bè preceding the modified noun may have originated as a possessive construction ‘its X, the X of that (situation/matter)’. For example, ‘that song’ and ‘that year’ can be construed as ‘the song of (=about) that’ and ‘the year of that (event, situation)’. In bè dí-cùⁿʔùⁿ ‘the next morning’ (Fr *le lendemain*), which introduces (rather than refers back to) the referent day, bè can be taken as denoting the afore-mentioned preceding day. A possessive reading is more strongly called for in bè dó ‘its (possession)’ in (Ji, 2017-04 @ 06:59), indefinite bè jī ‘some of it’ (Bi, 2017-08 @ 06:50), and bè kɔ́rɔ́ ‘its meaning’ (women, 2017-21 @ 00:12). Such a reading is also suggested by the fact that bὲ can be singled out for focalization within the NP (510).

(510)	ɔ̄ⁿ	wō	gbɛ̄	[[bὲ	tóʔó]	tàpùʔɔ̀]
	3AnSg	Infin	take.Base	[[**Dem.Def**	**Foc**]	mat]

‘She then took that very same mat.’
(women, 2017-13 @ 03:24)

For obvious semantic reasons, discourse-definite bὲ does not easily combine with indefinite jī within an NP. However, if jī has narrow scope, singling out a referent from a larger set that has been introduced into the discourse, the combination is possible. See (518) below.

Animate pronouns (3AnSg bó, 3AnPl bùò) do not usually precede nouns in the same way as inanimate bὲ. However, there is one clear case in the texts: bó yǒ ‘that (just mentioned) woman’ in (Ji, 2021-02 @ 01:19). Usually a combination like this is interpreted as possessive ‘his woman (wife)’. However, there is no singular male referent in the discourse context who could be understood as her husband. The text describes the founding group of the local chiefly family: three brothers and their younger sister. The speaker later indicated that the plural of bó yǒ ‘that (just mentioned) woman would be bùò yə̀-ró ‘those (just mentioned) women’.

6.5.4 NPs with indefinite jī (plurals jə̄-rō, jə̄-rē)

The indefinite markers are jī (singular), jə̄-rō (animate plural), and jə̄-rē (inanimate plural). The forms are discussed in §4.4.2.3, which also mentions the use of (ē) jī as a noun ‘something’ or ‘someone’.

The prenominal article ē is usually present in NPs with postnominal indefinite marking.

Indefinite markers often introduce new discourse referents. In other words, morphologically indefinite NPs most often function as specific indefinites: ‘a certain X’, ‘some (specific) Xs’.

(511)	a.	[ó	nà	gɔ̌=	[Ø	dəràʔá	jī]
		[1Pl	Fut	narrate.Base	[Art	tale	**Indef**]

‘We will tell a tale.’ (Fl, 2017-03 @ 00:05)

b.	[ē	sǒ],	kà=	á-dàⁿ	
	[Art	pig],	Infin	go.Base-arrive.Base	
	[[ē	kὲʔɛ̄-rὲ-ʔέ	jə̄-rē]	nī]	də́rɔ̄ⁿ
	[[Art	*Gardenia*-Pl	**Indef-InanPl**]	Loc]	only

‘when the warthog arrived at some *Gardenia erubescens* trees’
(Fl, 2017-03 @ 01:58)

c.	[ē	làʔà]	dìè	[[Ø	úⁿ	jī]	nī]
	[Art	hunger(n)]	enter.Pfv	[[Art	village	**Indef**]	Loc]

‘A famine came into a (certain) village.’ (Bi, 2017-09 @ 06:15)

d. [[è ná-dì-ɔ̄ jə̄-rō] ɲùʔɔ́] nī
[[Art old.person-Pl **Indef-AnPl**] mouth] Loc]
‘(heard) from the mouth(s) of certain old people’ (Ji, 2017-09 @ 08:32)

Some common combinations are è yúó jī ‘a (certain) person, someone’, ē ɛ̀ʔɛ́ jī ‘something’, ē tɔ̀ʔɔ̀ jī ‘a (certain) place’, ē kɔ̄ jī ‘a (certain) day’, and ē yǎ jī ‘a (certain) year’.

However, indefinites can also have nonspecific reference. This can occur in positive contexts (512a) but it is most obvious under negation (512b-c): ‘not any X, no X’. Negation, which is expressed chiefly in post-subject inflectional particles (combined with aspect), may either precede the indefinite NP (in non-subject functions) or follow it (in subject function). Most textual examples involve high-frequency nouns (e.g. ‘person’, ‘thing’, ‘place’, ‘time’), compare English lexical negative indefinites *nobody*, *nothing*, *nowhere*.

(512) a. dē [bùò nā-dɔ̀^{n}ʔɔ́^{n} jī]
Quot [LogoPl person-one **Indef**]
‘(they said:) (choose) one of us’ (Fl, 2017-05 @ 03:53)

b. ǒ= Ø sūʔɔ̄ [Ø ɛ̀ʔɛ́ jī] =ā
3Pl **PfvNeg** give.Base [Art thing **Indef**] Q
‘They didn’t give anything?’ (Ji, 2017-09 @ 04:02)

c. [ē ɛ̀ʔɛ́ jà=] á sūʔɔ̄ mā^{n} =nɛ̄ʔ
[Art thing **Indef**] **PfvNeg** be.given.Base there.Def Emph
‘Nothing was given, mind you!’ (Bi, 2017-09 @ 04:06)

Indefinite markers follow modifying adjectives (513).

(513) [ē nā-dɛ̀ dígɔ̀ʔɔ̀ jì] má wìè-tàʔà mó
[Art old.man **other** **Indef**] IpfvNeg help.Pfv 2Sg
‘Another old man won’t (be able to) help you.’ (Fl, 2017-03 @ 03:00)

Indefinite markers only occasionally co-occur with numerals. However, when nameless referents are introduced into discourse, the two may co-occur, in the order numeral-indefinite. The numeral has its usual human or nonhuman classifier, as with ‘person’ in (514).

(514) a. [[ē lɔ̄] [yūō jɔ̄^{n}] jə̀-rò tə́-ró] yì-mā
[[Art young.women] [people **two**] **Indef-An**Pl Foc-AnPl] Past-be.Loc
‘There were two young women [focus] (there).’ (Fl, 2017-05 @ 00:19)

b. ó gò yíʔí [gō rà-ɲɔ́^{n}]
1Pl Infin go.Base [Infin go.Base-look.at.Base]
[[ē wū-tò] [n dɛ̀^{n}ʔɛ́^{n}] jī] bā à-mā^{n}
[[Art bungalow] [Sg **one**] **Indef**] if be.Loc
‘We went and looked, (to see) if one bungalow was there, ….’
(Bi, 2017-10 @ 03:23)

'Someone' can be expressed regularly as è yúó jī with yúó 'person'. Or it can take a reduced form è ńⁿ jī ~ è úⁿ jī, or even ē jī (which also means 'something', see below). The nasal in è ńⁿ jī may reflect the old stem meaning 'person' preserved in a few compounds like ná-bí ~ ná-bí 'person' or 'child' (§5.1.5.5), and in agentive singular -nɔ̀ (§4.2.2). However, è ńⁿ jī is now morphologically opaque.

'Something' can be expressed regularly as ē ɛ̀ʔɛ́ jī with the noun ɛ̀ʔɛ́ 'thing' (515), or in reduced form as ē jī where jī appears to function as a noun.

(515) dè= [Ø ɛ̀ʔɛ́ jī] à-māⁿ =dɛ̄ʔ
Quot [Art thing **Indef**] be.Loc Emph]
'(says:) "something is out there!" (Bi, 2017-06 @ 00:59)

In the expression ē jī kě 'a (certain) thing', or by extension 'a (certain) person', jī seemingly precedes rather than follows the noun kě 'thing'. However, kě can function much like a postposition 'about, concerning, in the matter of', and we parse ē jī kě syntactically as 'the matter of a (certain) thing/person'. In (516), ē jī kě occurs twice to distinguish the two individual children who had just been introduced into the discourse as plural 'children'.

(516) [ē jī kě] à dáⁿ ɔ̀ⁿ]
[Art **Indef** **thing**] Ipfv please.Ipfv Dat.3AnSg]
[ē jī kè] máⁿ dáⁿ ɔ̀ⁿ]
[Art **Indef** **thing**] IpfvNeg please.Ipfv Dat.3AnSg]
'A certain one she (=the mother) loved, a certain (other) one she didn't love.'
(Bi, 2017-07 @ 00:08)

Plural indefinite jə̄-rō occurs in a similar parallel construction in (517). The issue is whether an elephant who has just appeared is the same elephant who had come previously.

(517) [ē jə̄-rō] dè—, [[bó tóʔó] =yà]
Art **Indef-AnPl**] say.Pfv —, [[3AnSg Foc] it.is]
[ē jə̄-rō] dè [bó máⁿ glò =ʔ]
[Art **Indef-AnPl**] say.Pfv [3AnSg IpfvNeg it.is Neg]
'Some people said, "it is <u>him</u> [focus]!" Some (others) said "it isn't him!" '
(Bi, 2017-09 @ 01:01)

Indefinite markers sometimes require a partitive reading. Such a reading makes sense of (518a), where jī is singular while dígə̀-rɔ̀ is plural. See also (512a) above. This also makes sense of occasional examples where an indefinite marker is added to a discourse-definite NP either consisting of or beginning with bè (518b-c). In (518c), a new place is introduced, but it is part of a local area (the nearby cliffs) that has been the topic of the preceding discourse.

(518) a. dè [mó dígə̀-rɔ̀ jì] ní-mā
Quot [2Sg other-**Pl** **Indef**] not.be.Loc
'None of your counterparts is your equal.' (Ji, 2017-01 @ 02:58)

b.	dē	[ɔ̀ⁿ	wō	kùʔɔ̀	[bὲ	jī]]
	Quot	[3AnSg	Infin	strip.off.Base	**[Dem.Def**	**Indef**]]

‘saying: it will then strip off some of that (bark)’ (Bi, 2017-08 @ 06:37)

c.	[bὲ	tɔ̀ʔɔ̀	jā̀=]	Ø-mā
	[Dem.Def	place	**Indef**]	be.Loc

‘There’s a place thereof.’ (Ji, 2017-11 @ 10:24)

6.6 Universal and distributive quantifiers

6.6.1 Universal quantifiers

6.6.1.1 ‘All’ (bíɛ́ ~ bíɛ́ʔ)

The universal quantifier bíɛ́(ʔ) ‘all’ (including ‘both’ for a set of two) follows the noun and any inner modifiers (adjective, numeral, demonstrative), or any of the latter in absolute function (without a noun). This quantifier also occurs in Jula.

(519)	a.	ē	bùʔò	bíɛ́ʔ
		Art	dog.Pl	**all**

‘all (the) dogs’ (Ji)

b.	ē	būʔō	tù-tə̀-rù	bíɛ́ʔ
	Art	dog.Pl	big-Pl	**all**

‘all (the) dogs’ (Ji)

c.	ē	būʔō=	[Ø	kàⁿ]	bíɛ́ʔ
	Art	dog.Pl	[Pl	five]	**all**

‘all five (of the) dogs’ (Ji)

d.	ē	būʔō	kɔ̄-yùò	bíɛ́ʔ
	Art	dog.Pl	Dem.AnPl	**all**

‘all (of) these/those dogs’ (Ji)

e.	úⁿʔúⁿ	yá	bíɛ́
	head	Dem.InanSg	**all**

‘that whole head’ (Ji, 2017-07 @ 08:34)

f.	nóⁿ	wā=	à-sō	[bὲ	bíɛ́]	[kò	dí]
	1Sg	Infin	come.Base-receive.Base	[Dem.Def	**all**]	[Infin	eat.Base]

‘I (came and) received all that and ate (it).’ (Bi, 2017-08 @ 09:48)

A pronoun may also be modified by bíɛ́(ʔ) (520). This may be a “possessive” construction morphosyntactically with the pronominal in partitive function, cf. Eng *all of us*. This is suggested by the use of short pronominal forms: third person ɔ̀ and à, 1Pl ó. If bíɛ́(ʔ) were a modifier (or an adverb) we would expect full independent pronoun forms.

(520) a. [nó fɛ̃-nī] kō [[bùò bíɛ́] bàʔà]
[1Sg greeting(n)] be [[**2Pl** **all**] Dat]
‘My greeting is to all of you.’ (Ji, 2017-01 @ 00:14)

b. [ò bíɛ́] kɛ̄nɛ̄ mā
[**3Pl** **all**] be.healthy there.Def
‘They are all healthy.’ (Ma, 2017-01 @ 00:12)

c. [ò bíɛ́] à jī̀= [[Ø [blí-kɛ́]-kě] lò
[**3Pl** **all**] Ipfv know [[Art [hare]-matter] Emph
‘Everyone knows about hare.’ (Fl, 2017-05 @ 00:33)

d. ǒ= Ø sūʔɔ̄ [Ø klòʔó] [[à bíɛ́] nī]
3Pl PfvNeg give.Base [Art road] [[**3Inan** **all**] Loc]
‘They didn’t give permission for all of it (=zone).’ (Ji, 2017-11 @ 04:09)

‘We all’ or ‘all of us’ is ó bíɛ́ in (520c) but é bíɛ́ in (Ji, 2017-09 @ 04:23). There is also a contracted form é-bé ~ ó-bé (§4.3.1.5).

bíɛ́ may follow a relative marker like jə̀rɔ́^{n}. The resulting X jə̀rɔ̀^{n} bíɛ́ means ‘every X that/who …’, usually inanimate. ‘Every X who …’ with animate reference is X jə̀rò bíɛ́. bíɛ́ may also follow a focalized NP with tóʔó or other focus marker. Both relative and focalized examples are in textual passage (521).

(521) [mó^{n} dó] ɲà^{n} [á kə̀-rɛ̀^{n}-ʔɛ́^{n} ɲə̀rɔ̀^{n} bíɛ́]
[2Sg however] see.Pfv [Inan many **Rel** **all**]
mó^{n} nà^{n} sò [bì tóʔó bíɛ́] [kò yíʔí]
2Sg Fut carry.on.head.Base [Dem.Def **Foc** **all**] [Infin go.Base]
‘All the many things that you have seen, you will carry all that on your head and go.’ (Bi, 2017-08 @ 07:54)

However, bíɛ́ may also precede a focus marker in the absence of a head noun, to judge by à bíɛ́ té ‘all that’, admittedly in a phonetically somewhat unclear passage (Ji, 2017-08 @ 09:07).

The glottal stop in bíɛ́ʔ is heard prepausally (e.g. in isolation) but is absent phrase-medially (522). The glottal stop could therefore be analysed as an enclitic prosodic feature, like the =ʔ at the end of negative clauses.

(522) [ē būʔō bíɛ́] fīē
[Art dog.Pl **all**] pass.Pfv
‘All the dogs have gone.’ (Ji)

Some textual examples are in (523).

(523) a.

kō	gbɛ̃=	[Ø	lóʔó	bíɛ́ʔ]
Infin	pick.up.Base	[Art	intelligence	**all**]

‘(He) took all his magical secrets.’ (2017-01 @ 01:22)

b.

dè	[Ø	dúrɲá	bíɛ́]	à	jī	=nì
say.Pfv	[Art	world	**all**]	Ipfv	know.Ipfv	3InanObj

‘(he said) everybody knows it.’ (Fl, 2017-03 @ 00:47)
(cf. Fr *tout le monde*)

c.

[ō	tɔ̀	bíɛ́]	nà	ɲī	bùò
[3Pl	other	**all**]	Fut	see.Base	2Pl

‘All the others will see you-Pl.’ (Ma, 2017-04 @ 02:05)

d.

[à	bíɛ́]	ā	lɔ̀-à-glō
[3Inan	**all**]	Ipfv	be.gathered.Ipfv-Ipfv-be.removed.Ipfv

‘All of them (=the djinns) are (=have been) gathered up and taken away.’
(Ji, 2017-04 @ 02:40)

6.6.1.2 sú→ ‘all’ in kɔ̀-kɔ̀ sú→ ‘every day’

sú→ is attested in the sense ‘immediately’ in the construction illustrated in §16.2.2.

The frozen combination kɔ̀-kɔ̀ sú→ ‘always, every day’ is much more common. It contains a reduplicated noun kɔ̄ ‘day’, leaving sú→ to be interpreted as a universal quantifier confined to this phrase. It is common in all dialects, and we used it as a frame for eliciting Ipfv forms of verbs.

Given that bíɛ́(ʔ) (preceding section) is probably a Jula borrowing, sú→ may have once been the regular ‘all’ quantifier.

Textual examples of kɔ̀-kɔ̀ sú→ are listed in (524).

(524) Bi, 2017-07 @ 04:45
Bi, 2017-08 @ 02:15
Bi, 2017-08 @ 02:42

Even in this phrase, sú→ may be replaced by bíɛ́(ʔ), resulting in kɔ̀-kɔ̀ bíɛ́(ʔ) ‘every day’. However, there are no textual examples of this.

The only other iterated noun that sú→ combines with is yǎ ‘year’, forming yɛ̀-yɛ̀ sú→ ‘every year’. This competes with ē yà bíɛ́ʔ ‘every year’.

Iteration of temporal nouns without sú→ is less restricted. It generally has distributive sense. We can cite (ē) yā-yā ‘some years’, (ē) fɛ̀ʔɛ̀-fɛ̀ʔɛ̀ ‘some months’, (ē) kɔ̄-kɔ̄ ‘some days’, and (è) dáʔá-dáʔá ‘from time to time, at times’.

6.6.1.3 ‘Entirety’ or ‘entirely’ (kútərú)

kútərú ‘entirety, (the) whole thing/lot’ (< Jula) is basically a noun (525a), but it can be used adverbially (‘completely, fully, entirely’). As a noun it can be possessed and/or followed by bíɛ́(ʔ). It can be focalized either as noun or (noun-like) adverb.

(525) a. móⁿ nàⁿ sò [à kútərú bíɛ́ʔ]
2Sg Fut carry.on.head.Base [3Inan **entirety** all]
‘You will carry the whole thing on your head.’ (Bi, 2017-08 @ 10:42)

b. ɔ̀ⁿ nàⁿ sɔ̀ⁿʔɔ̀ⁿ [kútərú té] lè
3AnSg Fut defecate.Base [**entirely** Foc.Inan] Emph
‘He will totally shit (=be screwed).’ (Bi, 2017-08 @ 07:03)

c. [móⁿ né] wà= á dàⁿ [nóⁿ nìⁿ] kútərú
[2Sg however] Infin PfvNeg arrive.Base [1Sg Loc] **entirely**
‘But you-Sg didn’t come to me (=my house) fully (=directly).’
(Bi, 2017-08 @ 04:59)

d. ā pìɛ̀ⁿ [[à kútərú] sò-ní] də̀-rɛ̀
3Inan remain.Pfv [[3Inan **entirety**] carry.on.head.Base-VblN] now
‘It remained to carry the whole thing (on his head) now.’
(Ji, 2017-08 @ 07:18)

6.6.2 Distributive iteration of stems

6.6.2.1 ‘Each’ (iterated numerals)

Distributivity is expressed mainly by iterated numerals (§4.6.1.6), optionally followed by bíɛ́(ʔ) ‘all’ to emphasize exhaustivity.

(526) a. ná= à sūʔɔ̄ [Ø kɔ̄ jɔ̄ⁿ-jɔ̀ⁿ]
1Sg Ipfv give.Base [Art hundred **two-two**]
[ɔ̀ⁿ [bùò bí-ʃīō nā-dɔ̄ⁿ-dɔ̀ⁿ bíɛ́ʔ]]
[Dat [2Pl children person-**one-one** **all**]]
‘I will give two hundred currency units (=1000 francs CFA) to each and every child of yours-Pl.’

b. [è bí-ʃīō [n dɛ̄ⁿ-dɛ̀ⁿ] bíɛ́] bà
[Art children **[one-one]** **all**] come.Pfv
[kǎ= [Ø kɔ̌ jɔ̄ⁿ-jɔ̀ⁿ]
[with [Art hundred **two-two**]
‘Each child must come with (=bring) two hundred currency units (=1000 francs CFA.’ (Fl)

6.6.2.2 Distributive iteration of noun stems

tɔ̀ʔɔ̀ ‘place’ can be iterated in the sense ‘various places, here and there’ or ‘anywhere’ (not ‘everywhere’).

(527) álě= [Ø ānàʔà-yùò] mà glú tɔ̀ʔɔ̀-tɔ̀ʔɔ̀, kō bà
even [Art face-people] if exit(v).Base **Rdp-place**, Infin come.Base
‘even when leaders (=officials) come here from wherever’
(Ji, 2017-11 @ 00:41)

Elicited examples are in (528).

(528) a. kō-kō Ø mā bà, ŋ̀ bē ɲà nó mā
Rdp-day 2Sg if come.Base, 2Sg Fut see.Pfv 1Sg there.Def
‘any day you come, you’ll find me (here/there).’ (Ji)

b. yúó-yúó mā bà
Rdp-person if come.Base
‘anyone who comes’ (Ji)

c. ò mà glū́= [Ø lē-lē]
3Pl if exit.Base [Art **Rdp-village**]
whichever village they come from (Ji)

Likewise dáʔá-dáʔá ‘any time’.

An alternative is the X ò X construction meaning ‘one X or another’ (§7.2.3).

6.6.3 Scope relationship between negation and ‘all’

Textual examples are in (529), showing that negation scopes over ‘all’ even in subject NPs, in the absence of indefinite markers. For example, (529a) denies that ‘all the people’ came but implies that some did. Likewise (529b,d). (529c) is more tricky since it’s an essentially symmetrical equational sentence with kō ‘be’. (529e) has ‘all’ in a postverbal PP complement.

(529) a. [è yúó bíɛ́] á bà =ʔ
[Art people **all**] **PfvNeg** come.Base Neg
‘Not all of the people came.’ (Ji)

b. [ò bíɛ́] má klè—
[3Pl **all**] **IpfvNeg** be.done—
‘Not everyone is made (the same)—’ (Ji, 2017-04 @ 06:52)

c.	dè	[bùò	júó]	má^{n}	gò	bíɛ́ʔ
	Quot	[3Pl	Poss.An]	**Neg**	be	**all**

‘(said:) “Not everything is theirs.” ’ (Bi, 2017-09 @ 07:45)

d.	[è	ná-bí-ó	bíɛ́]	tá	má	dà^{n}	mā	=ʔ
	[Art	people	**all**]	Past	**IpfvNeg**	arrive.Ipfv	there.Def	Neg

‘Not everyone used to arrive there.’ (Ji, 2017-11 @ 02:28)

e.	ǒ=	Ø	sūʔɔ̄	[Ø	klòʔó]	[[à	bíɛ́]	nī]
	3Pl	**PfvNeg**	give.Base	[Art	road]	[[3Inan	**all**]	Loc]

‘They didn’t give permission for all of it (=zone).’ (Ji, 2017-11 @ 04:09)

Compare this with (530), where the subject NP lacks bíɛ́ ‘all’. To the extent that è yúó is interpreted in context to be universal (‘every person’ or ‘[all] people’), it scopes over negation.

(530)	*comme*	[è	yúó]	má	dà^{n}-à^{n}-plū^{n}
	like	[Art	person]	**IpfvNeg**	arrive.Ipfv-be.able.Ipfv

‘since nobody (=no djinn) can manage to get close …’ (Ma, 2017-04 @ 03:54)
or: ‘since people cannot manage to get close …’

6.6.4 Scope relationship between negation and indefinite jī

An indefinite marker like singular jī (§4.4.2.3) scopes over negation even in a subject NP. That is, X jī in a negative clause means ‘(not) any X’ = ‘no X’.

(531)	[è	yúó	jì]	á	bà	=ʔ
	[Art	people	**Indef**]	**PfvNeg**	come.Base	Neg

‘Nobody came.’ (Ji)

Textual examples are in (532). Indefinite subject NPs are in (532a-b). An indefinite object NP is in (532c).

(532)	a.	[è	ń	jì]	má	jī	[Ø	lōʔó]
		[Art	person	**Indef**]	**IpfvNeg**	know	[Art	intelligence]

‘Nobody knows magic as much as I (do).’ (Ji, 2017-01 @ 01:29)

b.	[ē	ɛ̀ʔɛ́	jì]	á	bà-[tà^{n}-jūʔɔ̄]	ma^{n}	ɲə́r^{n}ámá
	[Art	thing	**Indef**]	**PfvNeg**	come.Base-[help.Base]	there.Def	well(adv)

‘(But) nothing good came and helped there very much.’
(Bi, 2017-09 @ 04:00)

c.	ǒ=	Ø	sūʔɔ̄	[Ø	ɛ̀ʔɛ́	jī]	=ā
	3Pl	**PfvNeg**	give.Base	[Art	thing	**Indef**]	Q

‘They didn’t give anything?’ (Ji, 2017-09 @ 04:05)

6.6.5 Constituent negation absent

Except for a few idiosyncratic lexical items that include a negative element (§4.5.6, §5.1.13.1), negation is strictly at VP/clause level. It is expressed in inflectional morphemes that follow the subject NP. English and French constructions with negative markers attached to an NP do not correspond to Tiefo-D constructions, which does not allow negative clauses to be truncated leaving only a focal NP. An example is (533).

(533) kû= [[Ø bá^{n}] ɲátɛ́^{n}],
cut.Base [[Art sheep] throat],
kò já-sūʔɔ̄ [Ø wùʔɔ́] mā
Infin leave.Base-give.Base [Art goat] there.Def
'Slaughter the sheep, and leave the goat alone!' (Fl Ji)
(= 'Slaughter the sheep, not the goat!')

6.7 Structural case-marking absent

There is no structural case-marking distinguishing subjects from objects. The only exception is that third person (§4.3.2.3) and optionally 2Sg (§4.3.1.3) pronominals have special enclitic forms for objects.

6.8 Apposition

Two NPs may be juxtaposed in apposition. When both are full nonpronominal NPs (e.g. with determiners), there may be a pause or other indication of broken syntax. By contrast, combinations of a pronoun with a following appositional NP can be prosodically seamless.

(534) a. é-yùò bí-ʃīō
1Pl children
'we young people' (Ji, 2017-11 @ 03:40)

b. é-yùò də̀-rɔ́
1Pl man-Pl
'us men' (Ma, 2018-05 @ 00:42)

Example (534a) can also mean 'our children' and (534b) can also mean 'our men'. In fact, a possessive morphosyntax cannot be ruled out, since for example 'our men' can be construed from a collective vantage point as 'the men of our village', whether or not the speaker is included.

Noun-adjective and noun-numeral combinations show hints of a former appositional structuring, in the sense that the adjective or numeral can take an autonomous form with a preceding classifier even when modifying a noun. Many adjectives can either directly follow the noun (N-Adj) or can occur with an animacy classifier: N [Class Adj] (§6.3.1). The classifier is obligatory if the adjective is absolute (i.e. without a noun). Numerals '2' to '9' take a plural classifier ò (nonhuman) or yúó (human) both as modifiers and absolutely (§6.4.1).

6.9 Vocatives

Vocatives generally take a regular form, e.g. a personal name or a NP like ē yǒ kǎ^{n} 'that woman there'. A vocative may be preceded by é! 'hey!'.

Children use ñnā 'mama!' as vocative or referential form instead of nó nī 'my mother', and this may continue into adulthood as a familiar vocative. Likewise bà-bá 'papa' (< Jula).

When the person called is far away, díó→ 'ho!' or 'ahoy!' is added to any vocative, as in bà-bá díó→ 'papa ho!'

7 Coordination

7.1 NP coordination

7.1.1 NP conjunction (X kà Y ‘X and Y’)

Two NPs are conjoined by kà ‘with’ or ‘and’. It combines with a following article ē as [kǎ], transcribed kǎ= [Ø …]. If ē is followed by an H-tone and is therefore dropped to è, the combination with kà is kà= [Ø …]. For kà as a preposition in the sense ‘with’ (instrumental or comitative), see §8.2. Here we consider only conjunctions.

(535) a.

mó	kà	nó
2Sg	**and**	1Sg

‘you-Sg and me’ (Ji)

b.

[ē	dɔ̌]	kǎ=	[Ø	yǒ]
[Art	man]	**and**	[Art	woman]

‘a/the man and a/the woman’ (Ji)

c.

[ē	dɔ̀-rɔ́]	kǎ=	[Ø	yə̀-ró]
[Art	man-Pl]	**and**	[Art	woman-Pl]

‘(the) men and (the) woman’ (Ji)

d.

[è	blíʔí]	kǎ=	[Ø	dìʔè]
[Art	night]	**and**	[Art	daytime]

‘night and day’ (Ji, 2017-04 @ 01:04)

e.

bùò	kǎ=	[Ø	nà-bì	ɲə́rámá]
3Pl	**and**	[Art	person	real]

‘they (=djinns) and a real person (=a human).’ (Ma, 2017-04 @ 04:15)

Each conjunct in an extended list has its own kà.

(536)

ò	kō	sūʔɔ̄	[Ø	tì-tó],	kà	[Ø	súmá-klàʔà],
3Pl	Infin	give.Base	[Art	yam],	**and**	[Art	maize],
kǎ=	[Ø	cī],	kǎ=	[Ø	gbī^{n}ʔī^{n}],	kà	[Ø
and	[Art	millet],	**and**	[Art	peanut],	**and**	[Art

súmá-tɔ̀ʔɔ́],	
sesame],	

kǎ=	[Ø	fɛ̃̀ʔɛ́],	kà	[Ø	súkə́rá],
and	[Art	wrap(n)],	**and**	[Art	sugar],
kǎ=	[Ø	sɔ̄^{n}],	kà—		
and	[Art	salt],	**and**—		

‘They give yams, and maize, and millet, and peanuts, and sesame, and a wrap (women’s garment), and sugar, and salt, and—.’ (Bo, 2019-10 @ 00:52 & 01:00)

For analogues to kà when two VPs or clauses are “conjoined”, see chapter 15.

7.1.2 Postposition or focalizer with conjoined NPs as complement

A postposition can easily take an entire conjoined NP as complement without itself being repeated. An example is in (Bo, 2019-01 @ 00:22), where ‘dog and monkey and hare’ is the complement of Locative nī.

A focalizer can also take an entire conjoined NP in its scope. An example from the same text has ‘hare and monkey’ followed by focalizer tóʔó (Bo, 2019-01 @ 00:28).

However, modifiers such as determiners, adjectives, and numerals are specific to each component NP. They can be repeated (if semantically appropriate) or replaced by another from one NP to the next within a conjoined NP.

7.2 Disjunction

Willy-nilly conditional antecedents (e.g. ‘whether X or not X’) are intrinsically disjunctive. The common ‘or’ coordinand nowadays is the ubiquitous Fr *ou bien*. The following sections describe native equivalents. See §16.3 for willy-nilly (‘whether or not’) conditional antecedents.

7.2.1 ‘Or’ (wà→)

One ‘or’ coordinator, also found in Jula, is wà→ (Fl Ma) with variable prolongation. It can join two clauses (537a) or two NPs (537b).

(537)	a.	mó	nà	yíʔí	wà→	mó	nà	pɛ̄ⁿ
		2Sg	Fut	go.Base	**or**	2Sg	Fut	remain.Base

‘Will you-Sg go, or will you-Sg stay?’ (Ma)

	b.	sǒ	kò	kǎⁿ	=ā,	zàkí	wà→	[ɔ̀ⁿ	sē]	=ē
		who?	be	Dem.AnSg	Q,	Z	**or**	[3AnSg	father]	Q

‘Who is that? Zaki or his father?’ (Ma)

With NPs, one can sometimes avoid the use of wà→ by rephrasing. For example, (538) was elicited from the cue ‘who will go, me or you?’. It was rephrased with a conjoined NP in partitive function.

(538)	sò-wí	nà	yíʔí,	[nó	kà	mó]	nī
	who?	Fut	go.Base,	[1Sg	with	2Sg]	Loc

‘Who will go, among (=between) me and you-Sg?’ (Ma)

7.2.2 tá ~ tà^n ‘or’

tá ~ tà^n ‘or’ occurs at the juncture between two clauses. We have recorded tà^n for Bi, tá for Fl and Ji. The particle is rare in texts, where homophonous tá occurs dialectally as a past marker (following the subject) and/or in the sense ‘like, similar to’. Fr *ou bien* is now more common even for older speakers.

Textual example (539a) is a disjunction of two polar interrogatives. The first ends in interrogative enclitic =ā, the second ends in interrogative particle tē. (539b) is an elicited example.

(539)	a.	[ŋ́	sɔ́ʔɔ́-lɔ̀	=ǹ	[Ø	gbɛ̄]	=ā]	tà^n
		[1Sg	jab.Base-rip.Base	3InanObj	[Art	outside]	Q]	**or**
		[ŋ́	sɔ́ʔɔ́	=ǹ	[[Ø	ní^n]	n̄]	tē
		[1Sg	jab.Base	3InanObj	[[Art	interior]	Loc]	**Q**

‘(said:) “Should I jab (=pierce) it from the outside, or should I jab it from the inside?” ’ (Bi, 2017-08 @ 05:11)

b.	[mó	nà	yíʔí]	tá	[nó	nà	yíʔí]
	[2Sg	Fut	go.Base]	**or**	[1Sg	Fut	go.Base]

‘Will you go, or will I go?’ (Fl Ji)

For occasional use of tá in the sense ‘whether’, see §17.3.1.4.

7.2.3 X ò X construction (‘one X or another, any X’)

Repetition of a noun stem X, with medial ò, means ‘one X or another’ or distributive ‘any X’.

(540)	ŋ̀	mà	gō	[[kě	ò	kě]	nī^n]
	2Sg	if	be	[[**thing**	**or**	**thing**]	Loc]

‘if you-Sg are involved in one thing or another’ (Bi, 2017-06 @ 01:38)

We have also elicited tɔ̀ʔɔ̀ ò tɔ̀ʔɔ̀ ‘various places, one place or another, any place’, dáʔá ò dáʔá ‘any time, at various times’, and yā ò yǎ ‘any year’.

See also distributive iteration of nouns (§6.6.2.2). yúó-yúó ‘any person’, attested in (Fl, 2017-11 @ 10:48), has the form of a distributive, but it is not far from the X ò X construction.

7.2.4 X kà X bíɛ́ construction (‘one X after another’)

Here kà ‘with; and’ conjoins two identical nouns denoting a time period, followed by bíɛ́ ‘all’. The point of (541) is that one can work (in the grotto) over an unlimited time span.

(541) má= à sɔ̄ⁿ,
2Sg Ipfv work.Ipfv,
[ē yǎ] [kǎ= [Ø yà bíɛ́] mā
[Art year] [**and** [Art year **all**]] there.Def
‘You (can) work year after year there.’ (Ji, 2017-11 @ 05:17)

7.2.5 Numeral range-bounding phrases (‘two or three’)

Expressions like ‘two or three’ or ‘four or five’ or ‘ten to twenty’ that describe number ranges by giving approximate lower and upper bounds are expressed by juxtaposing the two NPs, including their numerals, with no overt disjunctive element.

(542) [ē jī] à bí
[Art something] Ipfv be.gotten.Ipf
mɛ́tə́r= [ò sáⁿ] mɛ́tə́r= [ò wūⁿʔɔ̄ⁿ] =dɛ̄ʔ
meter [Pl **three**] meter [Pl **four**] Emph
‘Some (burrows) can be (as much as) three or four meters (long).’
(Bi, 2017-10 @ 04:44)

Another example is ‘ten, fifteen’ meaning ‘ten or fifteen’ (Bo, 2019-06 @ 00:12).

8 Adpositions and adverbials

Tiefo-D has many postpositions, both simple and composite. They include the main spatial and temporal markers, and one (bàʔà) with dative and spatial functions. There are two prepositions, kà 'with, and' and ɔ̀ⁿ, a dative mainly for ditransitives.

8.1 Dative and purposive adpositions

8.1.1 Postposition bàʔà (dative or 'chez, among')

This element functions as a dative postposition 'to' when combined with a preceding 'say' verb (543). The complement NP denotes the addressee. The PP can also be predicative when the subject denotes speech (543c).

(543) a.

nó	dè	=nì	[zàkí	bàʔà]
1Sg	say.Pfv	3InanObj	[Z	**Dat**]

'I said (=told) it to Zaki.' (Ji)

b.

zàkì	á	dò	[ē	ɛ̀ʔɛ́	jì]	[nó	bàʔà]
Z	PfvNeg	say.Base	[Art	thing	Indef]	[1Sg	**Dat**]

'Zaki said nothing to me.' (Ji)

c.

[nó	fɛ̄-nī]	kō	[[bùò	bíɛ́]	bàʔà]
[1Sg	greeting(n)]	be	[[2Pl	all]	**Dat**]

'My greeting is to all of you.' (Ji, 2017-01 @ 00:14)

d.

kō	dò	[bè	tōʔō=]	[[Ø	nā-dɛ̀	dígɔ̀ʔɔ̀]	bàʔà]
Infin	say.Base	[Dem.Def	Foc]	[[Art	old.man	other]	**Dat**]

'(and he) said that [focus] to another (=a different old man.'
(Fl, 2017-03 @ 00:34)

e.

kā=	à-dò	[Ø	fɛ́]	[ɔ̄ⁿ	bàʔà]
Infin	come.Base-speak.Base	[Art	talk(n)]	[3AnSg	**Dat**]

'… to come speak to him' (Ma, 2017-04 @ 03:54)

A distinct dative preposition ɔ̀ⁿ occurs with ditransitives 'give' and 'show' (see the following section).

bàʔà also occurs in compressed form in a 'want' construction; for examples and analysis see §11.2.5.2.1. Finally, with a human complement NP or pronoun, bàʔà is a locative postposition 'at the place of, chez' (singular or plural complement) or 'among, in the country of' (plural complement). One can construe the "dative" use with 'say' as a special case of the 'chez' spatial function.

(544)	a.	[ē	cɔ̀fɔ́]	bàʔà			
		[Art	Tiefo]	**chez**			

‘among the Tiefo (people)’ (Ma, 2018-01 @ 00:02)

b.	[mó	nà	yíʔí	[sɔ̌ⁿ	bàʔà]	tē
	[2Sg	Fut	go.Base	[who?	**chez**]	Q

‘Whose place would you go to?’ (Bi, 2017-07 @ 00:38)

c.	[bè	kò	bú	[bùò	bàʔà]
	[Dem.Def	Infin	be.gotten.Base	[3Pl	**chez**]

‘… so (that) that (i.e. life) may be had in their (own) midst’
(Ma, 2017-04 @ 04:17)

In (545), the PP with bàʔà denotes the source of a transferred commodity. We note that local popular French often uses *chez* in such contexts. As a reminder, directionality (‘to’, ‘from’) is regularly expressed by verbs rather than by adpositions in this language.

(545)	[mó	sūʔō=	[Ø	bú	jī]	[ɔ̄ⁿ	bàʔà]	lò
	[2Sg	take.Pfv	[Art	money	Indef]	[3AnSg	**Dat**]	Emph]

‘You-Sg received some money from him.’ (Ji 2017-04 @ 06:52)

A more abstract source is expressed by [ē sə̀rí] bàʔà ‘out of shame’, explaining why the protagonist is holding her head low, in (Bi, 2017-07 @ 09:09).

Finally, bàʔà occurs in possessive predicatives of the type ‘Y is (not) present [for/chez X]’, i.e. ‘X does (not) have (a/any) Y’ (§11.5.1.2).

8.1.2 Dative preposition ɔ̀ⁿ and variants with ditransitive verbs

A dative PP has a preposition ɔ̀ⁿ, used before the recipient with ditransitives ‘give’ and ‘show’ (§11.1.2.5) and before the experiencer with dáⁿ ‘be pleasing (to sb)’.

The preposition can contract with the final vowel of the preceding word, or it can be reduced to ẁⁿ, pronounced as an enclitic on the preceding word. In ditransitives, a typical formula is [give/show X [ɔ̀ⁿ Y]] meaning ‘give/show X [to Y]’. ɔ̀ⁿ can combine regularly with a following 1st/2nd person pronoun (1Sg ɔ̀ⁿ nó, 1Pl ɔ̀ⁿ é-yùò or ɔ̀ⁿ é, 2Sg ɔ̀ⁿ mó, 2Pl ɔ̀ⁿ bùò). 1Pl ɔ̀ⁿ é is sometimes contracted to Ø é. The third person pronominal forms are contracted 3AnSg ɔ̀ⁿ ~ =ẁⁿ (for Bi also =ɛ̀yⁿ) and unnasalized 3Pl ò (546c). These third person forms are homophonous with corresponding direct object pronominal enclitics, i.e. there is no audible trace of the preposition ɔ̀ⁿ.

Ditransitive examples (Ji dialect) are in (546).

(546)	a.	ɔ̄ⁿ	ʃìʔɛ̀	[Ø	bú]	[ɔ̀ⁿ	zàkí]
		3AnSg	give.Pfv	[Art	money]	[**Dat**	Z]

‘He/She gave the money to Zaki.’ (Ji)

b. ɔ̄ⁿ ʃìʔɛ̀ [Ø bú] [ɔ̀ⁿ nó]
3AnSg give.Pfv [Art money] [**Dat** 1Sg]
‘He/She gave the money to me.’ (Ji)

c. ɔ̄ⁿ lɛ̌= [Ø wùʔú] [ɔ̀ⁿ [Ø bí-sīō]]
3AnSg show.Pfv [Art house] [**Dat** [Art child.Pl]]
‘He/She showed the house to the children.’ (Ji)

d. nó ʃìʔɛ̀ [Ø bú] ɔ̀ⁿ / ò
1Sg give.Pfv [Art money] **Dat**.3AnSg / **Dat**.3Pl
‘I gave the money to him-or-her / to them.’ (Ji)

The dative PP may directly follow the verb when the theme (entity given or shown) becomes passive subject (547a) or when the theme is omitted (547b).

(547) a. [è bú] ʃìʔɛ̀ [ɔ̀ⁿ zàkí]
[Art money] be.given.Pfv [**Dat** Z]
‘The money was given to Zaki.’ (Bi)

b. kò á-sūʔ= [ɔ̀ⁿ [Ø flí-kɔ̀]]
Infin go.Base-give.Base [Dat [Art termite-Pl]]
‘… and then go and give (it) to the termites’ (Ji, 2017-04 @ 06:13)

Example (547b) also shows that dative ɔ̀ⁿ contracts with the article ē, which is then inaudible except possibly for a faint tonal trace.

In addition to ditransitives, the dative occurs with the predicative dáⁿ ‘be sweet, be pleasing (to sb)’. Since dáⁿ is already nasalized, in (548) the audible trace of underlying ɔ̀ⁿ is the falling tone contour in dâⁿ.

(548) à= Ø dâⁿ= [Ø [nó sē]]
3Inan Ipfv be.sweet.Ipfv [Dat [1Sg father]]
‘It pleases my father.’ (= ‘My father likes it.’) (Fl Ji)

Dative preposition ɔ̀ⁿ may have originated as a special use of third person animate singular pronominal ɔ̀ⁿ in clauses of the type ‘X gave Y [to him/her]’, later extended to other dative pronouns (except 3Pl ò) and dative NPs.

8.1.3 Causal pseudo-postposition (já)

There is no productive purposive (‘for’) or causal (‘because of’) postposition. However, there is a common phrase [bè té] já ‘for that (reason), …’ or ‘that [focus] is why …’, preposed to a sentence denoting an actual event. The preceding discourse gives the background, which is resumed by discourse-definite bè. One of several textual examples is (549).

(549)	[[bè	té]	já,					
	[[Dem.Def	Foc.Inan]	**let.Pfv**,					
	[è	ná-dì-ɔ̀]	tá	má	sūʔɔ̄	[ā	klòʔó]	=dɛ̄ʔ
	[Art	old.man-Pl]	Past	IpfvNeg	give.Base	[3Inan	road]	Emph

‘That’s why the old men had not given permission.’ (Ji, 2017-11 @ 02:21)
(false starts omitted)

Dialectal variants include Fl [bè tê→] já with the prolonged variant of té, Ji [bè tóʔó] já with “animate plural” focalizer tóʔó generalizing to replace inanimate té (as is usual without the já), and Bi [bè tóʔó] jí with the same tóʔó along with a variant jí of the verb ‘let’. bè té with the original inanimate focalizer is mostly limited to the combination [bè té] já.

The interrogative counterpart ‘for what (reason/purpose)’ is [ē kè] já in (Fl, 2017-11 @ 01:08).

Purposive já is really the verb já ‘leave (behind)’, which can occur in causative constructions (§17.4.2.5.4). Since [bè té] já and variants precede the clause denoting the relevant event, já can be construed as ‘let, cause’ with clausal complement. However, some speakers set [bè té] já off prosodically, with já pronounced [ɟā] with mid tone, creating the impression of a postposition jā. The tone-lowering (or downstepping) from H to M may be a trace of the reduction of tê→ to té.

A distant relative might be Tiefo-N -já in bíè-já ‘why?’.

8.2 Instrumental and comitative preposition kà

kà ‘with’ is a preposition. It can be instrumental or comitative. For kà in NP conjunctions (“X with Y” meaning ‘X and Y’), see §7.1.1.

The k of the preposition is often voiced to g or elided entirely. In Bi dialect the form à with no trace of the stop is very common and may now be the basic form.

kà is raised to M-toned kā before an L-tone (§3.6.2.1), as in (550d) and as in combinations like kā bùò ‘with you-Pl’ or ‘with them (logophoric)’. It contracts with the article ē as kǎ= Ø (with vowel prolonged to express the tone contour) and with tone-dropped article è (before an H-tone) as kà Ø.

(550a) illustrates instrumental function. (550b-d) illustrate various comitative functions.

(550)	a.	nó	gbǎ=	[Ø	būⁿʔɔ̄ⁿ]	[kà	[Ø	púʔɔ́]]
		1Sg	hit.Pfv	[Art	dog]	[**with**	[Art	stick]]

‘I hit-Past a/the dog with a/the stick.’ (Ji)

b.	ná=	à	ʃīⁿ	[Ø	kē-sùⁿʔɔ̀ⁿ]	[kà	[nó	sē]]
	1Sg	Ipfv	work(v).Ipfv	[Art	work(n)]	[**with**	[1Sg	father]]

‘I work with my father.’ (Ji)

c.	ɔ̄ⁿ	dè	[kǎ=	[Ø	yīɛ̄]]
	3AnSg	speak.Pfv	[**with**	[Art	young.woman]]

‘He/She spoke with a/the young woman.’ (Ji)

d. ɔ̄ⁿ dè [kā zàkí]
3AnSg speak.Pfv [**with** Z]
‘He/She spoke with Zaki.’ (Ji)

‘Bring X (here)’ and ‘take/convey X (there)’ are phrased as ‘come [with X]’ and ‘go [with X]’, respectively. This construction can be used with any motion verb.

(551) a. ò ká yíʔí [à [Ø úⁿ] … [ānàʔà nī]
Infin Sbjn **go**.Base [**with** [Art village] … [forward Loc]
‘May they then take the village (=local area) … forward.’
(Ji, 2017-01 @ 00:37)

b. [ɔ̀ⁿ fīē [kà [bó fīʔé]]]
[3AnSg **pass**.Pfv [**with** [LogoSg daba]]
‘(said:) “it went away with my daba (=hoe).” ’ (Fl, 2017-03 @ 02:42)

c. [lǎ tōʔó] klɛ̄-bà [kǎ= [Ø dəràʔá jī]
[La Foc] **return**.Pfv-**come**.Pfv [**with** [Art tale Indef]]
‘It’s La (name) [focus] who has come back with a tale again.’
(Fl, 2017-05 @ 00:02)

d. bā bà [gǎ= [Ø dìʔɛ́-bùʔɔ́]]
if **come**.Base [**with** [Art karité-pulp]]
‘… when (she) brought karité (=shea) fruits’ (Bi, 2017-07 @ 00:20)

‘With it/them (inanimate)’ is kà lō (Bi à rō) and ‘with him/her/it/them (animate)’ is kà júò, without reference to number. These forms bear no resemblance to regular demonstratives or to any third person pronominals. For examples and discussion see §4.3.2.4.

8.3 Spatial postpositions

8.3.1 Locative, allative, and ablative functions

Directional ‘to X’ and ‘from X’, i.e. allative and ablative, are not distinguished from static locative in basic spatial PPs. Motion and direction are specified by verbs. The PP ‘in the bush (=outback)’ has the same locative form throughout (552). At clause-level, (552a) is a static locative, while (552b-d) describe motion events.

(552) a. é-yùò à-mā [[Ø pòʔó] nī]
1Pl **be.Loc** [[Art the.bush] **Loc**]
‘We are (out) in the bush.’ (Fl)

b. ná= à yīʔī= [[Ø pòʔó] nī]
1Sg Ipfv **go**.Ipfv [[Art the.bush] **Loc**]
‘I am going into the bush (=outback, brousse).’ (Fl)

c.	nó	glō	[[Ø	pòʔó]	nī]
	1Sg	**exit**.Pfv	[[Art	the.bush]	**Loc**]

‘I left (=have come from) the bush.’ (Fl)

d.	zàkí	dìě=	[[Ø	pòʔó]	nī]
	Z	**enter**.Pfv	[[Art	the.bush]	**Loc**]

‘Zaki went into the bush.’ (Fl)

8.3.2 Simple locative postpositions

8.3.2.1 Locative ‘in, at, on’ (nī)

Spatial location is indicated most generally by the postposition nī ‘in, at, on’ (553a-b). For Bi the form is nī^{n}.

(553)	a.	zàkí	à-mǎ=	[[Ø	pòʔó]	nī]
		Z	be.Loc	[[Art	bush]	**Loc**]

‘Zaki is in the bush (=outback).’ (Ji)

b.	[ē	sùŋmɛ̀ʔɛ̀]	dìè-só	[ē	wùʔú]	nī]
	[Art	stone]	fall.Pfv	[Art	house]	**Loc**]

‘The stone fell on the house.’ (Ji)

c.	[ē	bàʃí^{n}ʔí^{n}]	à-mā	[[Ø	tàfùʔɔ̀]	nī]
	[Art	knife]	be.Loc	[[Art	mat]	**Loc**]

‘The knife is on the mat.’ (Ji)

Because nī is often clause-final, it is subject to the effects of downdrift, and it can be heard as low-pitched. The best evidence that it is structurally M-toned is in non-clause-final occurrences, and in polar interrogatives like (554a), where the pitch of nī is slightly higher than that of the interrogative enclitic that it trails off into. In the IPA notation following the translation, we show this as […nīꜜī] with downstep. By contrast, third person inanimate object enclitic =nì, which is also often clause-final, is L-toned before the interrogative enclitic (554b).

(554)	a.	zàkí	à-mā	[[Ø	pōʔō]	nī]	=ī
		Z	be.Loc	[[Art	the.bush]	**Loc]**	**Q**

‘Is Zaki out in the bush?’ (Fl Ji)
(end heard as […nīꜜī])

b.	mó	ɲà	=nì	=ā
	2Sg	see.Pfv	**3InanObj**	**Q**

‘Did you-Sg see it?’

Further examples are in (555).

(555) a. [ē dɛ̀] nī
[Art field] Loc
‘in a/the field’ (Ji)
(variant: [ē dɛ̀] n̄)

b. [ē blāʔā] nī
[Art pond] Loc
‘at a/the pond’ (Ji)
(variant: [ē blāʔā] n̄)

c. [è dúʔú] nī
[Art forest] Loc
‘at a/the forest’ (Ji)

d. ò Ø-mā [[Ø bɛ̌^{n}] nī]
3Pl be.Loc [[Art peace] Loc]
‘They are at peace.’ (< bɛ̌^{n}) (Ma)

nī is also part of several composite postpositions (see subsections below). It is likely that locative nī is the etymological source of the enclitic nī in the progressive verb construction (§10.2.4).

8.3.2.2 Semantically locative NPs without overt postposition

Place names ordinarily function as locative adverbs in clauses. An implied locative postposition is normally omitted (556).

(556) a. ɔ̀ yē= [Ø bà^{n}fórā]
3AnSg walk.Pfv [Art **B**]
‘He/She went to Banfora (city).’ (Ji)

b. zàkí à-mā [Ø bà^{n}fórā]
Z be.Loc [Art **B**]
‘Zaki is in Banfora.’ (Ji)

c. ŋ̀ sùʔɔ̀ dɔ́n-dɔ́ní-ò [Ø cɔ̀fɔ̀rá]
(nasal) give.Base a.little-Pl [Art **T**]
‘(and) gave (them) a little each in Tiefora (town).’ (Bi, 2017-09 @ 04:53)

d. dè bá= à bē [Ø dəràmándùgú]
say.Pfv LogoSg Ipfv come.Ipfv [Art **D**]
‘(he/she will) say: “I am coming to Daramandugu.” ’ (Ji, 2017-11 @ 08:23)

The sense ‘at home’ or ‘in the village’ (as opposed to out in the fields, for example) can be expressed using ē lē ‘the settlement (village or homestead)’ without a postposition (557).

(557)	zàkí	à-mā	[Ø	lē]
	Z	be.Loc	[Art	village]

‘Zaki is in the village.’ (Ji)

8.3.2.3 ‘Inside’ or ‘under’ (tɔ̄ⁿ)

tɔ̄ⁿ ‘in’ or ‘under’ specifically denotes the bottom of a space that is roofed or otherwise covered. It is less common in texts than the all-purpose locative postposition nī. Typical landmarks are ‘tree’ and ‘veranda’, both of which overlook a significant volume of space.

(558)	a.	zàkí	à-mā	[[Ø	wùʔú]	tɔ̄ⁿ]
		Z	be.Loc	[[Art	house]	**inside**]

‘Zaki is in the house.’ (Ji)

b.	zàkí	à-mā	[[Ø	ʃīⁿʔíⁿ]	tɔ̄ⁿ]
	Z	be.Loc	[[Art	tree]	**under**]

‘Zaki is under (=covered by) the tree.’ (Fl)

c.	kō	tɔ̄-tə̄rāⁿ =	[[Ø	á-bìɛ̀ⁿʔɛ́ⁿ	jī]	tɔ̄ⁿ],
	Infin	hide.Base-sit.Base	[[Art	leaf	Indef]	**under**],

‘Then he (=dog) hid under (=in) the foliage. (Ma, 2017-02 @ 01:22)

Containers that are open on the top (i.e. have a “mouth”) can be specified as less than full of content by the phrase [ā ɲùʔɔ́] tɔ̄ⁿ ‘under the mouth’.

The adverbial counterpart without a complement NP is ē tù tɔ̄ⁿ (Ji) or ē tɔ̀ⁿ tɔ̄ⁿ (Fl) along with ē pàⁿ-tɔ̄ⁿ ‘at the bottom, below, underneath’. Adding a “possessor” turns this into a composite postposition ‘under’ or ‘inside (a covered space)’.

(559)	dīē	[[ā	tɔ̀ⁿ]	tɔ̄ⁿ]
	enter.Base	[[3Inan	**interior**]	**under**]

‘Go underneath/inside!’ (Fl)

While tɔ̄ⁿ is much less common than locative nī as a postposition, only -tɔ̄ⁿ occurs in habitat-specified nominal compound initials, where it takes L-toned form (as do many compound finals). For [ɲū-tɔ̀ⁿ]-pìɔ́ⁿ ‘aquatic insect’ and similar examples, see §5.1.11.

-tɔ̄ⁿ is part of composite postpositions meaning ‘under’: pɔ̀ⁿ-tɔ̄ⁿ ~ pàⁿ-tɔ̄ⁿ (§8.3.8.1) and cùʔà-tɔ̄ⁿ ‘under’ (Bi, §8.3.8.2). At least pɔ̀ⁿ-tɔ̄ⁿ ~ pàⁿ-tɔ̄ⁿ can also function as a noun meaning ‘lowlands’ or as an adverb ‘down below’.

8.3.2.4 ‘On (the head of) X’ ([X úⁿʔúⁿ] nī)

This combination consists of locative postposition nī added to a possessed form of ‘head’: úⁿʔúⁿ (Bi Ji) with regular dialectal variants wùⁿʔúⁿ (Ma), wūⁿʔúⁿ (Fl). The noun ‘head’ is absent in (560a) but present in (560b), which has only a slightly more specific sense.

(560) a. [ē sùŋmɛ̀ʔɛ̀] dìè-só [nɔ́ nī]
[Art stone] fall.Pfv [1Sg **Loc**]
‘The stone fell on me.’ (Ji)

b. [ē sùŋmɛ̀ʔɛ̀] dìè-só [[nó úⁿʔúⁿ] nī]
[Art stone] fall.Pfv [[1Sg **head**] **Loc**]
‘The stone fell on my head.’ (Ji)
(Fl equivalent [nó wūⁿʔúⁿ] nī)

The combination occurs with literal sense in (560). There are several other examples in text 2017-07.

(561) [kà— [ē cīʔē]] [[ɔ̄ⁿ úⁿʔúⁿ] nī]
[with— [Art basket]] [[3AnSg **head**] **Loc**]
‘(walked away) with the karité (fruit), with the basket, on her head’
(Bi, 2017-07 @ 04:55)

Example (562) illustrates a construction type describing an affliction.

(562) [ē jùⁿʔɔ̂ⁿ=] Ø-mà [[nó úⁿʔúⁿ] nī]
[Art pain] be.Loc [[1Sg **head**] **Loc**]
‘My head hurts.’ (Ji)

8.3.3 ‘Inside X’ ([X līⁿ] nī)

‘Inside X’ is expressed as [X līⁿ] nī, literally ‘in X’s guts’ with noun līⁿ. X may be ‘village’, ‘the bush (=outback)’, ‘house’, or a container.

(563) a. [[è úⁿ] līⁿ] nī
[[Art village] **guts**] **Loc**
‘inside the village’ (Ji, 2017-11 @ 09:27)

b. [ē tìʔɛ́ jərɔ́ⁿ] plē-plē [[[ē pòʔó] līⁿ] nī]
[Art hole Rel] Rdp-be.dug,Pfv [[[Art the.bush] **guts**] **Loc**]
‘the pits that have been dug all around in the bush’ (Ji, 2017-04 @ 02:24)

8.3.4 Proximity expressions

Here we include ‘near X’, ‘beside X’, and closely related senses.

8.3.4.1 ‘Near X, next to X’ ([X kpɛ̄ʔɛ̄] nī)

‘Near X’ is phrased as ‘in X’s proximity’ based on the noun kpɛ̀ʔɛ́ with tones flattened to M (564a).

(564)	a.	zàkí	à-mā	[nó	kpɛ̄ʔɛ̄]	nī]
		Z	be.Loc	[1Sg	**proximity**]	**Loc**]

‘Zaki is near me.’ (Ji)

b.	mā-ɲī	[Ø	sì-sə̀ràʔà]	[[à	kpɛ̄ʔɛ̄]	nī]
	if.you.see	[Art	earth.heap]	[[3Inan	**proximity**]	**Loc**]

‘You haven’t seen earth heaps next to them.’ (Ji, 2017-04 @ 02:35)

In addition to Ji we have confimed [X kpɛ̄ʔɛ̄] nī for Fl and Ma, while simple X kpɛ̀ʔɛ́ is recorded for Bi.

8.3.4.2 ‘In the area of X’ ([X cáʔá] nī)

Another expression for ‘near X’ is [X cáʔá] nī (Bi Ji), with predictable dialectal pronunciation [X cāʔá] nī (Fl). Its basic sense is ‘next to X’.

(565)	ɔ̀ⁿ	yīʔē	[rà-dǎⁿ=	[[[Ø	sə̀ròʔò]	cáʔá]	nīⁿ]
	3AnSg	go.Pfv	[go.Base-arrive.Base	[[[Art	baobab]	**proximity**]	**Loc**]

‘He came and arrived (stopped) next to a baobab tree.’ (Bi, 2017-08 @ 00:46)

Another example also involving plant foliage as landmark is (Bo, 2019-01 @ 00:53).

8.3.4.3 ‘Beside X’ [X ké] nī ~ [X kí] nī

‘Beside X’ or ‘on the side of X (e.g. cliff)’ is phrased as ‘in/at X’s side’ with noun ké (Bi Fl Ma) or kí (Ji) ‘(area to) the side of (sb)’ (566a). It has a plural kə́-ré (Ji kə́-rí) which can be used for plural referents (566b).

(566)	a.	[zàkí	à-mā	[nó	ké]	nī]
		[Z	be.Loc	[1Sg	**side**]	**Loc**]

‘Zaki is beside me.’ (Fl)

b.	[è	bí-ʃīō]	à-mà	[[é-yùò	kə́-ré]	nī]
	[Art	child.Pl]	be.Loc	[[1Pl	**side.Pl**]	**Loc**]

‘The children are next to us.’ (Fl)

c.	[[ē	dùʔù]	kə́-ré]	n̄
	[[Art	cliffs]	**side-Pl**]	**Loc**

‘(cave) on the side(s) of the cliffs’ (Fl, 2017-11 @ 09:15)

This PP requires lateral position, and is opposed to ‘in front of X’ and ‘behind X’.

8.3.4.4 ‘Next to X’ (X kùⁿʔɔ́ⁿ)

kùⁿʔɔ́ⁿ ‘near, next to’ (Fl Ji Ma) has a meaning similar to that of kpɛ̄ʔɛ̄ nì. It does not seem to be used in Bi dialect. There is one textual example.

(567)

[ē	pùʔɔ́	jə̀rɔ́ⁿ]	kò	yá	tīē
[Art	stick	Rel]	be	Dem.InanSg	be.put.Base
[[Ø	kɛ̄ⁿ]	kùⁿʔɔ́ⁿ]			
[[Art	fellow]	**beside**]			

‘There was the stick, placed next to the fellow.’ (Ma, 2017-04 @ 03:49)

kùⁿʔɔ́ⁿ occurs here without a postposition, but some speakers also use kùⁿʔɔ́ⁿ nī with the basic locative postposition.

The noun kùⁿʔɔ́ⁿ and its compound kùⁿʔɔ̀ⁿ-dáʔá mean ‘early afternoon’ (§5.1.7.7). Any relationship to the postposition is obscure.

8.3.4.5 ‘In the vicinity of’ (X gblàʔà, X tɔ̀ʔɔ̀-gblàʔà)

The noun gblàʔà ‘flank, side (of body)’ can function as a postposition ‘in the vicinity of X’ referring to locations. It is attested in this simple form in fāⁿʔāⁿ gblàʔà ‘over there (deictic)’, literally ‘near here’ (§4.4.3.1). When X denotes a specific place, the form is tɔ̀ʔɔ̀-gblàʔà, redundantly including the noun tɔ̀ʔɔ̀ ‘place’. The bracketing is ambiguous: [X tɔ̀ʔɔ̀] gblàʔà or, with fused complex postposition, X tɔ̀ʔɔ̀-gblàʔà. We prefer the latter transcription.

(568) a.

[ē	dùʔù-tìʔɛ̀]	tɔ̀ʔɔ̀-gblàʔà
[Art	cliff-hole]	**in.the.vicinity.of**

‘to the grotto area’ (Ji, 2017-11 @ 00:09)

b.

[ē	dùʔù]	tɔ̀ʔɔ̀-gblàʔà
[Art	cliff]	**in.the.vicinity.of**

‘in the cliffs area’ (Ji, 2017-11 @ 00:15)

c.

sɔ̀ⁿtùwò-lē	tɔ̀ʔɔ̀-gblàʔà
S	**in.the.vicinity.of**

‘near Sontuwole (hamlet)’ (Ma, 2017-10 @ 03:53)

8.3.5 ‘In front of, ahead of’ ([X ānàʔà] nī)

‘In front of X, ahead of X’ is phrased as ‘in/at X’s face’ (569a). ‘Ahead of X’ can be in the context of motion (e.g. a race), or in the abstract sense of superiority. The noun ‘face’ is not pluralized in this construction (569b). ‘Face’ has variants ānàʔà (Ji), ānà^{n}ʔà^{n} (Bi), wānàʔà (Fl), and n̄nàʔà (Ma). The a vowels after the nasal are phonetically nasalized in all dialects.

(569) a.	zàkí	à-mà	[[nó	ānàʔà]	nī]
	Z	be.Loc	[[1Sg	**face**]	**Loc**]

‘Zaki is in front of me.’ (Ji)

b.	zàkí	à-mà	[[é-yùò	ānàʔà]	nī]
	Z	be.Loc	[[1PlPoss	**face**]	**Loc**]

‘Zaki is in front of us.’ (Ji)

c.	[è	ń	jī]	fìè	[[mó	ānàʔà]	nī]
	[Art	person	Indef]	pass.Pfv	[[2Sg	**face**]	**Loc**]

‘someone (else) will go ahead of you’ (Ji, 2017-01 @ 03:07)

d.	fô=	[[[Ø	blí-kɛ́]	ānàʔà]	nī]	[bè	tɔ̀ʔɔ̀]
	pass.Base	[[[Art	hare]	**face]**	**Loc**]	[Dem.Def	place]

‘… going ahead of the hare there’ (Ji, 2017-01 @ 04:41)

e.	[bó	tóʔô=]	Ø-mā	[[[è	jə́r=]	ānàʔà]	nī]
	[3AnSg	Foc]	be.Loc	[[[Art	djinn]	**face**]	**Loc**]

‘<u>He</u> [focus] was there ahead of (=superior to) a djinn.’
(Ji, 2017-04 @ 00:37)

Although (570a) presents the same type of sequence of NP plus ānàʔà nī, the context suggests that ‘the village’ is a direct object, and (ē) ānàʔà nī is an adverbial phrase ‘forward, ahead, in the lead’. A clearer example of adverbial status is (570b) where the preceding word is the verb.

(570) a.	… [è	ú^{n}]	[ānàʔà	nī]
	… [Art	village]	[**face**	**Loc**]

‘(may they take) the village forward.’ (Ji, 2017-01 @ 00:37)

b.	mó^{n}	nè	fō=	[Ø	ānà^{n}ʔà^{n}	nī]	[kɔ̀-kɔ̀	sú→]
	2Sg	IpfvPast	pass.Ipfv	[Art	**face**	**Loc**]	[Rdp-day	all]

‘You were going in front every day’ (Bi, 2017-08 @ 02:15)

8.3.6 ‘Behind/after X’ (X ʃīɛ̄)

This is a simple (not composite) postposition. It can be used to indicate static position behind some landmark (571a-b), or direction of pursuit with a verb like ‘follow’ (571c-d). It can also mean ‘on X’s back’ in connection with carrying (571e), or more figuratively ‘supporting X’ (cf. Eng *have X’s back* or *be backing X*) (571f).

(571) a. zàkí à-mà [nó ʃīɛ̄]
Z be.Loc [1Sg **behind**]
'Zaki is behind me.' (Ji)

b. kò sɛ̂^{n}= [[[Ø blí-kɛ́] kɛ̀-kɛ̀ʔɛ̀] ʃīɛ̄]
Infin lie.down.Base [[[Art hare] wall] **behind**]
'He lay down behind hare's (house's) outer wall.' (Bi, 2017-08 @ 04:41)

c. [ē nā-dɛ̀] kò tá-[cə́rú^{n}-jùʔɔ̀]
[Art old.man] Infin do.again.Base-[run.hard.Base-follow.Base]
[ɔ̀^{n} ʃīɛ̄]
[3AnSg **behind**]
'The old man too ran hard after it.' (Fl, 2017-03 @ 01:31)

d. ò gō jùʔɔ̀ [ɔ̀^{n} ʃīɛ̄]
3Pl Infin follow.Base [3AnSg **behind**]
'They followed her.' (Bi, 2017-07 @ 07:32)

e. mó ɲɔ̄= [Ø tùpɛ̀^{n}ʔɛ́^{n}] kō bàʔà-sūʔɔ̄—
2Sg look.at.Base [Art gourd] Infin sling.Base-give.Base—
[mó ʃīɛ̄]
[2Sg **behind**]
'Look (=try) to carry the gourd slung—behind you! (=on your back)'
(Ji, 2017-01 @ 03:36, edited)

f. [bò-wí fə́rá^{n}] ā jùʔù [mó ʃìɛ̀] cɔ́
[fellow too] Ipfv follow.Ipfv [2Sg **behind**] truly
'The fellow furthermore is behind you (=trying to help you), indeed.'
(Ji, 2017-08 @ 10:58)

As a noun, ʃīɛ̄ means 'rear, behind (n)'.

8.3.7 'Over X' and 'on top of X'

Position above a reference object is expressed by cī^{n}, or more often by complex postpositions based on it.

8.3.7.1 'Up high in/on X' (X cī^{n})

cī^{n} is attested as a simple postposition in the phrase [ē ʃì^{n}ʔí^{n}] cī^{n} 'up (high) in the tree' (Bo, 2019-01 @ 01:27).

8.3.7.2 ‘On top of X, over X’ ([X jɥ̀ʔɛ́] cī^{n})

[ē jɥ̀ʔɛ́] cī^{n} (Bi Ji) or with regular dialectal phonology ē jɥ̀ɛ̀ʔɛ́-cī^{n} (Fl Ma) occurs by itself as an adverb ‘up above, overhead’ (571a). See §8.5.7.3 for this and similar adverbs of vertical position.

[X jɥ̀ʔɛ́] cī^{n} may also function as a PP with a complement X (572b). The complex postposition [X jɥ̀ʔɛ́] cī^{n} means ‘over X, above X’. By itself as a noun, jɥ̀ʔɛ́ and variants mean ‘God’, cf. the compound jɥ̀ʔɛ̀-ɲɔ́ ‘sky’.

(572) a. [ē cīɔ̄^{n}] à-mā [[Ø jɥ̀ʔɛ́] cī^{n}]
[Art bird] be.Loc [[Art **sky**] **Loc**]
‘The bird is overhead.’ (Ji)

b. [ē cīɔ̄^{n}] yìɛ̆= [[Ø wùʔú] jɥ̀ʔɛ́] cī^{n}]
[Art bird] fly.Pfv [[Art house] **sky**] **Loc**]
‘The bird flew over the house.’ (Ji)

c. jă→, [è kɛ̂^{n}] lɛ̄^{n} [[Ø jɥ̀ʔɛ́] cī^{n}]
lo! [Art man] stand.Pfv [[Art **sky**] **above**]
‘Lo, the fellow stood up high.’ (Ji, 2017-04 @ 03:08)

8.3.7.3 ‘On top of X, over X’ ([X ú^{n}ʔú^{n}] cī^{n})

[X ú^{n}ʔú^{n}] cī^{n} is based on the noun ú^{n}ʔú^{n} ‘head’ but is not anatomically specific. It can mean ‘over X’, or ‘on top of X’ where X is an entity with a vertical dimension (a house, a mountain, etc., but not a mat).

(573) ɔ̄^{n} mɛ̆= [[[Ø dùʔ=] ú^{n}ʔú^{n}] cī^{n}]
3AnSg build.Pfv [[[Art mountain] **head**] **Loc**]
‘He/She built (a house) on top of the cliffs.’ (Ji)

(574a-b) indicate a broader bodily extent.

(574) a. [ē jù^{n}ʔɔ̄^{n}=] Ø-mà [[nó ú^{n}ʔú^{n}] cī^{n}]
[Art pain] be.Loc [[1Sg **head**] **Loc**]
‘My whole body is in pain.’ (Ji)

b. [ē dɔ̆^{n}] kō [[ɔ̀^{n} ú^{n}ʔú^{n}] cī^{n}]
[Art pain] be [[3AnSg **head**] **Loc**]
‘His whole body was in pain.’ (Ji, 2017-08 @ 03:40)

For simple locative nī following ‘head’ in its literal sense, see §8.3.2.4 above

8.3.8 ‘Under X’

Uncompounded tɔ̄ⁿ ‘under’ occurs as a postposition translatable as ‘in (a covered space)’ or ‘under’ see §8.3.2.3 above. Usually ‘under’ is expressed by one of the composite postpositions in the subsections below.

8.3.8.1 ‘Under X’ (X pàⁿ-tɔ̄ⁿ ~ X pɔ̀ⁿ-tɔ̄ⁿ)

‘Under X’ is a composite postposition pàⁿ-tɔ̄ⁿ (Bi Ji Ma) or pɔ̀ⁿ-tɔ̄ⁿ (Fl).

(575)	[è	bú]	à-mā	[[ē	tàpùɔ̀]	pàⁿ-tɔ̄ⁿ]
	[Art	money]	be.Loc	[[Art	mat]	**under**]

‘The money is under the mat.’ (Ji)

Typical contexts involve either direct contact, as between a mat and the ground, or a narrow channel, as in ‘under the car’. Our Ji speaker distinguishes [ē ʃìⁿʔíⁿ] tɔ̄ⁿ ‘under (=in the shade of) the tree’ from [ē ʃìⁿʔíⁿ] pàⁿ-tɔ̄ⁿ ‘under (=buried in the earth below) the tree’.

8.3.8.2 ‘Under X’ (X cùʔà-tɔ̄ⁿ)

X cùʔà-tɔ̄ⁿ ‘under X’ is recorded for Bi dialect. The example involves direct contact (an elephant examining a person who is playing dead).

(576)	jí	máⁿ =	à-màⁿ	[bó	cùʔà-tɔ̀ⁿ]	mɔ̂→
	if	2Sg	be.Loc	[3AnSg	**under**]	concerning

‘if you are under it (=elephant)’ (Bi, 2017-09 @ 02:20)

8.3.9 ‘Between’

Postpositions meaning ‘between’ are derived from the noun ‘hip’, as explained below.

8.3.9.1 [[X Y] cítùò ‘between X and Y’

‘Between X and Y’ is expressed by a simple (not composite) postposition cítùò (Ji), cícùʔò (Bi), or ʃícùòʔò (Fl). The landmarks may be conjuncts in a conjoined NP, or a plural. Other speakers prefer the ‘between’ postpositions presented in the following section.

(577)	a.	zàkí	à-mà	[é-yùò	cítùò]
		Z	be.Loc	[1Pl	**between**]

‘Zaki is between us.’ (Ji)

b. ná=   à-mā   [[zàkí   kà   ámì]   cítùò]
1Sg   be.Loc   [[Z   with   A]   **between**]
'I am between Zaki and Ami.'   (Ji)

This postposition is probably etymologically related to the noun cícùʔò (Bi) or sícùʔò (other dialects) meaning 'middle', including the specific sense 'mid-torso'. However, the postposition and the noun diverge in form in the non-Bi dialects, and some speakers instead suggest an association with 'hip': ʃītɔ̀ʔɔ́ (Fl Ma), sītɔ̄ʔɔ̄ (Ji), cítɔ̀ʔɔ́ (Bi).

8.3.9.2 [X Y] (sà-)tíɛ́ 'between/across X and Y'

tíɛ́ (Fl) or tìɛ̀ʔɛ́ (Ma) means 'between (X and Y)'. It can specify that a third entity is located somewhere in the space between two entities X and Y, like the towns and cities mentioned in (578b). It can also specify the nature of the relationship between individuals (578b). Our Ji speaker does not use this form frequently.

(578) a. [ē   pɔ̄-lē]   à-mā   [[ē   bàⁿfórā]   kǎ=   [Ø   sàmàʔà]   tíɛ́]
[Art   P]   be.Loc   [[Art   Ba]   and   [Art   Bo]   **between**]
'Péni is located between Banfora and Bobo Dioulasso.'   (Fl)

b. [ē   bɛ̀ⁿ]   ní-mā   [[kà   [ō   gɛ̌]]   tìɛ̀ʔɛ́]   =ʔ
[Art   harmony]   not.be   [[with   [3Pl   Recip]]   **between**]   Neg
'There is no peace (=mutual understanding) between them.'
(Ma, 2017-02 @ 02:00)

A postposition meaning 'between' or 'across, straddling' is attested as sà-tíɛ́ (Bi Ji) or sà-tìɛ̀ʔɛ́ (Fl Ma). It indicates that the gap or interval between X and Y is filled. In (579a) the third entity spills over, beyond the gap. sà-tíɛ́ can be repeated after both X and Y (579b).

(579) a. ɔ̀ⁿ   gō   bà-sɛ́ⁿ,
3AnSg   Infin   come.Base-lie.down.Base,
[[ē   gblì]   [ò   sáⁿ]]   sà-tīɛ̄ʔɛ́
[[Art   ridge]   [Pl   three]]   **across**
'It (=warthog) came and lay down, across (the) three rows.'
(Fl, 2017-03 @ 01:05)

b. [[è   máⁿgɔ̀rō]   sà-tíɛ́]   [[kǎ=   [Ø   wùʔú]]   sà-tíɛ́]
[[Art   mango]   **between**]   [and   [Art   house]   **between**]
ó   nà   bá   [[bè   tɔ̀ʔɔ̀]   tó]
1Pl   Fut   cultivate.Base   [[Dem.Def   place]   Foc]
'In the space between the mango tree and the house, there [focus] we will cultivate (crops).'   (Fl)

8.3.10 Endpoints (‘from X to Y’)

8.3.10.1 ‘From X to Y’ (glú … kō bà …)

The verbs glō/glú/glú ‘exit, depart’ and a terminus-oriented motion verb such as bà/bà/bē ‘come’ or dɛ̀ⁿ/dàⁿ/dàⁿ ‘arrive’ figure in the ‘(all the way) from X to Y’ construction. The ‘exit’ verb may occur by itself in the main clause, or it may be compounded with a manner of motion verb as in (580). The second motion clause takes infinitival form.

(580)	[ɔ̄ⁿ	ʃìⁿʔɛ̀ⁿ-glú	cɛ̀fɔ̀rá	[kō	bà	dəràmáⁿdùgú]
	[3AnSg	run.Pfv-**exit**.Base	T	[Infin	**come**.Ipfv	D]

‘He/She ran from Tiefora to Daramandugu.’ (Ji)

8.3.10.2 ‘(All the way) to/until Y’ (fɔ́ …)

fɔ́ Y ‘(all the way) to Y’ (spatial) or ‘(all the way) until Y’ (temporal) is slightly more emphatic than the construction described in the preceding section with kō bà or kō dàⁿ. It can be made more emphatic by adding álè ‘even’ (álè fɔ́ ‘all the way to/until’), or by intonational prolongation. Similar forms occur throughout the region.

An alternative construction is fɔ́ [kà X] including the ‘with, and’ preposition X. Thus fāⁿʔāⁿ or fɔ́ [kà fāⁿʔāⁿ] ‘all the way to here’.

fɔ́ generally occurs without a specification of the starting point, which is often self-evident from the discourse context. It precedes the spatial expression (NP or adverb) and in this combination it is a kind of preposition. However, the spatial expression is already adverbial and may contain its own postposition. Examples with following NP or adverb are in (581). We standardize the interlinear gloss as ‘until’. (581a-b) are clearly spatial. 581c) is clearly temporal.

(581) a.	d=	ɔ̀ⁿ	Ø-mā	dè —			
	say.Pfv	3AnSg	be.Loc	say.Pfv			
	é!	dě=	[[Ø	klɔ̀ʔó]	nì]	[fɔ́→	fāⁿʔāⁿ]
	oh!	Quot	[[Art	road]	Loc]	[**until**	here]

‘(Hare) said: “He is there, on the road all the way here (=this way.” ’
(Fl, 2017-05 @ 02:14)

b.	áywà	ò	yíʔí			
	well	Infin	go.Base			
	[gō	rà-glú	[fɔ́	bànfórà—,	-dɔ̀tɔ̀só]]	
	[Infin	go.Base-exit(v).Base	[**until**	B	hospital]]	

‘Well, (they) went all the way to Banfora hospital.’ (Bi, 2017-09 @ 03:54)

c. ā pòʔó-ní, bè ā klè fɔ́,
3Inan aerate-VblN, Dem.Def Ipfv be.done.Ipfv **until**,
[ē cūɔ̄-cūɔ̄ fɛ̀ʔɛ̀] n̄
[Art August month] Loc
'The aeration, that is done through the month of August.'
(Ma, 2018-06 @ 00:24)

fɔ́ is also common before clauses and infinitival VPs (§15.3.4.1). It is therefore syntactically closer to ká ~ tá 'like' than to true prepositions kà ('with or 'and') and ɔ̀^{n} (ditransitive dative).

This fɔ́ is unrelated to exclusively clause-initial fɔ́ ~ fó 'must' (Fr *il faut*, §17.1.7)

8.4 'About, concerning' and 'for' (kě nī)

The noun kě 'matter, issue, (abstract) thing' combines with locative nī to form the complex postposition [X kě] nī 'in the matter of X, concerning X, with regard to X'. It is often heard as kē nī. In some contexts it may be freely translated as purposive 'for' or as causal 'because of', but these senses are not intrinsic.

(582) a. zàkí bà [[[ē tīʔō] kě] nī]
Z come.Pfv [[[Art honey] **matter**] **Loc**]
'Zaki has come for the honey.' (Ji)

b. é-yùò dìè [[[ē blɔ̄] kě] nī]
1Pl enter.Pfv [[[Art rain(n)] **matter**] **Loc**]
'We went in(side) because of the rain.' (Ji)

c. [kō tà^{n}-jūʔɔ̄ [Ø dəràʔá-wí]
[Infin help.Base [Art courtyard-owner]
[[[ē dìɛ́] kě] nī]
[[[Art sauce] **matter**] **Loc**]
'(They) help out the head of household with regard to (ingredients for) sauce.'
(Ma, 2018-05 @ 00:26)

Without a complement, [ē kě^{n}] nī means 'in the/that (matter/situation)'.

(583) jǎ [è lóʔ=] à-mā [[Ø kě] nī]
lo! [Art trickery] be.Loc [[Art **matter**] **Loc**]
'There's trickery in that business!' (Ji, 2017-08 @ 05:19)

8.5 `Other adverbs (or equivalents)

8.5.1 Similarity (‘like’)

8.5.1.1 ká ~ tá ‘like’

The similarity particle often precedes an NP (which may be a pronoun). It can be glossed ‘like, similar to’ or ‘in the form/manner of’. The form is tá (Fl Ma) or ká (Ji). Our Bi speaker uses both, e.g. ká (2017-09 @ 04:10) and tá (2017-10 @ 03:37).

Examples are in (584).

(584) a. ɔ̀ⁿ= Ø ʃīⁿ [Ø kē-sùⁿʔɔ̀ⁿ] [ká mó]
3AnSg Ipfv work(v).Ipfv [Art work(n)] [**like** 2Sg]
‘He/She works like you-Sg.’ (Ji)

b. bó gō tə̀ràⁿ [tā́= [Ø wùò-bí]]
3AnSg Infin sit.Base [**like** [Art orphan]]
‘She (just) sat (by herself) as an orphan child.’ (Bi, 2017-07 @ 00:26)

c. fɔ́ ɔ̀ⁿ gō klè [ɔ̀ⁿ míʔá] [ká wūō-kàʔà]
until 3AnSg Infin do.Base [3AnSgRefl Refl] [**like** die.Pfv-Ppl.An]
‘to the point that he made himself like a dead critter (=played dead)’
(Ji, 2017-09 @ 02:24)

d. kō klè =ǹ [kā́ [Ø *dessin*]]
Infin do.Base 3InanObj [**like** [Art picture]]
‘‘(They) did it (cave engravings) in the form of pictures.’
(Fl, 2017-11 @ 02:03)

e. jǎ ā klè [kā́= [Ø wùʔù té dè]
lo! 3Inan be.done.Pfv [**like** [Art house Foc.Inan Emph]
‘Lo, it (=cave) has become just like a (real) house [Foc].’
(Fl, 2017-11 @ 05:08)

While ká ~ tá has the appearance of a preposition in the preceding examples, it can also take a clausal complement (§15.3.1.2). Like fɔ́ ‘until’, it can function either as a kind of preposition or as a kind of complementizer.

ká and tá are also dialectal variants of the past particle which follows subject NPs (§10.3.1.1). For a different ká- ‘do again’ as initial in verb-verb compounds, see §15.1.3.2.

8.5.1.2 French *comme*

Fr *comme* ‘like, as’, pronounced [kómì] or similar, is a common substitute for ká ~ tá. We present only one textual example here.

(585) [à bíɛ́] ā lɔ̀-à-glō
[3Inan all] Ipfv be.gathered.Ipfv-Ipfv-exit.Ipfv
[*comme* [Ø kláʔá tù-tùʔù]]
[like [Art shell big]]
'All of them are (=have been) gathered up and taken away, like a big shell.' (Ji, 2017-04 @ 02:40)

As in standard French it can also be a clause-initial particle, sometimes with weak causal sense ('since …', §17.6.1.1).

8.5.1.3 Phrases with noun ʃìʔé 'manner'

The noun ʃìʔé (Fl and Ma ʃìèʔé) occurs as possessum in the phrase X ʃìʔé 'X's manner' or 'something/someone like X'. It resembles a postposition but does have nominal properties.

(586) [mó ʃìèʔè] ní-mā
[2Sg **manner**] not.be.Loc
'There is no-one like you.' (Ma, 2017-01 @ 03:09)

This construction tends to occur in evaluative contexts, and may be pejorative: 'the likes of you, your kind'.

See also mlɛ̌ⁿ-ʃìʔé ~ mɛ̌ⁿ-ʃìʔé 'like this/that' (§8.5.5.1).

ʃìʔé 'manner' is distinct from interrogative ʃìʔɛ́ 'what?' (§13.2.3.2.1) or 'which?' (§13.2.3.6.2).

8.5.2 Scalar extent

In the following subsections we present adverbs and other elements that amplify (§8.5.2.1) or diminish (§8.5.2.2) the magnitude of scalable quantities and intensities, especially of predicates, in comparison to modal or average values.

8.5.2.1 Amplification

In addition to the forms described in the following sections, there is an expressive adverbial pé-pé 'completely, totally'. It is added as an adverb in (Bo, 2019-03 @ 02:55).

8.5.2.1.1 Compounded verbs gɔ̄rɛ̄ⁿ, dɔ́rá, and yī-dā 'be/do a lot'

The stems -gɔ̄rɛ̄ⁿ '(be/do) somewhat/fairly …' and the stronger -dɔ́rá '(be/do) very …' function as finals in verb-verb compounds, as shown by intercalated Ipfv -à-. The already compound verb yī-dā 'overflow' can also function as final in the sense '(be/do) excessively, extremely'. We present these forms with examples in §15.1.2.1.1-3 but mention them here since their senses are similar to those of kɔ́sɔ́bɛ́. As compound final -gɔ̄rɛ̄^{n} can also mean '(be/do) well' (§15.1.2.1.1).

See also the verb-verb compounds with Vb2 -dɛ́ 'be sated', with senses like 'be full (after eating)', 'overload', and 'be well bathed' (§15.1.2.3).

8.5.2.1.2 kɔ́sɔ́bɛ́(ʔ) 'really, very (much)'

This adverb, also in Jula, is rather common in texts. It is commonly added after a verb or other predicate, rather than being predicative itself. Before a pause, which is often where this particle occurs, it may end with a glottal stop. A prepausal glottal stop is also typical of bíɛ́(ʔ) 'all' and of negative clauses.

(587) a. *donc* [mó^{n} bí-ní] kpè kɔ́sɔ́bɛ́
so [2Sg ask-VblN] be.good.Pfv **really**
'So, your question was very good.' (Bi, 2017-10 @ 02:27)

b. [à kɔ̀nì] [=à^{n} dá^{n} kɔ́sɔ́bɛ́ʔ]
[3Inan Top] [3Inan be.pleasant.Ipfv **really**]
'As for it (millet), it's very good.' (Ma, 2018-06 @ 01:12)

c. bè kpè kɔ́sɔ́bɛ́ʔ
Dem.Def be.good.Pfv **really**
'It has become excellent.' (Fl, 2017-11 @ 06:26)

8.5.2.1.3 Adverb gbù^{n}ʔú^{n} 'very much'

gbù^{n}ʔú^{n} 'a lot' is an adverb and can be separated from the main verb by an object or other constituent.

(588) ɔ̄^{n} gbà nó gbù^{n}ʔú^{n}
3AnSg hit.Pfv 1Sg **a.lot**
'He/She hit me a lot.'

gbù^{n}ʔú^{n} was regularly produced in this sense in elicitation by speakers who tend to regard kɔ́sɔ́bɛ́(ʔ) as tarnished by its Jula provenance. However, gbù^{n}ʔú^{n} does not occur in our texts.

8.5.2.1.4 kə̀-rɛ̀^{n}-ʔɛ̀^{n} 'many, much' and verb kɛ̀^{n} 'be many/much'

The adjective kə̀-rɛ̀^{n}-ʔɛ̀^{n} 'many, much', which appears to be a rhotic plural in form though it has no singular, is another way to amplify a scale. It combines with both mass and (plural) count nouns: ē ɲū kə̀-rɛ̀^{n}-ʔɛ̀^{n} 'lots of water', ē wə̀-rɔ́ kə̀-rɛ̀^{n}-ʔɛ̀^{n} 'lots of goats'. For the morphology see (349f) in §4.5.3.1.2.

The form with inanimate classifier is á kə̀-rɛ̀ⁿ-ʔɛ́ⁿ (Fl tonal variant: á kə̀-rɛ̄ⁿ-ʔɛ́ⁿ) with final H-tone. This can function as a noun meaning ‘a lot, a large quantity’, or as an adverb ‘a lot, greatly’. There is a related invariant (mostly stative) verb kɛ̀ⁿ ‘be much, be many, abound’.

(589)	a.	[móⁿ	dó]	ɲàⁿ	[á	kə̀-rɛ̀ⁿ-ʔɛ́ⁿ	ɲə̀rɔ̀ⁿ	bíɛ́]
		[2Sg	however]	see.Pfv	[Inan	**many**	Rel	all]

‘all the many things that you-Sg have seen’ (Bi, 2017-08 @ 07:54)

b.	[má=	à—	fā-à-də́rā=	[Ø	kě	kə̀-rɛ̀ⁿ-ʔɛ̀ⁿ]
	[2Sg	Ipfv—	seek.Ipfv-Ipfv-do.very.much	[Art	matter	**many**]

‘you-Sg will look all over for lots of other things’ (Bi, 2017-08 @ 10:22)

8.5.2.2 Diminution

8.5.2.2.1 Verbal compound final dɔ̄/dō ‘be/do a little’

The verb stem —/dɔ̄/dō (Fl) ‘be/do a little’ can be added to another verb to diminish its scalar quantity or degree. See §15.1.2.2 for examples and discussion.

8.5.2.2.2 dɔ́ní and variants ‘a little’

Like its antonym kɔ́sɔ́bɛ́(ʔ) ‘a lot, greatly’, this scalar adverb is a Jula borrowing. It has both simple (590a) and iterated (590b) variants. Especially the iterative forms can mean ‘slowly, gently’.

(590)	a.	dɔ́n	Ji Ma
		dɔ́ní	Fl Ji
		dɔ́ɔ́ní	Bi Ji
		dóóní	Bi
	b.	dɔ́n-dɔ́n	Bi Ma
		dɔ́n-dɔ́ní	Bi Ji

Examples are in (591). As in Jula, the iterations may be repeated (591c).

(591)	a.	bú—	[è	ní]	dɔ́n]
		get.Base—	[Art	life]	**a.little**]

‘…get (=have) some life.’ (Ma, 2017-04 § 04:17)

b.	… [Ø	klè-ń]	nīⁿ—	dɔ́n-dɔ́ní
	… [Art	do-VblN]	Loc—	**a.little**

‘doing a little’ (Bi, 2017-07 @ 05:13)

c. [Ø ŋà= à-klɛ̀= [Ø kɛ̌] dɔ́n-dɔ́n-dɔ́n-dɔ́n
[2Sg Hort come.Base-do.Base [Art matter] **a.little**
'(you) do a thing gently' (Bi, 2017-08 @ 10:25)

d. d= ó kú =nì dɔ́n
Quot 1Pl cut.Base 3InanObj **a.little**
'Let's cut it (=talk) off a little.' (Ji, 2017-11 @ 11:48)

e. à dáⁿ dóní
3Inan be.pleasing.Ipfv **a.little**
'It is a little bit good.' (='It is okay, not bad.') (Fl)

Though it is usually adverbial, it is also possible to use it as a noun: è dɔ́ní 'a little (bit)'.

8.5.2.2.3 bí-bī and à-bì-píɔ́ⁿ 'a little'

For the paradigm of bí-bī as modifying adjective 'small' see (354d) in §4.5.3.2.2. The inanimate form (è) á bí-bī (Fl Ji Ma) can function as a noun 'a little, a small quantity' or an adverb 'a little, somewhat' (women, 2017-13 @ 02:31).

Another form à-bì-píɔ́ⁿ is also attested in the sense 'a little' as relative head ('what little is there') in (Ji, 2017-01 @ 03:31) and in indefinite form à-bì-píɔ́ⁿ jī in (Ji, 2017-11 @ 11:44). à- may be the inanimate pronoun in possessive (partitive) function.

8.5.2.2.4 dámá 'a few'

dámá (< Jula) is a quantifier 'a few'. Syntactically it is a modifying adjective. It is attested modifying dè 'day' and tɔ̀ʔɔ̀ 'place', which take singular form.

(592) a. kō bà bú [dè dámá] mɔ̂→
Infin if get.Base [day **a.few**] concerning
'(If) they (=circumcised boys) had a few days (to recover), …'
(Ma, 2017-10 @ 02:54)

b. ō ʃìʔɛ̌= [Ø klɔ̀ʔɔ́], [ē tɔ̀ʔɔ̀ dámá té] nī
3Pl give.Pfv [Art road], [Art place **a.few** Foc.Inan] Loc
'They gave permission for (just) a few places [focus].'
(Ji, 2017-11 @ 04:02)

c. [è ná-bí-ó dámá] bà
[Art person-Pl a.few] come.Pfv
'A few people came.' (Ji)

8.5.2.2.5 sɛ́ⁿ→ and píⁿʔɔ́ⁿ ‘tiny’ (intensifiers)

sɛ́ⁿ→ with unbounded prolongation is an expressive adverbial. It occurs in predicates meaning ‘tiny, minuscule, microscopic’ (593a-b). It can also be added to an already formed predicate with bí-bī ‘small’, which drops to bí-bì before H-tone (593c). sɛ́ⁿ→ is attested for Bi and Fl.

(593) a. à kò sɛ́ⁿ→
3Inan be **tiny**
‘It is minuscule.’ (Fl)

b. à má kò sɛ́ⁿ→
3Inan IpfvNeg be **tiny**
‘It isn’t minuscule.’ (Fl)

c. ɔ̀ⁿ tá kō [kā bí-bì] sɛ́ⁿ→
3AnSg Past be [An small] **tiny**
‘He/She used to be tiny.’ (Fl)

For Ji a different intensifier for ‘small’ was recorded. It is píⁿʔɔ́ⁿ (594).

(594) ā nà klè-pɔ̀ⁿ [á bí-bì píʔɔ́ⁿ] bè
3Inan Fut be.done.Base-be.able.Base [Inan a.little **tiny**] Dem.Def
‘It (=voice) can become very small like that?’ (Ji, 2017-07 @ 03:00)

8.5.3 Specificity

8.5.3.1 ‘Around, in the vicinity of’

The noun gblàʔà ‘flank, side’ combines with an adverb or phrase denoting a specific location, to indicate an unspecified position in the general neighborhood of that location. fāⁿʔāⁿ gblàʔà ‘over there’ (§4.4.3.1) indicates a location not far from ‘here’ (fāⁿʔāⁿ). The combination tɔ̀ʔɔ̀-gblàʔà has similar functions when added to a term for a settlement or for a topographic location (§8.3.4.5).

For quantities, phrasings like those in (595) indicate non-exactness on either the low side (‘almost’) or the high side (‘a little over’).

(595) a. ò má dɛ̀ⁿ [Ø támm]
3Pl IpfvNeg arrive.Pfv [Art ten]
‘They won’t (quite) reach ten.’ (Ji)

b. ò nà yī-dā [è támm]
3Pl Fut surpass.Base [Art ten]
‘They will (=might) exceed ten.’ (Ji)

c.	[nó	kà	[Ø	bɔ́]	ɲùʔɔ́	jərɔ́ⁿ]
	[1Sg	with	[Art	sheep.Pl]	number	Rel]
	kō	yè-dɛ́	[Ø	kplē-jɔ̌ⁿ]		
	Infin	be.almost.Base	[Art	twenty-two]		

‘The number of sheep that I have almost reaches forty.’ (Ji)

d.	[ē	plē-jɔ̌ⁿ]	[kǎ=	[Ø	ʃīɛ̄]]
	[Art	twenty-two]	[with	[Art	behind]]

‘forty odd, a bit over forty’ (Ji)

8.5.3.2 ‘Exactly’ and ‘specifically’

The issues here include: correct identity of a referent (‘precisely me’), factual correctness of a statement (‘indeed’), and precision of a quantity (‘exactly twenty’).

The most obvious ways to zoom in on a referent are focalization (§13.1) and topicalization, notably topic shifts (‘as for X’, §19.1). Other relevant expressions are presented below.

8.5.3.2.1 Presentatives as emphatic specifiers

Less obviously, presentatives (§4.4.4.2) of the form X kò yá, literally ‘X is this/that’, can function more or less as emphatic specifiers. In (596), focalization combines with presentativity.

(596)	[ē	cɛ́ⁿ-mù	té]	kò	yá	=rɛ̄ʔ
	[Art	esoteric.message	**Foc.Inan**]	**be**	**Dem.InanSg**	Emph

‘The esoteric message was exactly that!’
(Fl, 2017-05 @ 03:52)

8.5.3.2.2 Pragmatic interjection cɔ́ ‘indeed!’

The particle cɔ́ occurs widely in the zone as an exclamation by an interlocutor or respondent to something said by a speaker. In (597), it is added to a NP to emphasize precise identity and is followed by a presentative. The context is that a long-lost abandoned daughter presents herself to her mother.

(597)	móⁿ	nâ	wé	[nó	ɲərɔ̀ⁿ]	cɔ́,
	2Sg	Past	abandon.Base	[1Sg	Rel]	**exactly**,
	[nóⁿ	nóʔó]	ō	kǎⁿ		
	[1Sg	Foc]	be	Dem.AnSg		

‘Precisely me whom you-Sg had abandoned, this is me!’ (Bi, 2017-07 @ 08:12)

Other textual examples of cɔ́! are (Bi, 2017-08 @ 03:07) in glottalized form cɔ́ʔ!, (Ji, 2017-01 @ 02:37), (Ji, 2017-08 @ 10:58), and (Bi, 2017-10 @ 04:27). The glottalized form can function as one-syllable positive feedback (‘that’s right!’ or ‘you got it!’); cf. jàtí in the following section. As the examples suggest, cɔ́! works on the pragmatic level, confirming the truth of a proposition.

8.5.3.2.3 jàtí ‘exactly!’ or ‘indeed!’

Another exclamation that vigorously confirms what the interlocutor has just said is jàtí ‘exactly!’, another widespread regional form. Good examples are (Bi, 2017-10 @ 06:27 & 06:38).

8.5.3.2.4 àmín ~ àmínì ‘amen!’

This form, often repeated about three times without a break, is an appropriate response to formal blessings and good wishes. Examples are (Bi, 2017-10 @ 07:09) and (women, 2017-12 @ 00:39 & 00:40).

8.5.3.2.5 yó(ʔ) ‘exactly!’ for quantities

Phrase-final interjection yó can mean ‘exactly’ with reference to a quantity. Prepausally it ends in a glottal stop and sounds like an interjection. It can combine with a focalizer like animate plural tə́-ró (598b) or with tê as emphatic (598a).

(598)	a.	nó	[kǎ=	[Ø	bɔ́]	[Ø	kplē-jɔ̀^{n}]	(tê)]	yó
		1Sg	[with	[Art	sheep.Pl]	[Art	twenty-two]	(Foc.Inan)]	**exactly**

‘I have exactly forty sheep.’ (Ji)

b.	[è	bɔ́	[Ø	kplē-jɔ̀^{n}]	yó	tə́-ró]	bà
	[Art	sheep.Pl	[Art	twenty-two]	**exactly**	Foc-AnPl]	come.Pfv

‘Exactly forty sheep came.’ (Ji)

8.5.3.2.6 kɛ̀ ‘precisely’

This particle occurred in a Bofoboso text in the form kú^{n}ʔú^{n} kɛ̀ ‘precisely today (=nowadays)’, in contrast to the old days (2019-04 @ 00:36). Follow-up elicitation with the Fl speaker resulted in several further examples, where kɛ̀ is added directly to basic spatiotemporal adverbs (599).

(599)	kú^{n}ʔú^{n} kɛ̀	‘exactly today (or: nowadays)’
	mlɛ̄^{n} kɛ̀	‘right now’
	fā^{n}ʔā^{n} kɛ̀	‘right here’

kɛ̀ as a clause-final emphatic particle is covered in §19.4.5.

8.5.4 Evaluation

The subsections below describe ways to qualify actions and behaviors positively. They can also be negated to reverse the evaluation. These elements are verbs and other predicates rather than adverbs.

The paradigm of the modifying adjective 'good' is in (347a), and its predicative form is à= Ø kò 'it is good'.

8.5.4.1 'Well' (-gə̄rɛ̄^{n})

English adverb 'well, in a good way' can be expressed by a verb -gə̄rɛ̄^{n} that is compounded to the main verb. See §15.1.2.1.1 for details and examples.

8.5.4.2 'Proper, right, (socially) normal' (gɔ̀-sō)

The concept 'proper, right' with reference to behavior is expressed by the compound verb gbà-sō/gɔ̀-sō/gò-à-ʃī (Ipfv also gɔ̀-à-ʃī, gù-à-ʃī). It consists of 'hit' plus —/-sō/-ʃī which occurs in several compounds but not independently (hence no Pfv form). As with many compounded verbs, -sō is morphologically base but it combines with Pfv as well as base initials. The subject of such predicates is generally some form of behavior. The predicate indicates that it is proper or socially acceptable, or the opposite under negation (600).

(600) à má gbà-sō
3InanSsg IpfvNeg **be.proper**.Pfv
'It (=failing to say thanks) wouldn't be right.' (Ji, 2017-04 @ 05:06)

Another example is (Fl & Ma, 2017-03 @ 02:15).

As intransitive verb with semantically plural subject, gɔ̀-sō means 'reach an agreement, make a deal' or '(people) get along well'.

8.5.4.3 'Proper, right, (socially) normal' (ká^{n}, ká-ká^{n})

ká^{n} is a predicate expressing community normative expectations for behavior. This predicate is accompanied by a hortative VP. In positive contexts, ká^{n} occurs either by itself or in the combination ká^{n}-ká^{n} ~ ká-ká^{n}, borrowed from Jula ká ká^{n} (in Jula ká is the positive adjectival predicate marker). In either case, the negative counterpart is má(^{n}) ká^{n}. Tiefo-D imperfective (and stative) negative má(^{n}) happens to match Jula negative adjectival predicate marker má, so Tiefo-D má(^{n}) ká^{n} accidentally matches Jula má ká^{n} 'is not right'.

The type of obligation expressed by this construction is normative, often based on timeless principles of acceptable, socially approved behavior. ká^{n} occurs in texts that detail the obligations associated with roles such as the chiefhood. It is difficult to choose among various free translations with different modal strengths like ‘must’, ‘ought to’, ‘should’.

For examples and morphosyntactic analysis, see §17.4.3.3.

8.5.5 Manner adverbs

8.5.5.1 mlɛ̌ⁿ ‘like this/that’

One expression meaning ‘like this/that’ is mlɛ̌ⁿ. Compare interrogative mlɛ̌ⁿ ‘how?’ and its extended forms like mlɛ̀ⁿ-kā, §13.2.3.5.1). There is another extended variant mlɛ̌ⁿ-ʃìʔé or mɛ̌ⁿ-ʃìʔé ‘like this/that’, containing the noun ʃìʔé ‘manner’ (601b-c). Another variant is the locative PP mlɛ̌ⁿ nī (601d).

(601) a.

nó	klè	=nì	mlɛ̌ⁿ
1Sg	do.Pfv	3InanObj	**like.this**

‘I did it like that.’ (Ma)

b.

fó	fāⁿʔāⁿ	mɛ̌ⁿ-ʃìʔé
pass.Base	here	**like.this**

‘(Now) go (=turn) here like this!’ (Ji, 2017-11 @ 09:08, cf. 09:12)

c.

[dùʔ=	á]	jə̀rɔ́ⁿ	Ø-mā	mɛ̌ⁿ-ʃìʔé,
[cliffs	Dem.InanSg]	Rel	be.Loc	**like.this**,

é-yùò	mâ	klà-lò	[[dùʔ=	á]	nī]
1Pl	Proh	play.Base	[[cliffs	Dem.InanSg]	Loc]

‘Those cliffs that are there like that, we mustn’t play in (=be neglectful of) those cliffs.’ (Ji, 2017-11 @ 10:10)

d.

[ā	wùⁿʔùⁿ	té]	kò	yá	[mlɛ̌ⁿ	nī]
[3Inan	head	Foc.Inan]	be	Dem.InanSg	[**like.this**	**Loc**]

‘Its origin [focus] is (=was) just like that (=what I have described).’
(Ma, 2017-02 @ 01:45)

8.5.5.2 Manner adverbials containing bè (bì)

bè is a very common discourse-definite inanimate demonstrative, i.e. ‘that (same) one, the afore-mentioned’ (§4.4.2.1). It occurs in that pronunciation in all dialects as a demonstrative. Longer expressions meaning ‘thus, like this/that’ consist of bè (dialectally bì) plus other morphemes, such as bè-kā. However, bè by itself can sometimes substitute for these longer expressions and itself function as a manner adverbial. All of these forms occur predominantly in clause-final position. In many cases the sense is not ‘like this/that’ (deictic), rather loosely anaphoric, summarizing previous discourse.

8.5.5.2.1 bè-kā and bè-kà-tó 'thus'

For dialects other than Bi, the most common 'thus, like that' adverbial phrase in the texts is bè-kā or bè-kà-tó. The morpheme following demonstrative bè is the noun kā 'manner'. The final -tó is a slightly reduced form of focus marker tóʔó. The Ma variants are bì-kā and bì-kà-tó. We transcribe all of these as single words since their morphological composition is becoming obscure to native speakers.

Textual examples of bè-kā are in (602). In each case bè-kā resumes a situation described in preceding discourse.

(602) a.

donc,	ɔ̀^{n}	kō	[bè	nī]	bè-kā
[so,	3AnSg	be	[Dem.Def	Loc]	**thus**

'So, he (=hare) continued in that situation.' (Ji, 2017-01 @ 01:14)

b.

[[ē	sə̀rí]	ʃūʔō	=ò	bè-kā]
[[Art	shame(n)]	catch.Pfv	3AnSgObj	**thus**]

'He was humiliated like that.' (Fl, 2017-03 @ 02:20)

The combination bè-kà-tó originated as the focalized form of bè-kā. It is so common in texts for dialects other than Bi that we consider it to be fused. It may or may not be clearly focal in context. However, we gloss it as "thus-Foc."

(603) a.

ná=	à	ʃî^{n}	[Ø	kē-ʃù^{n}ʔɔ̀^{n}]	bè-kà-tó
1Sg	=Ipfv	work(v).Ipfv	[Art	work(n)]	**thus-Foc**

'I work like that.' or '<u>That</u> [focus] is how I work.' (Fl)

b.

ō	dè	bè-kà-tó	lè
3Pl	say.Pfv	**thus-Foc**	Emph

'That's what they said.' (Fl, 2017-11 @ 04:22)

c.

[ē	bɛ̀ʔɛ̀-nɔ̀]	ká^{n}-ká^{n}	[kò	lɛ̄^{n}]	bè-kà-tó
[Art	ruin.Pfv-Agent.Sg]	ought	[Infin	be.chased.away.Base]	**thus-Foc**

'It's appropriate that one who ruins (things) be chased away like that.'
(Fl, 2017-02 @ 01:53)

As the examples show, both bè-kā and bè-kà-tó occur regularly at the end of clauses, before a pause or other prosodic break.

8.5.5.2.2 bè-yá-ró 'thus' (Bi)

Our Bi speaker makes frequent use of bè-yá-ró 'thus', which functions like bè-kà-tó in the other dialects. Examples can be found throughout the extended texts involving this speaker. For example, in text 2017-07 bè-yá-ró occurs at 00:48, 03:03, 03:09, 05:03, 05:06, 07:10, 09:09 (twice), and 10:12. It is generally clause-final before a pause or other prosodic break.

8.5.5.2.3 kà-tó and (Bi) yá-ró ‘thus’

The form kà-tó without initial bè- is also well attested in the same ‘thus’ sense as bè-kà-tó (§8.5.5.2.1). It is rather common in the phrase (604a), which functions as confirmatory backchannel (§19.5.1) by one listening to a narrative (cf. Eng *amen!* or *you said it!*). The fuller form (604b) is also attested in this phrasing.

(604) a. ā klè kà-tó
3Inan be.done.Pfv **thus-Foc**
‘It happened thus!’ (= ‘That’s how it happened!’)
(Ji, 2017-04 @ 01:52)

b. ā klè bè-kà-tó
3Inan be.done.Pfv **thus-Foc**
[=(a)] (Ji, 2017-04 @ 01:47)

We count eight occurrences of (604a) verbatim in the texts. There are additional variants, for example with a fuller NP as subject. In (605a) below, the infinitival morpheme kō is added. Moreover, the focus morpheme appears to be inanimate té, though this is possibly due to the presence of the interrogative enclitic. In (605b), kō ‘be’ describes an overall static situation instead of an event.

(605) a. à kō klè kà-té =ē
3Inan Infin be.done **thus-Foc.Inan** Q
‘Did it happen thus?’ (Ma, 2017-01 @ 01:07)

b. à kō kà-tó
3Inan Infin **thus-Foc**
‘It was thus.’ (Ji, 2017-04 @ 02:08)

Occasionally kà-tó occurs as a clause-initial or preclausal adverb: (Ji, 2017-04 @ 04:55 and 05:14).

Parallel to kà-tó shortened from bè-kà-tó ‘thus’ in other dialects, Bi has yá-ró shortened from bè-yá-ró. The -ró ending was originally the focus marker but this is now nontransparent.

(606) a. ā klè yá-ró
3Inan be.done.Pfv **thus**
‘It happened like that.’ (Bi, 2017-10 @ 06:47)

b. ā pìèⁿ yá-ró
3Inan remain.Pfv **thus**
‘It (=situation) stayed (like) that.’ (Bi, 2017-09 @ 01:42)

8.5.5.2.4 bè-kà-díⁿ ‘thus’

The noun kā ‘manner’ has an extended variant kà-díⁿ ‘manner’. We are therefore not surprised to find bè-kà-díⁿ ‘thus’ in a context where bè-kā or bè-kà-tó would be appropriate. (607) is the only textual example of this form.

(607)	ɲɔ́	ò	yìʔè		
	look.Base	3Pl	go.Pfv		
	[k=	ó-nɛ̀ʔɛ̆=	[Ø	klòʔó]	bè-kà-díⁿ]
	[Infin	go.Base-ask.Base	[Art	road]	thus]

‘Look, they went and took their leave in that situation.’ (Ji, 2017-04 @ 04:32)

Cf. also interrogative mè-kà-díⁿ ‘how?’ (§13.2.3.5.1).

8.5.5.2.5 Discourse-definite bè as clause-final ‘thus’

Finally, bè by itself occurs several times clause-finally where it cannot be parsed as a clausal argument and in contexts where a fuller form like bè-kà-tó ‘thus’ would be appropriate. In these examples, we regard bè as an abbreviation of the fuller form, rather than as the referential discourse-definite ‘that’.

(608)	a.	móⁿ	mà	máⁿ	jī	[Ø	kĕ]	bè
		2Sg	if	IpfvNeg	know.Ipfv	[Art	matter]	**Dem.Def**

‘if you (generic) aren’t familiar with a (certain) thing (thus)’
(Bi, 2017-09 04:29)

	b.	dè	fō=	[Ø	dəràmáⁿdùgù]	bè
		Quot	pass.Base	[Art	D]	**Dem.Def**

‘(saying) go to Daramandugu thus!’ (Ji, 2017-11 @ 09:12)

Since bè follows NPs in these examples, it might be topicalizing here (§19.1.2.1). However, topical NPs with bè, bó, and bùò are often clause-initial or preclausal.

It is often best to disregard clause-final bè in free translations. It does not denote a specific manner of doing anything, rather it summarizes a general situation. In some cases it can be rendered indirectly with ‘So, …’ at the beginning of a free translation.

8.5.6 ‘Anyway’ (cógó-cògò)

cógó-cògò ‘in any event, anyway’ is based on a Jula form cógó dì (with interrogative dì).

8.5.7 Spatiotemporal adverbials

8.5.7.1 Temporal adverbs

Some of the major temporal adverbs are presented below. Postposition nī can combine with ‘now’, ‘today’, and ‘this year’. Predictable tonal variants in glottalic syllables for Fl and Ma dialects are omitted below, e.g. Fl kūⁿʔúⁿ and Ma kùⁿʔúⁿ for kúⁿʔúⁿ ‘today’. The article ē, where present, is subject to the usual phonological reductions. It is common with ‘tomorrow’ and ‘yesterday’ and most of the year terms, but it is rarely or never found before ‘today’, ‘now’, ‘again’ even after a pause.

(609) presents general expressions (i.e. neither specifically past nor specifically future), along with some that are directly tied to the present. The forms in (609a-b) do not allow the article ē. Terms in (609c-d) for days (‘today’, ‘tomorrow’, ‘yesterday’, etc.) and years (‘this/that/last year’) are nouns and may be preceded by article ē. For kúⁿʔúⁿ ‘today’ the article is attested (Fl, 2017-09 @ 04:09), but it is often omitted even in postpausal position. Some of the forms in (609b-d) show locative postpositio nī.

(609)	form	dialect	gloss	reference
a. generalized				
	tàʔà-kó	(all)	‘again’	§10.3.2.2
	tàʔà		"	§10.3.2.2
	kàɲɛ̀ (rare)	Ji	‘never again’	2017-11 @ 09:59
	kɔ̀-kɔ̀ sú→	(all)	‘every day; always’	§6.6.1.2 (< kɔ̄)
	yɛ̀-yɛ̀ sú→		‘every year’	§6.6.1.2 (< yǎ)
	bà-bàʔà	Fl, Ji	‘quickly’	Fl, 2017-05 @ 03:29
b. ‘now’				
	dɛ̀-dɛ̀	Bi	‘now’	Bi, 2017-08 @ 08:52
	dɛ̀-dɛ̀ nī	Bi	"	Bi, 2017-07 @ 08:39
	dɔ̀-rɛ̀	Fl Ji Ma	"	Ji, 2017-08 @ 08:52
	dɔ̀-rɛ̀ nī	Fl Ji	"	Ji, 2017-08 @ 07:32
	dɔ̀-rɛ̀-tó	Ma	"	—
	mlɛ̌ⁿ	Fl	‘now; like this’	Fl, 2017-05 @ 03:35
	mlɛ̌ nī	Fl	‘now; like this’	Fl, 2017-05 @ 04:04
	mlɛ̀ⁿ-dê	Bi	‘(right) now’	—
c. ‘today’, by extension ‘nowadays’				
	kúⁿʔúⁿ	Bi Ji	‘today; nowadays’	Fl kūⁿʔúⁿ, Ma kùⁿʔúⁿ
	kúⁿʔúⁿ nī	Ji	"	
	(article ē is rare with ‘today’ even after a pause)			
d. ‘this year’				
	(ē) dɛ̀	Fl Ji	‘this year’	—
	(ē) dɛ̀-yà	Bi Fl Ma	"	—
	(ē) dɛ̀-yà nī	Bi Fl Ji Ma	"	—

The forms based on mlɛ̌^{n} in (609b) are extensions of manner adverb mlɛ̌^{n} ‘like this/that’ (§8.5.5.1).

The expressions in (610) below specify moments and time intervals in the past, with respect to the moment of speaking or some other reference time. dɛ̀^{n} ‘yesterday’ and dí ‘last year’ are suggestively similar to dɛ̀ ‘this year’, but the differences cannot be unraveled by synchronic morphology. A compound initial dí- pushes ‘yesterday’ and ‘last year’ back one time unit to ‘day before yesterday’ and ‘year before last’.

(610) form	dialect	gloss	reference
a. ‘yesterday’ and ‘day before yesterday’			
(è) dɛ̀^{n} (nī)	Fl Ji	‘yesterday’	
(è) dɛ̄^{n}	Bi	"	
(è) dí-dɛ̀^{n}	Fl Ma	‘day before yesterday’	
(è) jí-dɛ̀^{n}	Ji	"	
è dí-dɛ̀^{n}	Bi	"	
b. ‘last year’ and ‘year before last’			
(è) dí	(all)	‘last year’	
ē dí-dì	Fl Ji	‘year before last’	
c. ‘in the old days, long ago’			
(ē) dī-nā-dɛ̀^{n} (nī)	Fl Ji Ma	‘in the old days’	2017-04 @ 00:28
(ē) dī-nā^{n}-dɛ̀^{n} (nī)	Bi	"	2017-10 @ 03:31
[(ē) dī-nā-dɛ̀^{n}]-dáʔá	Ji	"	2017-04 @ 00:28
[(è) ná-dì-ɔ̀] dáʔá	Ji	"	

The forms for ‘in the old days’ (610c), which denote either the era when today’s old people were children or a distant, mythical period, are difficult to analyse. Only [è ná-dì-ɔ̀] dáʔá is fully transparent; it means ‘the time of the elders’. dī-nā-dɛ̀^{n} can be parsed as including a variant of ná-dɛ̀ ~ nā-dɛ̀ ‘old peron, elder’, or as ending in dɛ̀^{n} ‘yesterday’.

The complex PP [X (w)ānàʔà] nī ‘in front of X’ is added to ‘year before last’ to push the time back one more year into the past (611). Adding tàʔà ‘again’ (609a) to (w)ānàʔà pushes it back an additional year (611).

(611) three or more units before present		
[[è dí-dì] (w)ānàʔà] nī	Fl Ji	‘three years ago’
[[[è dí-dì] (w)ānàʔà] tàʔà] nī	Ji	‘four years ago’

For future moments and time intervals the most basic forms are in (612). cɔ̄^{n} ‘tomorrow’ is related to the verb ‘spend the night’ (cùɔ̀^{n}/cɔ̄^{n}/cī^{n}). dí- in dí-cɔ̀^{n} pushes the time out one further unit from the moment of speaking, as it does in dí-dɛ̀^{n} ‘day before yesterday’ (610a), but now this is projected forward into the future rather than backward into the past. The combinations with dí-cù^{n}ʔù^{n} are relative to a reference time set in preceding discourse, not relative to the moment of speaking, and therefore a “possessor” denoting the reference time is required (3Inan à or discourse-deictic bè). 'Next year' combines yǎ 'year' (flattened to yā-) with bà^{n}ʔà^n '(an)other'. The latter also occurs in 'the next morning' (612c).

(612)	form	dialect	gloss	reference
a. 'tomorrow' and 'day after tomorrow'				
	ē cɔ̄^{n}	(all)	'tomorrow; in future'	Bi, 2017-07 @ 06:39
	è dí-cɔ̀^{n}	(all)	'day after tomorrow'	—
b. 'next morning'				
	ē cù^{n}ʔú^n	(all)	'morning'	—
	à dí-cù^{n}ʔù^n	women	'the next morning'	women, 2017-15 @ 00:24
	bè dí-cù^{n}ʔù^n	Bi	"	Bi, 2017-07 @ 06:50
c.	è tɛ́^{n}	(all)	'daybreak'	§11.1.1.4
	è tɛ́^{n} bà^{n}ʔà^n	Fl Ji	'the next morning early'	women, 2017-16 @ 01:07
d.	ē yǎ	(all)	'year'	Bi, 2017-09 @ 04:48
	ē yā bà^{n}ʔà^n	Fl Ji Ma	'next year'	—
	è dí-yà	Bi Fl Ji	"	

For years, 'year after next' (613a) adds dígɔ̀ʔɔ̀ 'other' to yā bà^{n}ʔà^n, which already contains a different adjective meaning 'other'. We have not recorded dígɔ̀ʔɔ̀ 'other' with day terms. To push out the time one unit from [yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀ 'year after next' and dí-cɔ̀^{n} 'day after tomorrow', we again see (w)ānàʔà nī as for past-time adverbials. Addition of tàʔà to (w)ānàʔà pushes out an additional time unit in the case of years (613a). However, for days an adverbial fə́rí follows the locative postposition (613b). It may be somehow related to fə́rá^n 'also'.

(613)	form	dialect	gloss
a. years following 'next year'			
	[(ē) yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀	Fl Ji Ma	'the year after next'
	[[(ē) yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀] nī	Fl Ji Ma	"
	[[(ē) yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀] (w)ānàʔà	Fl Ji Ma	'three years from now'
	[[[(ē) yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀] (w)ānàʔà] nī	Fl Ji Ma	"
	[[[[(ē) yā bà^{n}ʔà^n] dígɔ̀ʔɔ̀] (w)ānàʔà] tàʔà] nī	Fl Ji Ma	'four years from now'
b. days following 'day after tomorrow'			
	[[è dí-cɔ̀^{n}] (w)ānàʔà] nī	Ji	'three days from now'
	[[[è dí-cɔ̀^{n}] (w)ānàʔà] nì] fə́rí	Ji	'four days from now'

The temporal structure of an event with respect to a reference time (e.g. perfective, progressive) is expressed by verbal aspect and by clause-level inflection. Repetition, completion, prolongation, and frequency can be expressed by initial verbs in verb-verb compounds (§15.1.3).

8.5.7.2 ‘First(ly)’

Expressions of the type ‘we’ll eat first, then we’ll leave’, or ‘I arrived there first (before others did)’ are not expressed by a dedicated adverb.

The verb gɛ̀ʔɛ̀/gàʔà/gàʔà, attested for Fl Ji Ma dialects, carries out this function. It means ‘do first(ly) or previously (before doing sth else)’ or ‘be first (to do sth)’. In the latter sense it can be compounded to another verb.

(614) a. [kă^{n} jə̀rɔ́^{n}] gɛ̀ʔɛ̀ [kō ɲī =ò]
[Dem.AnSg Rel] **be.first**.Pfv [Infin see.Pfv 3AnSgObj]
‘that one who had seen it (=hawk) first’
(Bi, 2017-06 @ 01:15)

b. *est-ce que* [[mó bī-dɔ̀] dó]
Q [[2Sg younger.sib] Poss.Inan]
dà= á gàʔà-klè =ā→
(Ipfv)Past PfvNeg **be.first.Base**-be.done.Base Q
‘Had not your younger brother’s turn happened first?’
(Bi, 2017-09 @ 02:12)

c. sò ká ā gàʔ-à-sɛ́^{n} =ɛ̄^{n}
who? Past Ipfv **be.first**.Ipfv-Ipfv-lie.down.Ipfv Q
‘Who used to lie down first?’ (Ma, 2017-10 @ 01:20)

gɛ̀ʔɛ̀/gàʔà/gàʔà ‘do first’ is unrelated in sense and is distinct in the Ipfv stem from gɛ̀ʔɛ̀/gàʔà/gìʔì ~ gèʔè ‘break; snap; (well) cave in’.

In the same passage from which (614c) is taken, priority is also indicated by the adverbial phrase [(ē) ānàʔà] nī ‘forward, ahead’ (Bi, 2017-10 @ 01:29). Since motion is involved ‘go ahead (of others)’ and ‘go first’ converge.

8.5.7.3 Spatial adverbs

The following are the main spatial adverbs other than ‘here’ and ‘there’ deictics, which are covered in §4.4.3.1. For more on the local geography see §1.3 above.

As with temporal adverbs, nī is the locative postposition. For -tɔ̄^{n} see §8.3.2.3 and §5.1.11. Cardinal direction terms (615a) are compounds with initial dè-jū (lit. “sun-eye”), followed by a ‘place’ compound (§5.1.7.3) including a motion verb in Pfv form. The Pfv verb in question is glō ‘exited, came out’ (i.e. ‘rose’) for ‘east’, and sē (Bi sūō) ‘(sun) landed’ (i.e. ‘set’) for ‘west’.

(615)

form	dialect	gloss
a. cardinal directions		
(ē) [[dè-jū]-glō]-tɔ̀ʔɔ̀ nī	various	‘(to) east’ (“[[sun-eye]-exit.Pfv]-place”)
(ē) [[dè-jū]-sūō]-tɔ̀ʔɔ̀ nī	Bi	‘(to) west’ (“[[sun-eye]-set.Pfv-place”)
(ē) [[dè-jū]-sē]-tɔ̀ʔɔ̀ nī	Ji Fl	"
b. horizontal directions from reference point		
(è) dí-bə̀rì	various	‘to the right’ (“eat-?”)
(è) dí-bə̀rì ɛ̀rìkɛ̀ʔɛ̀	various	‘to the left’
ʃīɛ̄	all	‘behind; in the rear’ (§8.3.6)
ānàʔà nī	all	‘forward; in front’ (§8.3.5)
c. vertical categories		
jɥ̀ʔɛ́-cī^n	various	‘above, top, summit’ (“God-…”, §8.3.7.2)
jɛ̀ʔɛ́-cī^n	Ji	‘on top, at the top’
ú^{n}ʔú^n-cī^n	Ji	"
tɔ̌^{n} nī	Bi Ji	‘below, bottom, down’
pà^n-tɔ̄^{n}	Bi Ji	"
pɔ̀^{n}-tɔ̄^{n}	Fl	"
d. local topographic categories		
(ē) dùʔù nī	(all)	‘(to) the mountain (=cliffs)’ (Ji, 2017-11 @ 09:40)
(ē) dùʔù-[pà^n-tɔ̄^{n}]	Bi Ji	‘(in) the plains below/east of the cliffs’
" -[pɔ̀^{n}-tɔ̄^{n}]	Fl	"
(ē) dùʔù-[ú^n-cī^n]	Fl Ji	‘(on) the plateau above/west of the cliffs’
[(ē) dùʔù] tɔ̀ʔɔ̀-gblàʔà	Ji	‘cliffs area’ (Ji, 2017-11 @ 00:48)
[(ē) dùʔù pɔ́] nī	Ji	‘at the leg (=base) of the cliffs’ (Ji, 2017-11 @ 01:19)

Among cardinal direction terms (615a), there are no simple adverbial expressions for ‘north(ward)’ or ‘south(ward)’. Instead the names of towns or ethnic groups are used to describe such directions.

8.5.8 Expressive adverbials

Expressive adverbials (EAs) include what some linguists have called “ideophones,” although there are problems with this terminology in crosslinguistic contexts. In Tiefo-D they are fairly few in number and there are only scattered instances in the texts, of which several are narratives spoken excitedly to an engaged respondent. As in other languages of the zone, EAs are often marked phonologically by full iteration, less often by unbounded prolongation of the final vowel (or sonorant).

The few examples that occur in the texts are listed in (616). Their discourse functions can be studied by referring to textual context.

(616)

jà^{n}→	‘densely-branched (tree)’	Bi (2017-07 @ 05:40)
glé-gléè→ ~ é-gléè→	‘in good health’	Ji (2017-01 @ 00:12)
kpàpiò-kpàpiò-kpàpiò	‘digging furiously’	Fl (2017-03 @ 00:50)
pərɛ̀kɛ̀tɛ̀	‘wrecked, in terrible shape’	Bi (2017-09 @ 03:47)
pɛ́pə̀rɛ̀-pɛ́pə̀rɛ̀	‘flat ones (fish)’	Bi (2017-10 @ 03:41)
wə̀réʔ	‘on solid ground’	Fl (2017-05 @ 01:37)

pɛ́pə̀rɛ̀-pɛ́pə̀rɛ̀ may be obscurely related to the regular adjective pà-pàʔà ‘flat’.

Elicited vocabulary with adjective-like senses that can be considered EAs are in (617). Those that are reduplicative can acquire a terminal glottal stop when prepausal.

(617) a. reduplicative

blā^{n}-blā^{n}	‘lukewarm’
cɛ̄^{n}(ʔɛ̄^{n})-cɛ̄^{n}ʔɛ̄^{n}	‘brittle, crunchy, chewable’
dá^{n}-dá^{n}	‘very delicious’
fɛ̄-fɛ̄	‘pointed’
gɛ̄-gɛ̄	‘very rough, coarse (surface)’
kā^{n}-kā^{n}	‘(hold) tightly, firmly’
ké-ké	‘solid, hardened’
kí^{n}-kí^{n}	‘solid, hardened’ (variant)
kpó-kpó	‘very bitter or salty; nasty (person)’
kūɔ̄^{n}ʔɔ̄^{n}-kūɔ̄^{n}ʔɔ̄^{n} (Fl)	‘sweet and soft’
lé-lé	‘delicious’
mlɛ̄^{n}(ʔɛ̄^{n})-mlɛ̄^{n}ʔɛ̄^{n}	‘smooth; well-oiled (couscous)’
ɲə̀rà^{n}ʔà^{n}-ɲə̀rà^{n}ʔà^{n}	‘rough, coarse (surface)’
pá-pá	‘very hot (water); hot and spicy (food)’
pé-pé	‘completely, totally’
pɛ̄^{n}-pɛ̄^{n}	‘very red’
plī-plī	‘very white or clean’
pɔ́rɔ́(-pɔ́rɔ́)	‘slender’
sùgù-sùgù	‘soft (earth)’
tɛ́^{n}-tɛ́^{n}	‘freezing cold (water)’
tī-tī	‘very black’

b. reduplicative with medial rhotic extension

bó-bə́ró-bó	‘ball-shaped, spherical’
pɛ́-pə́rɛ́-pɛ́	‘flat’
kpé-kpə́ré-kpé	‘in good condition’

c. reduplicative with -ká- insert

pɛ́-ká-pɛ́	‘thick’
kpé-ká-pé	‘in good condition’

d. nonreduplicative

dò→	‘huge’
sɛ́^{n}→	‘tiny’

jùɔ̀ʔɔ̀→	‘listless’
blɔ̀ʔɔ̀→	‘tasteless, bland’
pìà^{n}	‘very red, all red’
pɔ́rrrɔ́	‘slender’

e. tonational (modification of basic adjective)

ʃìɛ̄^{n}→	‘very red’
tù→-tūʔú	‘very big’

EAs can function as adverbials loosely connected to the remainder of a clause, or (especially in the adjective-like examples) can be made predicative with kō ‘be’ (§11.4.4). kō is also the copula with nominal predicates (‘be a chief’, ‘be a house’, etc.). One could argue that all elements with adjective-like or adverbial senses that are made predicative in this way (without an animacy classifier) are morphosyntactic EAs (§11.1.3.1), whether or not they have phonological “ideophone” features. This would distinguish adjective-like EAs from core adjectives that have their own verb-like predicative forms, without kō.

9 Verbal derivation

Tiefo-D is weak in verbal derivational morphology. There are no productive derivational affixes for the usual categories: causative, (medio-)passive, applicative, or reversive. There are, however, many verbs that are related to modifying adjectives.

9.1 Reversive verbs

There is no reversive derivational affix. The verb 'exit, go out', in the base form glō, occurs as the final in many verb-verb compounds, some of which can be translated as English reversive verbs with *un-*, e.g. *unhook*. See (1112) in §15.1.5.5.

9.2 Causative and passive

There are no productive causative or passive derivations at the level of verb stems. Many verbs are ambi-valent (labile), reducing the need for overt valency-changing derivation. A few such pairs show slight intransitive-transitive differences in tone and/or vocalism (§9.3.2 below).

It is possible to construct periphrastic causatives with main-clause verbs including klè 'do, make' and já 'let' (§17.2.1, §17.4.2.5).

9.3 Ambi-valent (labile) verbs

9.3.1 Identical forms for transitive and intransitive

Many verbs can function either transitively or intransitively. The intransitive subject may correspond either to the object of the transitive (§9.3.1.1) or to the subject of the transitive (§9.3.1.2). In the latter case the only observable change is that the implied object is missing.

9.3.1.1 Transitive versus mediopassive (anti-causative) intransitive

The pattern with mediopassive intransitive is exemplified in (618). kèʔè is invariant in form. Y becomes the subject in (618b) so it moves to clause-initial position. X is absent.

(618) kèʔè a) X ruin/damage Y
b) Y be ruined, malfunction

The intransitive (619b) is the mediopassive (middle), or anti-causative, of the transitive version. Y is the object in (619a), and becomes the subject of (619b) while the agent X is omitted.

(619) a. nóⁿ kèʔě= [Ø ʃîⁿʔɛ̀ⁿ-ɛ̀]
1Sg ruin.Pfv [Art vehicle]
‘I damaged the car.’ (Bi)

b. [ē ʃîⁿʔɛ̀ⁿ-ɛ̀] kèʔè
[Art vehicle] be.ruined.Pfv
‘The car was damaged (broke down).’ (Bi)

One important verb of this type is klè (invariant), which can mean ‘X do Y, X make Y’ (transitive) or ‘Y be done, take place, happen’.

Such transitive/mediopassive alternations are very common, in the absence of regular valency-changing derivational morphology. For example, at the beginning of one tale the verb-object combination yíɛ̄= [Ø wə̀rɛ́] ‘gird on (=wear) a loincloth’ is introduced. The listener immediately asks a question using ‘loincloth’ as subject and yíé ‘(loincloth) be girded on (=worn)’ as verb (2017-08 @ 00:22-25).

The range of normally transitive verbs that are attested in mediopassive function in texts are listed in (620), with one textual reference per verb.

(620)	‘be carried over shoulder’	2017-01 @ 01:58	
	‘be picked up’	2017-01 @ 04:45	
	‘be put down’	2017-01 @ 04:45	
	‘be chased away’	2017-02 @ 01:53	
	‘be gotten’	2017-03 @ 00:19	
	‘be dug’	2017-04 @ 02:31	
	‘be gathered’	2017-04 @ 02:35	
	‘be built’	2017-04 @ 06:23	
	‘be said (=named)’	2017-06 @ 00:32	
	‘be unloaded’	2017-07 @ 04:53	
	‘be held down’	2017-07 @ 09:09	
	‘be called (named)’	2017-08 @ 00:02	
	‘be emitted’	2017-08 @ 03:42	
	‘be pierced’	2017-08 @ 05:15	
	‘be put in’	2017-08 @ 05:33	
	‘be carried on head’	2017-08 @ 07:06	
	‘be seen’	2017-08 @ 09:48	
	‘be killed’	2017-09 @ 03:01	
	‘be blocked’ (bárá)	2017-09 @ 03:18	subject is ‘breathing’
	‘be given’	2017-09 @ 04:05	subject is theme (thing given)
	‘be known’ (jī)	2017-09 @ 08:01	
	‘be eaten’	2017-10 @ 02:45	
	‘be washed’	2017-10 @ 02:52	
	‘be walked (in)’	2017-10 @ 03:01	subject is ‘the bush’
	‘be blocked’ (lɛ́ⁿ)	2017-10 @ 04:14	subject is ‘hole’
	‘be shown’	2017-11 @ 04:35	subject is theme (thing shown)
	‘be squeezed’	2017-11 @ 06:00	
	‘be fixed’	2017-11 @ 06:30	

‘(post) be planted’	2017-11 @ 08:42	
‘be drunk’	2017-15 @ 00:35	
‘be shaved’	2017-19 @ 00:33	subject is baby

In other cases it is less obvious that the intransitive is derived from the transitive, since external agency is not required. This is true of the verbs in (621), where the role of such agency varies from one context to another.

(621)	‘be open; be opened’	2017-04 @ 02:02
	‘grow up; be raised’	2017-07 @ 05:17
	‘fall off; be torn off’	2017-08 @ 01:23
	‘shatter, burst; be shattered’	2017-08 @ 03:37
	‘fill up; be filled’	2017-09 @ 02:45
	‘be shut’	2017-11 @ 02:44
	‘hide; be hidden’	2017-14 @ 00:43

Most verbs that denotes temporary states (‘hot’, ‘cold’, ‘dry’, ‘weary’) and other states that can be altered (e.g. colors, length), see §9.4 below, can be transitivized to add an external agent (‘heat sth’, ‘cool sth off’, change the object’s color or length).

9.3.1.2 Transitive versus antipassive intransitive

The alternative transitive-intransitive relationship is schematized in (622).

(622)	dīē/dí/dí	a) X eat Y
		b) X eat

Here the intransitive omits the object Y for one reason or another. For example, it is too obvious to mention or it is indeterminate (623b).

(623) a.

nó^{n}	dīē	[Ø	dī-ɛ̀ʔɛ̀]
1Sg	eat.Pfv	[Art	meal]

‘I ate/have eaten a meal.’

b.

nó^{n}	dīē
1Sg	eat.Pfv

‘I have eaten.’

The situation with ‘eat’ is rather like English. The omission of the object may be due to its obviousness or lack of specificity. Its loss has no morphosyntactic consequences for the preceding elements (subject NP, verb, inflectional markers).

In Tiefo-D, substantially all transitive verbs can occur without an overt object in contexts where the object is an already active discourse referent. The texts contain numerous passages where a third person object enclitic denoting a contextually specific referent could have appeared but was omitted. In a passage like ‘they got a puppy and were raising (it)’, the third person object pronoun may be omitted, as in (Bo, 2019-01 @ 00:28).

9.3.2 Distinct intransitive-transitive forms of motion verbs

There are only two verbal stem families that have a clear distinction between intransitive and transitive paradigms. The first is (624). There is no difference in the Pfv stems, but base=Ipfv show a vocalic shift (raising from ɔ^{n} to u^{n}) in the intransitive, whereas the transitive is invariable across stems.

(624)		Pfv	base	Ipfv
a.	‘take/bring down; unload’	sə̄rɔ̄^{n}	sə̄rɔ̄^{n}	sə̄rɔ̄^{n}
b.	‘descend, go/come down’	"	sə́rú^{n}	sə́rú^{n}

A caveat here is that for some speakers the form sə̄rɔ̄^{n} appears to be H-toned sə́rɔ́^{n} throughout. However, Winkelmann’s lexicon (1998: 243), using a different transcriptional system, is consisten with our sə̄rɔ̄^{n}/sə́rú^{n}/sə́rú^{n} for the intransitive (*absteigen, landen*), though it does not cover the transitive.

The second verbal word-family is (625). Here the transitive occurs only as second member of verb-verb compounds, with dī- as the default initial.

(625)		Pfv	base	Ipfv
a.	‘take out, remove’	(dī)-glō	(dī)-glō	(dī-à)-glō
b.	‘exit (v), go/come out’	glō	glú	glú

Again, some speakers appear to have H-toned gló and dí-gló. Winkelmann’s lexicon (1998: 225, 228) for both intransitive and transitive is consistent with (625).

The shift from o to u in the intransitive base=Ipfv matches that of ɔ^{n} to u^{n} in (624). As a reminder, ɔ^{n} is the nasalized counterpart to both o and ɔ, so ɔ^{n} is not specified as [-ATR]. The intransitives in both (624) and (625) also raise the tone from M to H in the base=Ipfv.

There is a third verb that has a similar transitivity split, expressed by tones only (626).

(626)		Pfv	base	Ipfv
a.	‘put (child) to bed; lay’	sɛ̄^{n}	sɛ̄^{n}	sɛ̄^{n}
b.	‘lie down, go to bed’	sɛ̄^{n}	sɛ́^{n}	sɛ́^{n}

Winkelmann’s lexicon (1998: 242) agrees with sɛ̄^{n}/sɛ́^{n}/sɛ́^{n} for the intransitive (*sich hinlegen, liegen*), but does not address the transitive. We have found the same tonal issues mentioned above for this verb, with the result that some speakers do not distinguish sɛ̄^{n} from sɛ́^{n}.

Given that the verbs covered so far are ‘descend/take down’, ‘exit/take out’, and ‘lie down/put to bed’, i.e. basic motion and stance verbs, we take a closer look at the other basic verbs in the same semantic domains (motion, stance). Of these, the only one that may have a transitive-intransitive split is in (627). Here the transitive and intransitive have identical segmental forms, distinguishing Pfv, base, and Ipfv. However, the tones show some variation. We think that (627a) is "standard" with all-M tones and no difference between transitive and intransitive. However, variation between M and H, at least in elicitation sessions, has led us to posit, at one time or another, (627b) or (627c) for some speakers. In (627b), the tone pattern is MHH for both transitive and intransitive. In (627c), the transitive and intransitive differ tonally in base=Ipfv, in the same manner as for 'put to bed' versus 'lie down' in (626). H-toned base=Ipfv forms are bolded.

(627)			Pfv	base	Ipfv
	a.	'take up; load'	klɛ̄ⁿʔɛ̄	kɛ̄ⁿʔɛ̄ⁿ	klīⁿʔīⁿ
		'ascend'	klɛ̄ⁿʔɛ̄	kɛ̄ⁿʔɛ̄ⁿ	klīⁿʔīⁿ
	b.	'take up; load'	klɛ̄ⁿʔɛ̄	**kɛ́ⁿʔɛ́ⁿ**	**klíⁿʔíⁿ**
		'ascend'	klɛ̄ⁿʔɛ̄	**kɛ́ⁿʔɛ́ⁿ**	**klíⁿʔíⁿ**
	c.	'take up; load'	klɛ̄ⁿʔɛ̄	kɛ̄ⁿʔɛ̄ⁿ	klīⁿʔīⁿ
		'ascend'	klɛ̄ⁿʔɛ̄	**kɛ́ⁿʔɛ́ⁿ**	**klíⁿʔíⁿ**

Winkelmann's lexicon (1998: 232) supports the tonal arrangement in (627b-c) for the intransitive, and does not cover the transitive.

In theory, we should be able to distinguish base kɛ́ⁿʔɛ́ⁿ from kɛ̄ⁿʔɛ̄ⁿ by adding verbal noun suffix -ní, which should produce level-toned kɛ́ⁿʔɛ́ⁿ-ní and (after tone sandhi) rising-toned kɛ̀ⁿʔɛ̀ⁿ-ní respectively. However, we have heard both level-toned and rising pronunciations. Furthermore, for some speakers the level-toned verbal noun is fully M-toned kɛ̄ⁿʔɛ̄ⁿ-nī, a pattern also found with a few M-toned verbs, as with fɛ̄-nī 'greeting (n)' (183b).

We have similarly tested the tones by adding H-toned verbal compound finals such as the experiential perfect with -ɲɔ́ (§15.1.4.3). Negation requires the base of the verb in both initial and final. Again we find both level-toned kɛ́ⁿʔɛ́ⁿ-ɲɔ́ and rising-toned kɛ̀ⁿʔɛ̀ⁿ-ɲɔ́, not always given consistently by the same speaker.

We also tested the tones by adding a preceding verb as initial. By using gblɛ̀/gbɛ̄/gblī 'pick up, take', we should in theory be able to determine the tones of 'take up; load' by comparing Pfv with base. However, our Fl speaker irregularly drops all the tones of 'pick up, take' to L in this combination: gblɛ̀-kɛ̄ⁿʔɛ̄ⁿ/gbɛ̀-kɛ̄ⁿʔɛ̄ⁿ/gblì-à-kɛ̄ⁿʔɛ̄ⁿ. Notice especially the last form (Ipfv) which has L-toned gblì- even though it is separated from kɛ̄ⁿʔɛ̄ⁿ by the intercalated Ipfv marker. One possible inference is that the base was formerly *gbɛ̀-kɛ́ⁿʔɛ́ⁿ including tone sandhi, and that as *kɛ́ⁿʔɛ́ⁿ shifted to kɛ̄ⁿʔɛ̄ⁿ the L-toned gbɛ̀- had to be reinterpreted as truly L-toned.

So there is some instability in the 'take up/descend' family. We suspect that the instability is worse in elicitation than in natural speech. We tentatively stick with (627a) as the basic set of forms for this word family.

No other candidates for transitive-intransitive splits like those covered above are known. 'Come' and 'go' are not labile; 'bring' and 'convey (there)' are expressed as 'come' and 'go' plus a 'with' phrase (preposition kà), as in ɔ̄ⁿ bà [kǎ= [Ø dī-ɛ̀ʔɛ̀]] 'he/she came with (=brought) the food'. dīē 'enter' has a suppletive transitive counterpart wē 'put in'. A circumlocution must be used to make tə̄rā^{n} ‘sit’ transitive-causative, as in ‘X seated Y’, which is phrased as ‘X let Y sit’ or ‘X told Y to sit’. The labile paradigm lɛ̄^{n}/lɛ́^{n}/lɛ́^{n} is identical for intransitive ‘stand, stop’ and transitive ‘stop, block’.

9.4 Adjectival stative, inchoative, and factitive verbs

Many stems that regularly predicate permanent or long-standing or permanent attributes (e.g., size, colors), or at least states that last for a reasonable time interval (e.g. temperature), occur in imperfective constructions with à (positive) or má(^{n}) (negative).

Verbs with adjective-like senses that have invariant forms and are exclusively or predominantly stative-imperfective are in (628).

(628)	stative/Ipfv	modifying	gloss
a. modifying adjective is phonologically related (but lexicalized)			
	bɛ́	bɛ̀-bɛ̀ʔɛ̀	‘be spacious’
	[see also (629) below]		
b. modifying adjective is suppletive or absent			
	dìʔɛ̀	sɔ̀^{n}-sɔ̀^{n}ʔɔ̀^{n}	‘be long, tall’
	gbāʔā	tù-tùʔù	‘be big, fat; grow, get bigger’
	kplō	nígbó	‘be short’
	lɛ̀	dìʔɛ̀	‘be old’
	sə̄rā^{n}	—	‘be sleek, gleaming (skin)’
	tī^{n}ʔɛ̄^{n}	fú	‘be hot’
	wù^{n}	(see ‘long’)	‘be distant’
c. deverbal participle functions as modifying form			
	cò	cò-kàʔà	‘be clever, sly’
	dúʔú	dúʔ(ú)-ɛ̀ʔɛ̀	‘be heavy’
	fá^{n}ʔá^{n}	fá^{n}ʔá^{n}-ɛ̀ʔɛ̀	‘be lightweight, easy; lighten (sth)’
	flɔ̄	flɔ̄-ɛ̀ʔɛ̀	‘be slippery, slick, sleek’
	jə̄rē (Bi)	jə̄rē-ɛ̀ʔɛ̀ (Bi)	‘become thin’
	kāʔā	kāʔā-ɛ̀ʔɛ̀	‘be hard, difficult’
	kə̀ɣà	kə̀ɣà-ɛ̀ʔɛ̀	‘be rough (skin)’
	nùgù	nùgù-ɛ̀ʔɛ̀	‘be smooth’
	plé	plé-ɛ̀ʔɛ̀	‘be easy, cheap’ or ‘heal; be better’
	tɛ́^{n}	tɛ́^{n}-ɛ̀ʔɛ̀	‘be bitter; nasty’
	tɔ́^{n}	tɔ́^{n}-ɛ̀ʔɛ̀	‘be deep’

The word-families for ‘good’ and ‘sweet, pleasant’ include a glottalic dynamic (aspectually-marked) verb in addition to a stative verb and a modifying adjective (629). The dynamic verb is intransitive or transitive for ‘good’ and is transitive for ‘sweet’, but the sense is rather specialized in both cases.

(629) a. ‘good’

modifying	kòʔò	‘good’, cf. (347a)
stative	kò	‘be good’
dynamic	kpèʔè/kōʔō/kōʔō	‘turn out well, succeed; do a favor (for sb)’

b. ‘sweet, pleasant’, cf. (1534) below

modifying	dɔ̀ⁿ	‘sweet, delicious, pleasant’
stative	dáⁿ	‘be sweet, delicious, pleasant’
dynamic	dɛ̄ⁿʔɛ̄ⁿ/dāⁿʔāⁿ/dāⁿʔāⁿ	‘(God) make (trip) pleasant’

The state denoted by stative adjectival verbs can be shifted to past time (‘was hot’, etc.) by adding the (dialectally variable) past morpheme (§10.3.1.1) after the subject.

For stative adjectival verbs that don’t normally occur in a perfective frame, an indirect way to express this sense (‘became ADJ’) a periphrasis with klè ‘be made, be done’ plus an infinitival complement (630) or a participle.

(630) ɔ̄ⁿ klè [k-ā tɛ́ⁿ]
3AnSg be.made.Pfv [Infin-Ipfv be.bitter.Ipfv]
‘He/She has become mean.’ (Fl)

Some other verbs with more or less adjective-like semantics are dynamic verbs whose paradigms include distinct Pfv’s (631). The Pfv occurs by itself in the sense ‘(it) became ADJ’. The Pfv also combines with inflectional morpheme bè in one of the two future constructions. The base occurs in the perfective negative (‘did not become ADJ’), in the alternative future construction with nà, in sequenced VPs with infinitival kō, and (if the semantics allows) the imperative.

(631)

Pfv	base	Ipfv	modifying	gloss
a. uncompounded				
with a related modifying adjective				
lɛ̄ⁿ	líⁿ	líⁿ	lɔ́ⁿ	‘become cold’
bɛ̀	bɔ̀	bɔ̀	fú	‘be hot, burned’ or ‘burn (sth)’
without a related modifying adjective (excluding participles)				
blè	bē	blī ~ blē		‘become ripe; (food) be done; become tired’
dɛ̀ⁿ	dàⁿ	dàⁿ		‘arrive; (grains) become ripe’
pɛ̄ⁿʔɛ̄ⁿ	pɔ́ⁿʔɔ́ⁿ	pɔ́ⁿʔɔ́ⁿ		‘hurry, be fast’
wē	wó	wó		‘dry off; (rain) fall’
wùò	wūō	wūō		‘rot’
b. compounded				
yìè-fló	yì-fló	yì-à-fló		‘fill (sth); be filled’

The three basic color categories ‘white’, ‘black’, and ‘red’ have dynamic verbs. (632) shows them along with unreduplicated modifying adjectives (§4.5.3.1.1). Reduplicative versions are in §4.5.3.2.1.

(632)	Pfv	base	Ipfv	modifying	gloss
	fí^{n}ʔɛ́^{n}	fí^{n}ʔɛ́^{n}	fí^{n}ʔɛ́^{n}	fìà^{n}ʔà^{n}	‘be white’
	ɲɛ̄ʔɛ̄	ɲáʔá	ɲáʔá	ʃìɛ̀^{n}(ʔɛ̀^{n})	‘be/become red; (mango) ripen’
	yūɔ̄	yɔ́	yó ~ yú	yùàʔà	‘become black; (night) fall’

‘Sour’ has distinct stative (‘be sour’) and dynamic (‘become sour’) verbs. It also has a reduplicative noun and various participles derived from either the verbs or the noun.

(633) a. verbs

ɲíʔɛ́	‘sour (v), become sour’
ɲɔ́	‘be sour’ (stative)

b. noun

ɲɔ́-ɲɔ́ʔɔ́	‘anything sour’

c. participles

ɲíʔɛ́-ɛ̀ʔɛ̀	‘sour’
ɲɔ́-ɛ̀ʔɛ̀	‘sour’
ɲɔ́-ɲɔ́ʔ-ɛ̀ʔɛ̀	‘sour

‘(Be) near’ can be expressed as the negation of wù^{n} ‘be distant’ in (628b) above. The related dynamic verb ‘approach’ is one of several compound verbs (634a) with initial kplè/klò/klɔ̀ ‘bump’ (and other senses), see §15.1.5.6 below. For the semantic connection of ‘bump’ with ‘approach’ and its antonym ‘move over’, compare Fr *pousser (un peu)* and Eng *push over* in similar contexts.

(634)	Pfv	base	Ipfv	gloss
	kplè-bà	klò-bà	klò-à-bē ~ klɔ̀-à-bē	‘come close, approach here’
	kplè-yíʔí	klò-yíʔí	klò-à-yíʔí ~ klɔ̀-à-yíʔí	‘move over, move father away’

9.5 Derivational verb-stem iteration and reduplication

Iteration (full reduplication) of verb stems is an occasional derivational process in Tiefo-D. It indicates multiplicity of some type (repetition, distributivity). It is compatible with perfective as well as imperfective aspect. The examples covered in this section are independently existing simple stems that can also occur in iterated (doubled) form. Obligatorily reduplicative verbs like cɔ̀-cɔ̀ɣɔ̀ ‘rinse (mouth)’ are covered in §10.1.7.

In (635b), the iterated Pfv’s are identical, and the iterated Ipfv’s are not separated. These facts show that iterations are not verb-verb compounds. In compounds (§10.1.6), only

Vb1 can show Pfv morphology, and a copy of Ipfv particle à is intercalated between Vb1 and Vb2 in the imperfective.

(635)		Pfv	base	Ipfv	dialect	gloss
	a.	tīē	tē	tē	various	‘put down’
	b.	tīē-tīē	tē-tē	tē-tē	Fl Ji	‘arrange (objects)’

Futher examples of true stem iteration are (636-637).

(636)		Pfv	base	Ipfv	dialect	gloss
	a.	plē	pló	pló	all	‘dig/be dug deep’
		plē-plē	pló-pló	pló-pló	Ji	‘be dug’ (multiple)
	b.	gbà	gɔ̀	gò ~ gù	all	‘hit
		gbà-gbà	gɔ̀-gɔ̀	gò-gò ~ gù-gù	Fl Ji	‘hit’ (multiple)

Textual example (637a) has an iterated Pfv verb, while (637b) is infinitival with an iterated base verb.

(637)	a.	[ē	tìʔɛ́	jərɔ́^{n}]	plē-plē	[[[ē	pòʔó]	lī^{n}]	nī]
		[Art	hole	Rel]	**Rdp-be.dug.Pfv**	[[[Art	the.bush]	guts]	Loc]

‘the pits that have been dug all around in the bush’ (Ji, 2017-04 @ 02:24)

	b.	[è	bítəró]	wō	rà-[gɔ̀-gɔ̀]	[à	bɛ́^{n}ʔɛ́^{n}]]
		[Art	leper]	Infin	go.Base-[**Rdp-beat.Base**	[3Inan	tomtom]]

‘Then the leper (went and) kept beating that tomtom.’
(women, 2017-12 @ 01:59)

Example (637a) has singular ‘hole, pit’ but the iteration of the verb indicates distributivity. Example (637b) is followed in short order in the recording by the compound è bɛ́^{n}ʔɛ́^{n}-[gbà-gbà]-tɔ̀ʔɔ̀, literally ‘the tomtom-[beat-beat]-place’ (2017-12 @ 02:03), based on Pfv gbà. See also iterated progressive gō gɔ̌-gɔ̌ nī ‘was beating it (=drum)’ (2017-13 @ 01:54).

Verbs meaning ‘shake’ are ideal for distinguishing punctual from repetitive actions (638). The attested reduplications are Cv- only. The slight vocalic variations in (638a-c) have subtle semantic effects, see (87) in §3.3.9 above. Reduplication is regular in (638a) but is optional in (638b) where it denotes multiplicity. (638c) is less common. A related noun is (ē) jì-jí ‘the shakes’ (medical condition with full-body trembling).

(638)		Pfv	base	Ipfv	dialect	gloss
	a.	jɛ́ʔɛ́	jáʔá	jíʔí ~ jáʔá	(various)	‘shake hard’
		jɛ́-jɛ́ʔɛ́	já-jáʔá	já-jáʔá	Ji	‘keep shaking’

b.	jéʔé	jóʔó	júʔú ~ jóʔó	(various)	‘shake lightly’
	jé-jéʔé	jó-jóʔó	jó-jóʔó	Ji	‘keep shaking’
c.	jɛ́ⁿʔɛ́ⁿ	jɔ́ⁿʔɔ́ⁿ	jɔ́ⁿʔɔ́ⁿ	(various)	‘shake (e.g. tree)’
	jɛ́ⁿ-jɛ́ⁿʔɛ́ⁿ	jɔ́ⁿ-jɔ́ⁿʔɔ́ⁿ	jɔ́ⁿ-jɔ́ⁿʔɔ́ⁿ	Ji	‘keep shaking’

9.6 yə̄rī ‘jump (pop) all over’

A colorful way to express ‘be sweating profusely’ is to combine ē fə̀rú ‘sweat (n)’ with invariant verb yə̄rī, see (836) below. This was explained as an intensive form of yìè/yī/yī ‘jump’, in this context also freely translatable as ‘pop’. It can also be used in the sense ‘jump for joy’ as when celebrating good news.

We have no other examples of this formation. One might speculate that some other sCərv verbs with intensive senses might have a similar origin, e.g. -də́rá ‘be/do a lot’.

10 Verbal inflection

In §10.1 we discuss the morphology of the three stems for each verb. In §10.2-4 we show how these stems combine with other elements, chiefly preverbal particles, to produce clause-level tense-aspect-mood-polarity (TAMP) categories.

10.1 Verb stems

At the morphological level, verbs have three distinct stems that we call **Pfv** (Pfv) **base**, and **imperfective** (Ipfv). For many verbs, all three are distinguished tonally, segmentally, or both. Some other verbs merge base and Ipfv, which then form a binary opposition with Pfv. Still others have a single invariant form. Rarely, Pfv and Ipfv are identical, forming a binary opposition to base. These types are summarized by the formulae in (639).

(639) a. invariant
Pfv=base=Ipfv

b. two-way opposition
Pfv ≠ base=Ipfv (common)
Pfv=Ipfv ≠ base (uncommon)

c. three-way opposition
Pfv ≠ base ≠ Ipfv

The binary type Pfv ≠ base=Ipfv is very common and there is a tendency among younger speakers to reduce the three-way type to it, i.e. by merging Ipfv and base into a single form. (The related language Tiefo-N has only two morphological stems for each verb.)

Taking the base as lexically central, the most common segmental and tonal features that distinguish Pfv and Ipfv from base are summarized in (640). Much detail is omitted here, reserved for the remainder of this chapter.

(640) a. base → Pfv and sometimes base → Ipfv
fronting of back or low vowel to {e ɛ} or (Ji dialect) to i ;
u → i ;
intrusive liquid {l r} is inserted after C1 ;
intrusive {u i} is inserted after C1 to form a diphthong ;
b. base → Pfv
high vowel {i u} drops to a mid-height vowel, usually {e o};
tone moves one notch lower.
c. base → Ipfv
[-ATR] {ɛ ɔ} shifts to [+ATR] {e o} or (Ji dialect) is raised to {i u}.

There are two general constraints on uncompounded verb stems. (641a) is a specific characteristic of verbs and does not apply to other stem-classes.

(641) a. all native Tiefo-D verb stems are level-toned (H, M, or L);
borrowings from Jula are allowed to keep contour tone patterns;
b. there is no suppletion.

A verb may have a tonal distinction between Pfv and base=Ipfv, but each stem is level-toned, for example L-toned Pfv and M-toned nonperfectives. For this purpose we treat Ma Cv̀ʔv́ and Fl Cv̄ʔv́ as H-toned (before low-level tonal changes). More serious exceptions are verbs borrowed from Jula, bisyllabic and longer, that have contour tones. Whether or not the source forms are compounds in Jula itself is immaterial.

Although the base is closer in form to the Ipfv than to the Pfv, semantically the base is aligned with the Pfv. First, the perfective negative construction has the base, while the imperfective negative construction has the Ipfv. Combining positive and negative, Pfv/base expressed perfective aspect, while Ipfv expresses imperfective. Second, Pfv and base occur in non-imperfective (i.e. including perfective) future constructions, versus imperfective future with Ipfv. For the distribution of Pfv, base, and Ipfv across the various main-clause inflections (tense, aspect, mood), see chapter 11. Third, infinitival phrases have a binary distinction between an unmarked (including perfective) type with base, and a specifically imperfective type with Ipfv à ; see §15.2.

The verbal noun is built on the base. On the other hand, agentives are built on the Pfv, and the Pfv is also the form used in other verb-noun compounds.

The following subsections describe the morphological relationships among the three stems for each verb. The subsections are organized by the crudely defined classes in (639) above, beginning with invariant verbs. Verb-verb compounds are covered in §10.1.6.

The data presented throughout §10.1 **normalize transcriptions** to weed out predictable dialectal variation that is not relevant to the structure of verb-stem paradigms. Specifically: 1) for diphthongal glottalic verbs, we “undo” the automatically shifted glottal split for Fl and Ma of the type Cieʔe for Ciʔe ; 2) for the same dialects we “undo” the automatic drop in the preglottalic vocalic segment in Cv́ʔv́ verbs. These two conventions lead us to normalie Fl yīēʔé and Ma yìèʔé as yíʔé ‘turn over (earth)’. Third, for Bi dialect we disregard nasalization of vowels following nasal consonants, even though this is distinctive for this dialect. For example, Bi ɲɔ́^{n} is normalized to ɲɔ́.

10.1.1 Invariant verbs (Pfv=base=Ipfv)

Some verbs have an invariant form across TAMP categories. This does not necessarily lead to confusion, since TAMP grammatical particles and, for the imperative, the absence of overt subjects, suffice to make most distinctions at the verb-phrase level.

Loanwords from Jula and a few onomatopoeic verbs are included among Pfv=base=Ipfv verbs. In addition, verbs whose base has a front vowel and/or is L-toned are disproportionately represented in Pfv=base=Ipfv. This is unsurprising, since for many other verbs the Pfv is formed precisely by fronting a back or low vowel, and/or by lowering the tone one notch.

(642)	Pfv	base	Ipfv	gloss	comment
a. H-toned					
	yé	yé	yé	‘walk (v)’	Fl Ji Ma
	(w)é	(w)é	(w)é	"	Bi
loanword					
	wóróm
á	wóróm
á	wóróm
á	‘pick out, select’	
b. M-toned					
	bɛ̄ⁿ	bɛ̄ⁿ	bɛ̄ⁿ	‘be equal; get along’	
	dē	dē	dē	‘pick, harvest (cotton)	except Bi
	fɛ̄	fɛ̄	fɛ̄	‘greet’	W Pfv fɛ̀, cf. Jula fòòrí ‘greeting (n)’
	fɛ̄	fɛ̄	fɛ̄	‘steal (money)’	
	jīɛ̄ⁿ	jīɛ̄ⁿ	jīɛ̄ⁿ	‘spread (news)’	Ma dīɛ̄ⁿ
	klē	klē	klē	‘(day) break’	subject is (è) tɛ́ⁿ
	klìⁿ-	klìⁿ-	klìⁿ-	‘lend, borrow’	compounds
	kō	kō	kō	‘crawl’	
	kpē	kpē	kpē	‘roll (sth) on ground’	
	sɛ̄ⁿ	sɛ̄ⁿ	sɛ̄ⁿ	‘put to bed’	(626) above
	gə̄rɛ̄ⁿ	gə̄rɛ̄ⁿ	gə̄rɛ̄ⁿ	‘fix; manufacture’	W grɛ̀ⁿ (“ebnen”)
	jə̄rūⁿ	jə̄rūⁿ	jə̄rūⁿ	‘blink’	Bi only
	ɲīʔɛ̄	ɲīʔɛ̄	ɲīʔɛ̄	‘bend, fold’	Bi ɲīɛ̄ⁿ ; W Pfv ɲɛ̄
	sə̄rɔ̄ⁿ	sə̄rɔ̄ⁿ	sə̄rɔ̄ⁿ	‘take down, unload’	
	kāɲā	kāɲā	kāɲā	‘coincide with’	Fl
	kɛ̄nɛ̄	kɛ̄nɛ̄	kɛ̄nɛ̄	‘be fine’	in greetings
	pə̄rɛ̄	pə̄rɛ̄	pə̄rɛ̄	‘dress up’	(Fr *parer*)
c. L-toned					
adjectival senses					
	bɔ̀	bɔ̀	bɔ̀	‘be hot’	adj fú
	kɛ̀ⁿ	kɛ̀ⁿ	kɛ̀ⁿ	‘be a lot’	
	lɛ̀	lɛ̀	lɛ̀	‘get old, age (v)’	
	kə̀ɣà	kə̀ɣà	kə̀ɣà	‘be(come) rough’	
	mə̀rù	mə̀rù	mə̀rù	‘be stupid’	
other					
	bè	bè	bè	‘extract (oil, sap)’	
	gbè	gbè	gbè	‘coarsely stone-grind’	
	là	là	là	‘believe (sb)’	
	sɔ̀ⁿ	sɔ̀ⁿ	sɔ̀ⁿ	‘think’	
	dìɛ̀ⁿ	dìɛ̀ⁿ	dìɛ̀ⁿ	‘become united’	
	pìè	pìè	pìè	‘scare, frighten’	not in W
	blè	blè	blè	‘skin (v)’	
	flè	flè	flè	‘filter; skim off’	
	klè	klè	klè	‘do; be done, happen’	

bèʔè	bèʔè	bèʔè	‘hiccup (v)’	Fl
dərè	dərè	dərè	‘knock down; fell (tree)’	
kèʔè	kèʔè	kèʔè	‘ruin; be ruined’	
kərì^{n}	kərì^{n}	kərì^{n}	‘faint, lose consciousness’	
nɛ̀ʔɛ̀	nɛ̀ʔɛ̀	nɛ̀ʔɛ̀	‘ask for, pray’	
ɲɛ̀ʔɛ̀	ɲɛ̀ʔɛ̀	ɲɛ̀ʔɛ̀	‘wake up’	W base=Ipfv ɲɛ̄ʔɛ̄
ɲɛ̀ʔɛ̀	ɲɛ̀ʔɛ̀	ɲɛ̀ʔɛ̀	‘write’	Bi ɲì^{n}ʔɛ̀^{n}
ʃìʔè	ʃìʔè	ʃìʔè	‘speak soothingly’	not in W
tèʔè	tèʔè	tèʔè	‘learn (a trade)’	W base tēʔē
tùʔù	tùʔù	tùʔù	‘annoy’	
yìʔè	yìʔè	yìʔè	‘unload’	
onomatopoeic				
glù^{n}	glù^{n}	glù^{n}	‘rumble; growl; snore’	
jɥ̀è	jɥ̀è	jɥ̀è	‘belch’	Fl Ma; see (665), (644a)
loanwords				
nɔ̀ɣɔ̀	nɔ̀ɣɔ̀	nɔ̀ɣɔ̀	‘be(come) dirty; make dirty’	

d. contour-toned (likely borrowings)

falling Cv́Cv̀				
jíjà	jíjà	jíjà	‘try hard, strive’	
rising Cv̀Cv́				
sàmá	sàmá	sàmá	‘send on errand’	
sɔ̀mɔ́	sɔ̀mɔ́	sɔ̀mɔ́	‘injure’	
tɔ̀ɲɔ́	tɔ̀ɲɔ́	tɔ̀ɲɔ́	‘betray, renege on’	
kəràfá	kəràfá	kəràfá	‘entrust’	
nɔ̀ɣɔ̀yá	nɔ̀ɣɔ̀yá	nɔ̀ɣɔ̀yá	‘be cured, recover’ or ‘facilitate’	
tərɛ̀lɛ́	tərɛ̀lɛ́	tərɛ̀lɛ́	‘slide	Ji tərɛ̌: ; <Jula tɛ̀rɛ̀ndɛ́
rising Cv̀Cv́Cv́				
màdímí	màdímí	màdímí	‘wound (v)’	

10.1.2 Uncompounded verb stems with bipartite Pfv ≠ base=Ipfv

This section covers verbs whose base and Ipfv stems are identical, but distinct from the Pfv stem. This morphological type is productive. The Pfv usually differs from the other two by fronting a back or low vowel, by having a tone one notch lower, and/or by inserting a liquid or high vowel after C2. There are also some other less common patterns.

10.1.2.1 Pfv with vocalic fronting but no tone change

The verbs which front a vowel have Pfv e corresponding to base=Ipfv o, Pfv ɛ corresponding to base=Ipfv a or ɔ depending on the verb, and rarely Pfv i corresponding to base=Ipfvu. The specific Pfv vowel can usually be predicted from the base=Ipfv vocalism, but not vice-versa.

The i/u alternation is shifted to ɛ/u by our Fl speaker, reflecting the rarity of high vowels in vowel-mutating stems.

The verbs of this type are L-toned (643). This makes sense if the base is taken as lexically basic and is already L-toned, so the tone can't drop any farther in the Pfv. In (643) as in similar arrays later, the order within a subcategory is Cv, then diphthongal Cuv/Civ, then Clv, then Cərv, then Cvʔv. These arrays shows a statistical bias toward [-ATR] {ɛ ɔ} vocalism.

(643) Pfv shows vowel fronting, but no tonal change

Pfv	base	Ipfv	gloss	comment
a. [-ATR] ɛ in Pfv, ɔ or a in base=Ipfv, L-toned				
ɔ *in base=Ipfv*				
bɛ̀	bɔ̀	bɔ̀	'burn; become hot'	
lɛ̀	lɔ̀	lɔ̀	'rip, tear'	
jɥ̀ɛ̀	jùɔ̀	jùɔ̀	'blink'	Fl
a *in base=Ipfv*				
nɛ̀	nà	nà	'stone-grind'	Fl Ma only
pɛ̀	pà	pà	'moisten; get wet'	
blɛ̀	blà	blà	'stretch out'	
klɛ̀	klà	klà	'clear throat'	
bə̀rɛ̀	bə̀rà	bə̀rà	'surprise (sb)'	< Jula)
sə̀rɛ̀	sə̀rà	sə̀rà	'pay (sb)'	< Jula
gɛ̀ʔɛ̀	gàʔà	gàʔà	'do first'	Fl Ji Ma; cf. (667a)
jɛ̀ʔɛ̀	jàʔà	jàʔà	'ante up'	Fl(var) Ma
kpɛ̀ʔɛ̀	kpàʔà	kpàʔà	'be impoverished'	
nasalized ɛ^n *in Pfv,* ɔ^n *in base=Ipfv*				
cɛ̀^{n}ʔɛ̀^{n}	cɔ̀^{n}ʔɔ̀^{n}	cɔ̀^{n}ʔɔ̀^{n}	'scold'	
dɛ̀^{n}	dà^n	dà^n	'arrive; (grain) ripen'	
gɛ̀^{n}	gà^n	gà^n	'get caught (stuck)'	
pɛ̀^{n}	pà^n	pà^n	'clear (a new field)	
tɛ̀^{n}	tà^n	tà^n	'catch up to'	
ʃìɛ̀^{n}	ʃìà^n	ʃìà^n	'appear suddenly'	
cɥ̀ɛ̀^{n}	cùà^n	cùà^n	'measure (v), weigh'	
jɥ̀ɛ̀^{n}	jùà^n	jùà^n	'look down'	
kplɛ̀^{n}	kplà^n	kplà^n	'tell fortunes'	
kə̀rɛ̀^{n}	kə̀rà^n	kə̀rà^n	'read'	
b. [+ATR] e in Pfv, o in base=Ipfv, L-toned				
dè	dò	dò	'speak'	
fè	fò	fò	'burst; explode'	not in W
lè	lò	lò	'gather up (things)'	W Ipfv also lù
lè	lò	lò	'show; point at'	
sè	sò	sò	'carry on head'	
blè	blò	blò	'carry on back'	

flè	flò	flò	‘sauté (meat)’	
gbèʔè	gbòʔò	gbòʔò	‘shatter, crack (v)’	not in W
c. i^{n} (dialectally ɛ^{n}) in Pfv, u^{n} in base=Ipfv, L-toned				
bə̀rì^{n}	bə̀rù^{n}	bə̀rù^{n}	‘(leaves) fall off’	Bi Ji
bə̀rɛ̀^{n}	"	"	"	Fl

In (644), a trace of the lexical rounded vowel, clearly observed in base=Ipfv, is preserved in the Pfv in the form of a labial velar consonant (§3.4.2.6-7).

(644) velar C1 to labial velar in Pfv, no tone change

Pfv	base	Ipfv	gloss	comment
a. Pfv vowel is same height as base=Ipfv vowel				
[+ATR]				
gbè	gùò	gùò	‘belch’	Ji; see (642c), (665)
kplè	klò	klò	‘bump’	
high vowels				
kplì^{n}	klù^{n}	klù^{n}	‘weed (v)’	Bi Ji, see also (b)
b. Pfv mid-height ɛ^{n} versus nasalized high vowel in base=Ipfv				
kplɛ̀^{n}	klù^{n}	klù^{n}	‘weed (v)’	Fl, see also (a)

The following section will show that verbs with M-toned base and Ipfv, and that also front the vowel in the Pfv, overwhelmingly also drop the Pfv tone to L. Here we present rare exceptions where the Pfv remains M-toned while undergoing fronting. This is an unstable type that may be motivated by homophony avoidance. In (645), each relevant verb is presented along with a verb that is segmentally identical at least in the Pfv.

(645) Pfv fronted, [-ATR], all forms M-toned

	Pfv	base	Ipfv	gloss	comment
a.	cɥ̄ʔɛ̄	cūʔɔ̄	cūʔɔ̄	‘peck at’	Bi Ji
	cɥ̄ɛ̄ʔɛ̄	cūɛ̄ʔɔ̄	cūɛ̄ʔɔ̄	"	Fl Ma
	cɥ̀ʔɛ̀	cùʔɔ̀	cùʔù	‘burn up, char’	Bi Ji
	cɥ̀ɛ̀ʔɛ̀	cùɔ̀ʔɔ̀	cùʔù	"	Fl Ma
b.	dɛ̄^{n}ʔɛ̄^{n}	dā^{n}ʔā^{n}	dā^{n}ʔā^{n}	‘get lucky; escape’	Fl Ji
	dɛ̀^{n}ʔɛ̀^{n}	dɔ̄^{n}ʔɔ̄^{n}	dɔ̄^{n}ʔɔ̄^{n}	‘add; raise (price)’	Fl Ji
c.	yɛ̄	yā	yā	‘trim’	Fl Ji; not in W
	yɛ̀	yā	yā	"	Bi (variant)
	yɛ̄	yá	yá	‘spread out (limbs)’	(various)

10.1.2.2 Pfv with vocalic fronting plus one-notch tone lowering

We now consider stems that combine the vocalic fronting in the Pfv described above with a tonal change. In this case, the Pfv is always one tone lower than the base=Ipfv, so the Pfv/base/Ipfv combinations are MHH and LMM. As before, we present the phonologically uncomplicated forms first.

The verbs in (646) are of MHH type.

(646) Pfv shows vowel fronting to {e ɛ}, tones MHH

Pfv	base	Ipfv	gloss	comment
a. [-ATR] ɛ in Pfv, ɔ or a in base=Ipfv, M (Pfv) versus H (base=Ipfv)				
ɔ in base=Ipfv				
fīɛ̄	fúɔ́	fúɔ́	‘plead with’	
dɛ̄ʔɛ̄	dɔ́ʔɔ́	dɔ́ʔɔ́	‘provoke, accuse’	not in W
fīʔɛ̄	fɔ́ʔɔ́	fɔ́ʔɔ́	‘pardon (v)	
mɛ̄ʔɛ̄	mɔ́ʔɔ́	mɔ́ʔɔ́	‘suck (candy)’	Bi only
sɛ̄ʔɛ̄	sɔ́ʔɔ́	sɔ́ʔɔ́	‘jab’	Fl Ji
wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	‘coagulate, solidify’	Bi Ji; not in W
yʉ̄ʔɛ̄	wúʔɔ́	wúʔɔ́	"	Fl
wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	‘open (v), unlock’	Ji
wīʔɛ̄	wúʔɔ́	wúʔɔ́	"	Bi
yʉ̄ʔɛ̄	wúʔɔ́	wúʔɔ́	"	Fl
a in base=Ipfv				
dɛ̄	dá	dá	‘raise (child)’	
lɛ̄	lá	lá	‘fry in a little oil’	
mɛ̄	má	má	‘be dizzy, faint’	
nɛ̄	ná	ná	‘tend (livestock)’	
ɲɛ̄	ɲá	ɲá	‘break up (lumps)’	
tɛ̄	tá	tá	‘beat (mass of fish)’	Bi Fl (not Ji)
tɛ̄	tá	tá	‘imitate’	
yɛ̄	yá	yá	‘yawn (v)’	not in W
blɛ̄	blá	blá	‘sweep’	
flɛ̄	flá	flá	‘slap’	
klɛ̄	klá	klá	‘return, go back’	
jɛ̄ʔɛ̄	jáʔá	jáʔá	‘shake hard’	Fl Ma
mɛ̄ʔɛ̄	máʔá	máʔá	‘roll (v)’	Fl only
ɲɛ̄ʔɛ̄	ɲáʔá	ɲáʔá	‘turn red’	Bi only
sūʔɛ̄	súʔá	súʔá	‘mix with sauce’	Ji Pfv fīʔɛ̄ (§3.2.1.10)
wɛ̄ʔɛ̄	wáʔá	wáʔá	‘make noise’	not in W
yɛ̄ʔɛ̄	yáʔá	yáʔá	‘interfere’	
b. [+ATR] e in Pfv, o in base=Ipfv, M (Pfv) versus H (base=Ipfv)				
lē	ló	ló	‘change, turn’	
sē	só	só	‘(bird) perch’	Fl Ji; not in W

wē	wó	wó	‘(rain) fall’	W wò, wùò, wè
(w)ē	(w)é	(w)é	‘walk (v)’	Bi, elsewhere yé/yé/yé
wē	wó	wó	‘curse (v), dry (v)’	not in W
biē	bíó	bíó	‘whistle (v)’	
wiē	wíó	wíó	‘squeeze; milk (cow)’	variants with v for w
flē	fló	fló	‘untie, detach’	
plē	pló	pló	‘extinguish’	
cərē	cə́ró	cə́ró	‘hang (sth)’	Ji; see (653a); often compounded cə́ró-tē
dərē	də́ró	də́ró	‘abound’	
tərē	tə́ró	tə́ró	‘catch (fish) with trap’	Ji; see (662a), (653a)
dēʔē	dóʔó	dóʔó	‘hide’	(Ji base dúʔú)
lēʔē	lóʔó	lóʔó	‘betray, deceive, trick (sb)’	
pēʔē	póʔó	póʔó	‘plow (v)’	W pōʔō
sēʔē	sóʔó	sóʔó	‘(fruits) fall off’	
wēʔē	wóʔó	wóʔó	‘raise (animals)’	
wēʔē	wóʔó	wóʔó	‘roast (meat)’	
c. [±ATR] ambiguous due to nasality				
ɛⁿ/ɔⁿ alternation				
tɛ̄ⁿ	tɔ́ⁿ	tɔ́ⁿ	‘knead; cook millet’	W base=Ipfv tɔ̄ⁿ
pɛ̄ⁿʔɛ̄ⁿ	pɔ́ⁿʔɔ́ⁿ	pɔ́ⁿʔɔ́ⁿ	‘hurry’	
tɛ̄ⁿʔɛ̄ⁿ	tɔ́ⁿʔɔ́ⁿ	tɔ́ⁿʔɔ́ⁿ	‘become blind’	Bi Fl
tərɛ̄ⁿ	tə́rɔ́ⁿ	tə́rɔ́ⁿ	‘exchange, barter’	W trɛ̄ⁿ, trɔ́ⁿ
ɛⁿ/aⁿ alternation				
cɛ̄ⁿ	cáⁿ	cáⁿ	‘thresh’	
dɛ̄ⁿ	dáⁿ	dáⁿ	‘shave’	
lɛ̄ⁿ	láⁿ	láⁿ	‘wash (sth)’	
pɛ̄ⁿ	páⁿ	páⁿ	‘touch’	
jɥ̄ɛ̄ⁿ	júáⁿ	júáⁿ	‘lick’	
cɛ̄ⁿʔɛ̄ⁿ	cáⁿʔáⁿ	cáⁿʔáⁿ	‘fight (v)’	W cɛ̄ⁿ, cáⁿ

Array (647) presents verbs of LMM tonal type.

(647)	Pfv	base	Ipfv	gloss	comment
	a. [-ATR] ɛ in Pfv, ɔ or a in base=Ipfv, L (Pfv) versus M (base=Ipfv)				
	ɔ *in base=Ipfv*				
	lɛ̀	lɔ̄	lɔ̄	‘cough (v)’	W lɔ̀
	lɛ̀	lɔ̄	lɔ̄	‘scratch’	W (= ‘rip, tear’)
	cɛ̀ʔɛ̀	cɔ̄ʔɔ̄	cɔ̄ʔɔ̄	‘fear (sth)’	
	a *in base=Ipfv*				
	cɛ̀	cā	cā	‘raise (neck)’	
	fɛ̀	fā	fā	‘look for’	
	yɛ̀	yā	yā	‘trim’	Bi only

plɛ̀	plā	plā	‘wipe’	W base=Ipfv plà
dərɛ̀	dərā	dərā	‘divide into strips’	
bɛ̀ʔɛ̀	bāʔā	bāʔā	‘misuse, ruin’	
sɛ̀ʔɛ̀	sāʔā	sāʔā	‘winnow by shaking’	Fl Ma (not Bi Ji)

b. [+ATR] e in Pfv, o in base=Ipfv, L (Pfv) versus M (base=Ipfv)

wè	wō	wō	‘bathe (intr/tr)’	W ʔō, ʔō, wè
wè	wō	wō	‘sing (a song)’	Bi Ji; see (661c)
blè	blō	blō	‘sacrifice (animal)’	

c. [±ATR] ambiguous due to nasality

ɛⁿ/ɔⁿ alternation

dɛ̀ⁿʔɛ̀ⁿ	dɔ̄ⁿʔɔ̄ⁿ	dɔ̄ⁿʔɔ̄ⁿ	‘add; raise (price)’	not in W
sɛ̀ⁿʔɛ̀ⁿ	sɔ̄ⁿʔɔ̄ⁿ	sɔ̄ⁿʔɔ̄ⁿ	‘defecate’	W base=Ipfv sɔ̄ʔɔ̄ⁿ

ɛⁿ/aⁿ alternation

cɛ̀ⁿ	cāⁿ	cāⁿ	‘separate (people)’	
gbɛ̀ⁿ	gbāⁿ	gbāⁿ	‘sew’	
kɛ̀ⁿ	kāⁿ	kāⁿ	‘(rain) cease’	
lɛ̀ⁿ	lāⁿ	lāⁿ	‘advise’	
pɛ̀ⁿ	pāⁿ	pāⁿ	‘link, join’	
sərɛ̀ⁿ	sərāⁿ	sərāⁿ	‘melt’	Fl Ji; not in W
fɛ̀ⁿʔɛ̀ⁿ	fāⁿʔāⁿ	fāⁿʔāⁿ	‘shout (v)’	
gbɛ̀ⁿʔɛ̀ⁿ	gbāⁿʔāⁿ	gbāⁿʔāⁿ	‘cross; block (path)’	not in W
sɛ̀ⁿʔɛ̀ⁿ	sāⁿʔāⁿ	sāⁿʔāⁿ	‘shoot with arrow’	Fl Ji (not Bi)

(648a-b) present further examples of labial velars (bolded) resulting from a vocalic shift from back rounded to front unrounded (§3.4.2.6-7). Both MHH and LMM verbs are represented. In ‘belch’ (648a) but not the verbs in (648b), the base=Ipfv is already diphthongal. Only Ji dialect shows a labial velar for ‘belch’; other dialect forms are added for comparison. (648c) is a further example of fronting of u to ɥ in the Pfv between a palatal C1 and a front vowel (§3.2.1.8).

(648)	Pfv	base	Ipfv	gloss	
a.	**gbè**	gūō	gūō	‘belch, burp’	Ji only; not in W
	jɥ̀è	jɥ̀è	jɥ̀è	"	Fl Ma
	gùè	gùò	gùè	"	Bi
b.	**kplè**	klō	klō	‘(heart) beat’	Bi Ji Ma (not Fl)
	kpèʔè	kōʔō	kōʔō	‘be good, succeed’	
	kpē	kó	kó	‘weep’	
	kpɛ̄ⁿʔɛ̄ⁿ	kɔ́ⁿʔɔ́	kɔ́ⁿʔɔ́ⁿ	‘clear (field)’	not in W
c.	ɲɥ̄ɛ̄	ɲúá	ɲúá	‘scoop (food)’	(all)

The verbs in (649) show an f/s alternation typical of Ji and sometimes Ma dialect, associated with the full fronting of a u-initial diphthong to iɛ (§3.2.1.10). Other dialects keep the u initial and front only the diphthongal nucleus. Fl and Bi differ only in the palatalization of s to ʃ before u in Fl. The actual Fl forms are ʃɥ̀ɛ̀ⁿʔɛ̀ⁿ etc.; recall that in this section we are normalizing transcription of Fl and Ma glottalic stems.

(649)

Pfv	base	Ipfv	gloss	
ʃɥ̀ⁿʔɛ̀ⁿ	ʃūⁿʔɔ̄ⁿ	ʃūⁿʔɔ̄ⁿ	'do cooking'	Fl
sùⁿʔɛ̀ⁿ	sūⁿʔɔ̄ⁿ	sūⁿʔɔ̄ⁿ	"	Bi
fìⁿʔɛ̀ⁿ	sūⁿʔɔ̄ⁿ	sūⁿʔɔ̄ⁿ	"	Ji Ma

10.1.2.3 Pfv lowers high vowel to mid-height and drops tone one notch

A number of stems with i in the base=Ipfv lower it to e (or nasalized ɛⁿ, which neutralizes ATR) in the Pfv. This is in addition to tone distinctions (MHH with M-toned Pfv, LMM with L-toned Pfv). This array combines [+ATR] and [-ATR].

(650) Base=Ipfv i to Pfv e or nasalized iⁿ to ɛⁿ

Pfv	base	Ipfv	gloss	comment
a. monosyllabic (Cv, Clv)				
MHH				
kɛ̄ⁿ	kíⁿ	kíⁿ	'become small'	Fl Ji
lɛ̄ⁿ	líⁿ	líⁿ	'cool down'	W lɛ̀ⁿ, lɔ̄ⁿ
lē	lí	lí	'call'	
flɛ̄ⁿ	flíⁿ	flíⁿ	'stir with stick'	Fl only
LMM				
lè	lī	lī	'shine'	
b. sesquisyllabic				
MHH				
cə̄rē	cə́rí	cə́rí	'sneeze'	
"	"	"	'pour back and forth'	
"	"	"	'do long time'	

For the verb in (651), the majority pattern is similar to that in (650) above. Recall that ɥ is the allophone of diphthong-initial u when sandwiched between a palatal C1 and any front vowel.

(651)

Pfv	base	Ipfv	gloss	dialects
jɥ̄ē	jɥ́í	jɥ́í	'quarrel (v)'	Bi Ji Ma
"	gbí	gbí	"	Fl

There are also a few verbs that have Pfv o (or nasalized ɔⁿ, which neutralizes ATR) corresponding to base=Ipfv u (652). This is structurally parallel to the type with Pfv e from base=Ipfv i in some of the paradigms in (650-651) above. The high-frequency verbs in (652a-b) have consistent vocalism across dialects. For 'exit (v)' and 'descend' see also §9.3.2. In (652b), for Fl ʃ see §3.2.1.2, and for Ma f see §3.2.1.10. By contrast, the dialectal variation in the Pfv vocalism of 'err' (652c) is structural. The verbs in (652) are MHH (M Pfv, H base=Ipfv).

(652) Base=Ipfv u to Pfv o or nasalized ɔⁿ

	Pfv	base	Ipfv	gloss	comment
a.	glō	glú	glú	'exit (v)' or 'resemble'	(all)
	sə̄rɔ̄ⁿ	sə́rúⁿ	sə́rúⁿ	'descend'	(all)
b. (W sūō, súʔú ~ só)					
	sūʔō	súʔú	súʔú	'catch; hold'	Bi Ji
	ʃūʔō	ʃúʔú	ʃúʔú	"	Fl
	fūʔō	fúʔú	fúʔú	"	Ma
c.	blō	blú	blú	'err'	Bi
	blē	"	"	"	Fl
	"	bló	bló	"	Ji

10.1.2.4 Pfv modifies base=Ipfv u in other ways

The preceding subsection gives examples of base=Ipfv u becoming Pfv o, parallel to i becoming e. Some verbs present other patterns. One is that u is shifted to e (653a), i.e. combining fronting with lowering. However, there is dialectal variation in each of the relevant stems. In 'mix' (653b), Ji dialect directly fronts (and unrounds) u to i, without lowering. This vocalism in the Pfv of 'mix' is confirmed by Winkelmann, possibly from the same speaker many years earlier. 'Dip' (653c) also shows much dialectal variation in the Pfv. Bi dialect prefers uo/uɔ diphthongal Pfv's in both (653b) and 653c); see the following section for wider parallels.

(653) Base=Ipfv u to Pfv {i e ɛ o}

	Pfv	base	Ipfv	gloss	comment
a. Pfv e					
	fē	fú	fú	'fan (v); swell'	Ji (elsewhere fē/fúó)
	cə̄rē	cə́rú	cə́rú	'hang'	Fl; see (646b)
	tə̄rē	tə́rú	tə́rú	'catch (fish) with trap'	Fl; see (646), (662b)
	dēʔē	dúʔú	dúʔú	'hide (intr/tr)'	Ji only (cf dóʔó)

b. Pfv variable				
dīⁿʔīⁿ	dúⁿʔúⁿ	dúⁿʔúⁿ	‘mix (banco, water)’	Ji; W Pfv dīⁿʔīⁿ
dɛ̄ⁿʔɛ̄ⁿ	"	"	"	Fl Ma
jūⁿʔɔ̄ⁿ	"	"	"	Bi
c. Pfv variable				
bīʔē	búʔú	búʔú	‘dip (food)’	Ji
būʔō	"	"	"	Bi
bēʔē	"	"	"	Fl Ma

10.1.2.5 Diphthong in Pfv versus {i u} in base=Ipfv

In one fairly productive pattern, base=Ipfv i corresponds to Pfv ie (or nasalized iɛⁿ) while base=Ipfv u corresponds to Pfv uo (in theory also nasalized uɔⁿ but no examples), with or without the addition of glottalization. The examples with base=Ipfv i are in (654). We include glottalic diphthongal iʔe corresponding to iʔi in this category.

(654) Diphthongal Pfv in ie or iɛ corresponding to i, plus tone change

Pfv	base	Ipfv	gloss	comment
a. M versus H tone (MHH)				
bīē	bí	bí	‘ask (question)’	W base=Ipfv bíʔí
dīē	dí	dí	‘eat (meal)’	(all)
fīɛ̄ⁿ	fíⁿ	fíⁿ	‘bud (v), germinate’	cf. fíɛ́ⁿʔɛ́ⁿ ‘sprout (n)’
līē	lí	lí	‘call’	Ma (Fl Ji Pfv lē)
mīɛ̄	mí	mí	‘scatter, spray’	
pīɛ̄ⁿ	píⁿ	píⁿ	‘extinguish’	
pīɛ̄ⁿ	páⁿ	páⁿ	‘touch’	Bi only
ʃīɛ̄ⁿ	ʃíⁿ	ʃíⁿ	‘weave; braid (hair)’	
tīɛ̄ⁿ	tíⁿ	tíⁿ	‘pull; drag’	
glottalic				
cīʔē	cíʔí	cíʔí	‘brush (teeth)’	Bi Ji (not Fl Ma)
ʃīʔē	ʃíʔí	ʃíʔi	‘insult (v)’	Ji; see (662a); not in W
yīʔē	yíʔí	yíʔí	‘go’	
b. L versus M tone (LMM)				
cìè	cī	cī	‘urinate’	Bi Fl Ji
ʃìè	ʃī	ʃī	‘give birth’	(all)
ʃìɛ̀ⁿ	ʃīⁿ	ʃīⁿ	‘fart (v)’	Bi Ji; not in W
yìè	yī	yī	‘jump; fly (v)’	Bi Fl Ji
c. fixed tone (at least dialectally)				
L-tone, glottalic				
ʃìⁿʔɛ̀ⁿ	ʃìⁿʔìⁿ	ʃìⁿʔìⁿ	‘run’	Bi Fl Ji; W Pfv sīɛ̄ⁿ

For ‘groan’ (655) the phonology is complicated by dialectal (and for Fl intraparadigmatic) alternation between k and c (§3.4.2.3).

(655)	Pfv	base	Ipfv	gloss	
	kɛ̄^{n}	kí^{n}	kí^{n}	‘groan’	Bi Ma
	cīɛ̄^{n}	kí^{n}	kí^{n}	"	Fl
	cīɛ̄^{n}	cí^{n}	cí^{n}	"	Ji

In (656) the Pfv has diphthongal uo versus base=Ipfv u. This includes cases of glottalic uʔo versus uʔu (656b). For ‘sow’ (656a), Bi has a j/d alternation (§3.4.2.5), while the other dialects have fixed d or fixed j. See also the Bi variants for ‘mix’ and ‘dip’ (653b-c) in the preceding section.

(656)		Pfv	base	Ipfv	gloss	comment
	a.	dūō	dú	dú	‘sow (v), plant (v)’	Fl Ma
		jūō	"	"	"	Bi
		"	jú	jú	"	Ji
	b.	sūʔō	súʔú	súʔú	‘catch’	Bi Ji
		ʃūʔō	ʃúʔú	ʃúʔú	"	Fl
		fūʔō	fúʔú	fúʔú		Ma (§3.2.1.10)

10.1.2.6 Diphthong in Pfv versus base=Ipfv mid-height vowel

The verbs in (657) have Pfv diphthongs corresponding to homorganic mid-height base=Ipfv vowels. The diphthongs and base=Ipfv vowels are homorganic in most cases. However, the important verb ‘pass, go past’ has Pfv ie corresponding to base=Ipfv o, ‘(bird) perch’ has nondiphthongal e corresponding to o in most dialects, and ‘pick (cotton)’ has invariant e in the same dialects. Fl yʯ̄ē in (657c) is metathesized from /wīē/ (§3.4.5.1).

(657)		Pfv	base	Ipfv	gloss	comment
	a.	jīē	dē	dē	‘pick (cotton)’	Bi only
		dē	dē	dē	"	Fl Ji Ma
	b.	wīē	wé	wé	‘refuse (v), abandon’	Bi Ji
		yʯ̄ē	wé	wé	"	Fl
	c.	fīē	fó	fó	‘pass, go past’	
	d.	kùɔ̀^{n}	kɔ̄^{n}	kɔ̄^{n}	‘know, realize’	(all)

e.	sūō	só	só	‘(bird) perch’	Bi
	sē	"	"	"	Fl Ji

The important verb té, ‘put (sth) down’ or passive ‘be put down’, has the forms in (658a-b). ‘Be put down’ is also part of a collocation ‘(hot weather) happen’ with subject láfùʔù ‘heat (n)’, except in Bi which has distinct base=Ipfv vocalism in this collocation (658c). This Bi paradigm splits the difference between ‘put down’ and ‘assemble, do together’ (658d).

(658)	Pfv	base	Ipfv	gloss	comment
a.	tīē	té	té	‘put (sth) down’	(all)
b.	tīē	té	té	‘be put down’	(all)
c.	tīē	**té**	té	‘(hot weather) happen’	Fl Ji Ma
	tīē	**tó**	tó	"	Bi
d.	tē	tó	tó	‘assemble, do together’	(all)

As Vb2 in some verb-verb compounds, the form is -tē (M-toned).

10.1.2.7 Diphthongal alternations between Pfv and base=Ipfv

In this section we consider verbs that have distinct diphthongs in Pfv and base=Ipfv. In (659a), while some dialects convert base=Ipfv uɔ to Pfv uɛ by fronting just the nucleus from ɔ to ɛ (§10.1.2.1), Ji and sometimes Fl front the entire diphthong from uɔ to iɛ. In (659b) this is accompanied by a f/s alternation.

(659)	Pfv	base	Ipfv	gloss	comment
a.	**fìɛ̀**	**fùɔ̀**	**fùɔ̀**	‘replaster (wall)’	Fl(var) Ji
	fùɛ̀	"	"	"	Bi
	fùɔ̀	"	"	"	Fl(var) Ma
b.	**fīɛ̄^{n}**	**súá^{n}**	**súá^{n}**	‘chew lightly’	Ji
	sūɛ̄^{n}	"	"	"	Bi Ma
	ʃɥ̄ɛ̄^{n}	ʃúá^{n}	ʃúá^{n}	"	Fl

The glottalic stems in (660) are somewhat variable dialectally, even though here (as elsewhere in this chapter) we normalize transcriptions of Cvʔv to remove predictable minor pronunciation differences in Fl and Ma. For ‘reap’ (660a) Ji fronts, unrounds, and diphthongizes ɔ to iɛ. Fl fully fronts and unrounds the already diphthongal wuɔ to /wiɛ/, which then metathesizes to /yuɛ/, realized as yɥɛ. Bi has apparently simplified *wīɛ̄ to wɛ̄, so only the base=Ipfv is diphthongal for this dialect. ‘Open’ (660b) and ‘coagulate’ (660c), which differ only in the base=Ipfv for Bi dialect (wúʔɔ́ versus wɔ́ʔɔ́), also present front diphthongs in the Pfv versus back rounded base=Ipfv vowels or diphthongs. Again the Pfv onset is metathesized in Fl. In ‘hear’ (660d), j and d alternate in two dialects in conjunction with a diphthong-initial i/u alternation (§3.4.2.5).

(660)	Pfv	base	Ipfv	gloss	comment
a.	wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	‘reap (with sickle)’	Ji
	yʉ̄ɛ̄	wúɔ́	wúɔ́	"	Fl (§3.4.5.1)
	wɛ̄	"	"	"	Bi, see (661d)
b.	wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	‘open (sth); unlock’	Ji, see also (c)
	yʉ̄ʔɛ̄	wúʔɔ́	wúʔɔ́	"	Fl, see also (c)
	wīʔɛ̄	"	"	"	Bi
c.	wīʔɛ̄	wɔ́ʔɔ́	wɔ́ʔɔ́	‘coagulate, solidify’	Bi Ji
	yʉ̄ʔɛ̄	wúʔɔ́	wúʔɔ́	"	Fl
d.	dīʔɛ̄	jūʔɔ̄	jūʔɔ̄	‘hear; understand (sb)’	Bi(var) Ji
	jīʔɛ̄	"	"	"	Bi(var)
	dīɛ̄ʔɛ̄	jūɔ̄ʔɔ̄	jūɔ̄ʔɔ̄	"	Fl Ma

M-toned ‘hear’ (660d) is similar in segmental form to the L-toned verbs ‘follow’ and ‘put (pot) up on fire’, see (675) in §10.1.5.2 below. However, those verbs have distinct Ipfv stems with u-vocalism.

10.1.2.8 Simple Pfv vowel versus base=Ipfv diphthong

The verbs in (661) are unusual in having a diphthong in the base=Ipfv only, versus a simple vowel in the Pfv. (661a) also has the j/d alternation (§3.4.2.5).

(661)	Pfv	base	Ipfv	gloss	dialects
a.	dè	jūō	jūō	‘sell’	Fl Ji Ma
	dè	jūō	jūō	"	Bi
b.	fē	fúó	fúó	‘fan (v); swell’	Bi Fl
	fē	fú	fú	"	Ji, see (653a) above
c.	wè	wūō	wūō	‘sing’	Fl Ma
	wè	wō	wō	"	Bi Ji, see (647b) above
d.	wɛ̄	wúɔ́	wúɔ́	‘reap (with sickle)’	Bi, see (660a) above

10.1.2.9 Pfv distinguished by one-notch tone-lowering only

In (662a-b), the base=Ipfv stem already has a final front vowel, so there is no segmental difference between Pfv and base=Ipfv. The Pfv is distinguished tonally (one level lower than the base=Ipfv).

(662)	Pfv	base	Ipfv	gloss	comment
a. M (Pfv) versus H (base, Ipfv)					
	sɛ̄^{n}	sɛ́^{n}	sɛ́^{n}	‘lie (sb) down’	(626) in §9.3.2
	gbɛ̄	gbɛ́	gbɛ́	‘split’	Ji(var), see (679b)
	jɥ̄ɛ̄	"	"	"	Bi
	kpɛ̄^{n}	kpɛ́^{n}	kpɛ́^{n}	‘ring (bell)’	
	kpɛ̄^{n}	kpɛ́^{n}	kpɛ́^{n}	‘sprout (v)’	
	lē	lé	lé	‘shape into a ball’	Bi Fl
	lī	lí	lí	‘shape into a ball’	Ji; not in W
	lɛ̄^{n}	lɛ́^{n}	lɛ́^{n}	‘stop, prevent’	W ‘wait’
	lɛ̄^{n}	lɛ́^{n}	lɛ́^{n}	‘accept’	
	ʃīē	ʃíé	ʃíé	‘(tree) refoliate’	not in W
	yīē	yíé	yíé	‘gird’	
	tə̄rū	tə́rú	tə́rú	‘catch (fish) with trap’	Bi; cf. (646b), (653a)
	ʃīʔē	ʃíʔé	ʃíʔé	‘insult (v)’	Bi Fl Ma; see (654a)
b. L (Pfv) versus M (base, Ipfv)					
	dɛ̀	dɛ̄	dɛ̄	‘boil down (beer)’	
	lɛ̀^{n}	lɛ̄^{n}	lɛ̄^{n}	‘chase away’	Ji Ma (not Bi Fl)
	pɛ̀	pɛ̄	pɛ̄	‘forget’	Ma only
	blè	blē	blē	‘skin (a carcass)’	
	dìè	dīē	dīē	‘enter’	W Ipfv dīē ~ dī
	fùɔ̀^{n}	fūɔ̄^{n}	fūɔ̄^{n}	‘soak’	
	wùò	wūō	wūō	‘rot (v)’	
	tərù^{n}	tə̄rū^{n}	tə̄rū^{n}	‘be submerged’	
	kpɛ̀^{n}ʔɛ̀^{n}	kpɛ̄^{n}ʔɛ̄^{n}	kpɛ̄^{n}ʔɛ̄^{n}	‘twist, bend’	
	klè	klē	klē	‘crack open (v)’	Fl Ji; W klú^{n}

10.1.2.10 Pfv marked by intrusive rhotic

In (663), the Pfv has an intrusive rhotic that is absent from the base=Ipfv.

(663) Pfv with extra rhotic

	Pfv	base	Ipfv	gloss	comment
a.	tərò	tō	tō	‘tie (rope)’	W tò, Pfv trè
	jərò	jō	jō	‘get caught, stuck’	not in W

b.	də̀rè	dē	dē	‘wade across’	Fl Ji Ma; see (681)

A larger number of rhotic Pfv’s are in the Pfv ≠ base ≠ Ipfv class (§10.1.5.4), which also includes verbs with intrusive l (§10.1.5.5). The fuller data there confirm that intrusive r is associated with coronal C1, as in (663), while intrusive l is associated with noncoronal (i.e., labial and velar) C1.

10.1.3 Uncompounded verb stems with bipartite Pfv=base ≠ Ipfv

A much less common pattern is for the base to be identical to the Pfv stem, while both differ from the Ipfv. The high-frequency irregular verb ‘come’ is of this type (664a). The Ipfv differs both in tone and vocalism from Pfv=base. (It is similarly irregular in the related language Tiefo-N). The equally common verb ‘say’ or ‘speak’ is of this type in the sense ‘say’ when followed by quoted matter, but it is Pfv ≠ base=Ipfv when it means ‘speak’ as a regular action verb. The only difference is the base, dè versus dò (§11.3).

(664)	Pfv	base	Ipfv	gloss	
a.	bà	bà	bē	‘come’	
b.	dè	dè	dò	‘say’	with quotation
	dè	dò	dò	‘speak’	without quotation

10.1.4 Uncompounded verb stem with bipartite base ≠ Pfv=Ipfv

No verbs attested in multiple dialects merge Pfv with Ipfv but distinguish them from the base. The only known example of this pattern is ‘belch’ for our Bi speaker. For ‘belch’ in other dialects, see (642c) and (644a).

(665)	Pfv	base	Ipfv	gloss	comment
	gùè	gùò	gùè	‘belch’	Bi

10.1.5 Uncompounded verb stems with tripartite Pfv ≠ base ≠ Ipfv

The tripartite verbs covered in this section distinguish all three stems. This class is about equally productive as the bipartite Pfv ≠ base=Ipfv type (§10.1.2 above). It includes some fairly productive subtypes, but also a number of high-frequency verbs with idiosyncratic paradigms.

As shown above, most bipartite verbs distinguish Pfv from base=Ipfv (§10.1.2), while other bipartite types are either rare and dialectally unstable (§10.1.3) or are limited to two high-frequency irregular verbs (§10.1.4). The great majority of tripartite verbs to be described in subsections below start with the same split of Pfv from base=Ipfv, whereby the Pfv is marked by some combination of vocalic fronting, one-notch tone lowering, and/or insertion of a diphthong-initial {u i} or a liquid {l r} after C1.

What distinguishes the tripartite verbs from the bipartite Pfv ≠ base=Ipfv type is the addition of some mechanism to distinguish base from Ipfv. Taking the base as starting point, the Ipfv may be distinguished by one or more of the mechanisms in (666).

(666) From base to Ipfv

a. segmental difference (predominant)
i. {u i l r} inserted after C1, often shared with Pfv
ii. base a is fronted to Ipfv ɛ (this often feeds into the following shifts)
iii. base vowel shifts from [-ATR] {ɛ ɔ} to Ipfv [+ATR] {e o}
iv. base vowel is raised from mid-height {e ɛ o ɔ} to Ipfv high {i u}

b. tonal difference (rare)

§10.1.5.1 presents tripartite verbs with simple vocalic alternations that do not involve secondary diphthongization or intrusive liquids. §10.1.5.2 presents verbs that distinguish diphthongal Pfv from nondiphthongal base and Ipfv. §10.1.5.3 presents verbs with diphthongal Ipfv that is either secondary or modified versus base and Pfv. §10.1.5.4 presents verbs with intrusive r in Pfv and/or Ipfv, and §10.1.5.5 does the same for intrusive l. §10.1.5.6 presents the few verbs that distinguish base and Ipfv by a/ɛ alternation and/or by tonal changes.

10.1.5.1 Simple vocalic shifts distinguish the three stems

In (667), the base vowel is a. The Pfv fronts this to ɛ. The Ipfv fronts and raises the base vowel to i. These verbs have glottalic shape Cvʔv (in one case Cərvʔv), so the trio of stems has the easily recognizable form Cɛʔɛ/Caʔa/Ciʔi. If the base is H- or M-toned, the Pfv is one notch lower, but in many cases the base is already L-toned.

(667) Cɛʔɛ/Caʔa/Ciʔi

Pfv	base	Ipfv	gloss	comment
a. LLL (all forms L-toned)				
bɛ̀ʔɛ̀	bàʔà	bìʔì	‘make a mistake’	
cɛ̀ʔɛ̀	càʔà	cìʔì	‘dry out’	
cɛ̀ʔɛ̀	càʔà	cìʔì	‘tremble’	(all); W cìʔè, base=Ipfv cīʔī
gɛ̀ʔɛ̀	gàʔà	gìʔì	‘snap; (well) collapse’	Bi Fl Ma (not Ji); W Ipfv gàʔà
gɛ̀ʔɛ̀	gàʔà	gìʔì	‘do first’	Bi; see (643a)
jɛ̀ʔɛ̀	jàʔà	jìʔì	‘ante up; lay out (mat)’	Fl(var) Ji(var)
kpɛ̀^{n}ʔɛ̀^{n}	kpà^{n}ʔà^{n}	kpì^{n}ʔì^{n}	‘nail (v)’	

pɛ̀ʔɛ̀	pàʔà	pìʔì	‘push; scour’	W only in cpd
tɛ̀ʔɛ̀	tàʔà	tiʔì	‘join; affix; heal’	not in W
wɛ̀ʔɛ̀	wàʔà	wìʔì	‘grow up’	
dərɛ̀ʔɛ̀	dəràʔà	dərìʔì	‘lock (v)’	

b. LMM (Pfv L-toned, others M-toned)

bɛ̀ʔɛ̀	bāʔā	bīʔī	‘sling over shoulder’	
gbɛ̀ʔɛ̀	gbāʔā	gbīʔī	‘pile up’	Bi Fl (not Ji)
pɛ̀ʔɛ̀	pāʔā	pīʔī	‘scrape (sauce in pot)’	not in W
kɛ̀^{n}ʔɛ̀^{n}	kā^{n}ʔā^{n}	kī^{n}ʔī^{n}	‘encounter’	
sɛ̀ʔɛ̀	sāʔā	sīʔī	‘winnow by shaking’	Bi Ji (not Fl)
yɛ̀ʔɛ̀	yāʔā	yīʔī	‘vomit (v)’	W yɛ̄ʔɛ̄, yāʔā

c. MHH (Pfv H-toned, others H-toned)

dɛ̄ʔɛ̄	dáʔá	díʔí	‘replaster by slapping’	Bi Fl (not Ji)
jɛ̄ʔɛ̄	jáʔá	jíʔí	‘shake hard’	Ji only; W ‘save’ (*retten*)
mɛ̄ʔɛ̄	máʔá	míʔí	‘roll (v)’	Bi Ji (not Fl)
ɲɛ̄ʔɛ̄	ɲáʔá	ɲíʔí	‘turn red’	Bi Ji (not Fl)
sɛ̄ʔɛ̄	sáʔá	siʔí	‘rub’	Bi Ji Ma; not in W

An uncommon and in most cases dialectally unstable variant has e instead of i in the Ipfv. This shows the fronting and shift to [+ATR] but omits the raising of the vowel. The examples of glottalic Cɛʔɛ/Caʔa/Ceʔe as variants of Cɛʔɛ/Caʔa/Ciʔi are limited to Ji dialect (668a). There are also some nonglottalic cases. In (668b) only Bi has Ipfv kpē, versus kpɛ̄ for other dialects. In (668c) the important verb ‘cultivate (crops)’ has Ipfv bé in most dialects, but bí in Ji. The Ji vocalism ɛ/a/i matches the vocalism of the glottalic verbs in (667) above.

(668) ɛ/a/e alternations (dialectal)

	Pfv	base	Ipfv	gloss	comment
a.	gɛ̀ʔɛ̀	gàʔà	gèʔè	‘snap; (well) collapse’	Ji
	"	"	gìʔì	"	Bi Fl
	gbɛ̀ʔɛ̀	gbāʔā	gbēʔē	‘pile up’	Ji
	"	"	gbīʔī	"	Bi Fl
b.	cɥ̀ɛ̀	kpā	kpē	‘pick (fruits)’	Bi
	cɥ̀ɛ̀	kpā	kpɛ̄	"	Fl Ji Ma (§10.1.5.6)
c.	bɛ̄	bá	bé	‘cultivate (crops)’	Bi Fl Ma
	bɛ̄	bá	bí	"	Ji

A base/Ipfv a/e alternation is also present in bà/bà/bē ‘come’ (§10.1.3).

In (669a), despite a c/k alternation and fronting of u to ɥ between palatal C1 and a front vowel, the vocalic alternation ɛ/ɔ/u is clear. This alternation is also seen in (669b) for the Ji variant and in (669b) for Ji and Fl, while Bi has invariant vowel quality. Taking ɔ as lexically basic, we get ɛ/ɔ/u by fronting (Pfv) and raising (Ipfv). Whether ɔ is directly raised to u or is first shifted to [+ATR] o and then raised is indeterminate. Whereas cɥ̀ʔɛ̀ (669a) is just the normal pronunciation of /cùʔɛ̀/ (§3.2.1.8), the verbs in (675) below front the entire diphthong in the Pfv.

(669) ɛ/ɔ/u alternations

	Pfv	base	Ipfv	gloss	comment
a.	cɥ̀ʔɛ̀	cùʔɔ̀	cùʔù	‘burn up, char’	(all)
	cɥ̀ʔɛ̀	kùʔɔ̀	kùʔù	‘waste away’	W cùè-kàʔà ‘emaciated’
	cɥ̀ʔɛ̀	kùʔɔ̀	kùʔù	‘pick off (leaf)’	(all)
b.	tɛ̀ʔɛ̀	tɔ̀ʔɔ̀	tùʔù	‘annoy’	Ji
	tùʔù	tùʔù	tùʔù	"	Bi
c.	mɛ̄ʔɛ̄	mɔ́ʔɔ́	múʔú	‘suck (candy)’	Fl Ji
	mɔ̄ʔɔ̄	mɔ́ʔɔ́	mɔ́ʔɔ́	"	Bi

The ɛ/ɔ/u alternation is structurally somewhat similar to the more productive ɛ/a/i alternation in (667) above. A more exact structural match is ɛ/ɛ/i since ɛ is the front counterpart of ɔ. This is the case with ‘patch’ for Ji dialect (670).

(670)

Pfv	base	Ipfv	gloss	comment
plɛ̀	pɛ̄	pī	‘patch’	Ji; not in W
"	"	pɛ̄	"	Bi Fl Ma

‘Jab’ (671) is variable dialectally. The Ipfv either has o (Bi Ma) or matches the base (Fl Ji).

(671)

Pfv	base	Ipfv	gloss	comment
sɛ̄ʔɛ̄	sɔ́ʔɔ́	sɔ́ʔɔ́	‘jab’	Fl Ji; W Ipfv sɔ́ʔɔ́
"	"	sóʔó	"	Ma
sūā	sɔ́	só	"	Bi, see (673e)

Verbs like gbà/gɔ̀/gù ~ gò ‘hit’ with labial velar in the Pfv only, compressed from a u-initial diphthong, are covered in the following section.

10.1.5.2 Verbs with diphthong in Pfv only

In one fairly common pattern, the Pfv has a diphthong (as in §10.1.2.5), the base and Ipfv have simple vowels, and the Ipfv either fronts and/or raises the base vowel or shifts it from

[-ATR] to [+ATR]. The attested base-to-Ipfv vowel pairings for nonglottalic verbs are those in (672). Only verbs with base vowel ɔ are abundantly attested. Base-to-Ipfv vowel pairings that we would expect to find if these patterns were more productive, based on parallels with verbs covered in other subsections, are indicated by parenthesized Ipfv vowels.

(672)	base	Ipfv	no. of verbs
a.	e	i	1
	ɛ	i (e)	2
b.	u	i	2
c.	ɔ	i, o, u	many
	o	i (u)	1

Nonglottalic verbs with diphthongal Pfv's are in (673). Except for Bi, which often has Pfv ua corresponding to uɔ in other dialects, the Pfv diphthongs are high vowel plus homorganic mid-height vowel (of either ATR value). Corresponding to base ɔ, Ji clearly prefers Ipfv u while other dialects have a lexical choice between u and o. A d/j alternation occurs in 'bite' (673d).

(673)	Pfv	base	Ipfv	gloss	comment
a. ie diphthong in Pfv					
base/Ipfv e/i					
	wìè	wē	wī	'put in, put on'	Bi Ji; W wīē, wí, wí
	yɥ̀è	"	"	"	Fl (§3.4.5.1)
b. nasalized, with iɛⁿ diphthong in Pfv					
base/Ipfv ɛ/i					
	fìɛ̀ⁿ	fɛ̄ⁿ	fīⁿ	'press, push on (sth)'	
	pìɛ̀ⁿ	pɛ̄ⁿ	pīⁿ	'remain'	W base pɛ̀ⁿ
c. uo diphthong in Pfv					
base/Ipfv u/i					
	būō	bú	bí	'get'	W base bó, Ipfv bú
	wūō	wú	wí	'die'	
base/Ipfv o/i					
	sùò	sō	ʃī	'take, receive'	W sūō, sō
d. uɔ diphthong in Pfv					
base/Ipfv ɔ/o					
	būɔ̄	bɔ́	bó	'tie'	Fl Ma
	ʃūɔ̄	sɔ́	só	'light (fire)'	Fl
	sūɔ̄	sɔ́	só	"	Ma
	yūɔ̄	yɔ́	yó	'turn black'	Bi Fl

base/Ipfv ɔ/u				
būɔ̄	bɔ́	bú	‘tie’	Ji
jūɔ̄^{n}	jɔ́^{n}	jú^{n}	‘dance’	Bi Fl Ji
ɲūɔ̄	ɲɔ́	ɲú	‘look at’	Fl Ji Ma; W Ipfv ɲú ~ ɲí
"	"	lú^{n}	"	Bi
sūɔ̄	sɔ́	sú	‘light (fire)’	Ji
sùɔ̀	sɔ̄	sū	‘plant (tree)’	Fl Ji
yūɔ̄	yɔ́	yú	‘turn black’	Ji
base/Ipfv ɔ/i				
cùɔ̀^{n}	cɔ̄^{n}	cī^{n}	‘spend the night’	Bi Ji Ma
cùɔ̀^{n}	tɔ̄^{n}	tī^{n}	‘block’ or ‘count’	Bi Fl Ji
jùɔ̀^{n}	dɔ̄^{n}	dī^{n}	‘bite’	Bi Fl Ji
ɲùɔ̀	ɲɔ̄	ɲī	‘drink’	Fl Ji
sùɔ̀^{n}	sɔ̄^{n}	ʃī^{n}	‘work (v)’	Bi Ji
ʃùɔ̀^{n}	"	"	"	Fl

e. ua diphthong in Pfv (Bi dialect), compare with (d)

base/Ipfv a/o				
būā	bɔ́	bó	‘tie’	Bi
sùà	sɔ̄	sō	‘plant (tree)’	Bi
sūā	sɔ́	só	‘jab’	Bi
sūā	sɔ́	só	‘light (fire)’	Bi

In (674), what may once have been a diphthongal Pfv *gua now has a labial velar onset (§3.4.2.6-7). Again, Ji dialect strongly prefers Ipfv u when the base has ɔ, even when other dialects have Ipfv o. The Fl paradigm in the semi-onomatopoeic (674d) has e/o/i vocalism, but other dialects have base=Ipfv. (676) below has more labial velars.

(674)	Pfv	base	Ipfv	gloss	comment
a.	gbā	gɔ́	gó	‘draw (water)’	Bi Fl Ma
	"	"	gú	"	Ji
b.	gbà	gɔ̀	gò	‘hit’	Bi Fl Ma
	"	"	gù	"	Ji
c.	kpà	kɔ̄	kō	‘finish’	Bi Fl
	"	"	kū	"	Ji
d.	kplè	klɔ̄	klī	‘(heart) beat’	Fl
	"	"	klɔ̄	"	Bi Ji Ma

The stems in (675) show dialectal variation in small details. The verbs in (669a) above have similar vocalic nuclei across the three stems, but in (675) the entire diphthong is fronted in the Pfv for at least some speakers. The Pfv has a diphthong iɛ or uɛ (including ɥɛ after palatal), with iɛ preferred especially in Ji dialect. The base has uɔ except for monophthongal ɔ in ‘warm up’. The Ipfv has u, arguably simplified from /uu/, except when the Ipfv is identical to the base. There is a d/j alternation in (675c-d) and a k/c alternation in (675e). ‘Follow’ and ‘put (pot) up’ are identical for most speakers; compare ‘hear’ in (660d), which however has base=Ipfv.

(675)	Pfv	base	Ipfv	gloss	comment
a.	wìʔɛ̀	wɔ̀ʔɔ̀	wùʔù	‘warm up (at a fire)’	Bi Ji
	yɥ̀ʔɛ̀	"	wɔ̀ʔɔ̀	"	Fl (yɥ by §3.4.5.1)
b.	bìʔɛ̀	būʔɔ̄	būʔū	‘rumble; shout’	Ji
	bùʔɛ̀	"	"	"	Fl
c.	dìʔɛ̀	jùʔɔ̀	jùʔù	‘follow’	Fl Ji
	jìʔɛ̀	"	"	"	Bi
	jɥ̀ʔɛ̀	"	jùʔɔ̀	"	Ma
d.	dìʔɛ̀	jùʔɔ̀	jùʔù	‘put (pot) up on fire’	Ji
	jìʔɛ̀	"	"	"	Bi
	jɥ̀ʔɛ̀	"	"	"	Fl Ma
e.	ʃìʔɛ̀	sūʔɔ̄	sūʔū	‘give; send’	Bi Ji
	ʃìɛ̀ʔɛ̀ ~ ʃɥ̀ɛ̀ʔɛ̀	ʃūʔɔ̄	ʃūʔū	"	Fl
	fìɛ̀ʔɛ̀	fūʔɔ̄	fūʔū	"	Ma

The verbs in (676) have ɛ/ɔ/u or ɛ/ɔ/o nuclei, cf. ɛ/ɔ/u in the examples just given. However, (676) has labial velars in the Pfv in most dialects, reflecting the lexically basic rounded vowels that are overt in the base and Ipfv; compare (674) above.

(676) Pfv with labial velar

	Pfv	base	Ipfv	gloss	
a.	kpɛ̀ʔɛ̀	kɔ̄ʔɔ̄	kōʔō	‘uproot’	Fl Ma; see (682c); W kɔ̄ʔɔ̄ ‘tear out’
b.	gbɛ̄ʔɛ̄	gɔ́ʔɔ́	gúʔú	‘dig with hands’	Ji Ma
	"	"	góʔó	"	Bi Fl

10.1.5.3 Verbs with variable diphthongs or Ipfv-only diphthongs

‘Laugh’ (677a) has a diphthong in the Ipfv but not in the Pfv or base. This pattern is also seen dialectally for ‘stone-grind’ (677b), while other dialects re-use the base as Ipfv. The tones of Ipfv mīɛ̄ and nīɛ̄ are also one notch higher than those of the base (and Pfv), see §10.1.5.6. The ɛ/a/ɛ pattern in nuclei resembles that in (687) below.

(677)	Pfv	base	Ipfv	gloss	
a.	mɛ̀	mà	mīɛ̄	‘laugh’	Bi Fl Ji; W base màʔà
b.	nɛ̀	nà	nīɛ̄	‘stone-grind’	Bi Ji; W Ipfv also nī
	"	"	nà	"	Fl Ma

In two important action verbs (678), the base has a simple back rounded vowel u or o, the Pfv has a diphthong uo, and the Ipfv has a diphthong ui combined with a shift k to c (§3.4.2.3). As usual /cui/ is realized as cɥi.

(678) Ipfv with diphthong

	Pfv	base	Ipfv	gloss	
a.	kūō	kú	cɥ́í	‘cut; saw (v)’	Bi Fl Ji
b.	kùò	kò	cɥ̀ì	‘kill; cut the throat of’	(all); W Ipfv kū

‘Sear’ (679a) has a synchronically anomalous paradigm; see discussion in §3.4.5.1. One variant of the paradigm for ‘split’ (679b) shows a similar Pfv-Ipfv palatalization.

(679)	Pfv	base	Ipfv	gloss	comment
a.	yɥ̀ɛ̀ⁿ	wɛ̄ⁿ	yɥ̄īⁿ	‘sear, burn on fire’	Fl; ; W Ipfv wɛ̀ⁿ
	ɲɥ̀ɛ̀ⁿ	wɛ̄ⁿ	ɲɥ̀īⁿ	"	Bi
	ɲɥ̀ɛ̀	wɛ̄ⁿ	ɲɥ̄ī	"	Ji
	(possible reconstruction:)				
	*wìɛ̀ⁿ	*wɛ̄ⁿ	*wīīⁿ (diphthongal?)		
b.	jɥ̄ɛ̄	gbɛ́	jɥ́ɛ́	‘split’	Fl Ji(var), see (662a)

10.1.5.4 Pfv and/or Ipfv have intrusive r

§10.1.2.10 above described a few bipartite verbs like dərè/dē/dē ‘wade across’ (663b) whose Pfv has an intrusive r, which reduces a preceding vowel to schwa. Here we describe tripartite verbs with similar rhotic Pfv’s that also distinguish base from Ipfv. In all cases, intrusive r (as opposed to l) is associated with coronal C1.

The verbs with rhotic Pfv but non-rhotic base and Ipfv are in (680). The base-Ipfv vowel pairings are ɔ/u and ɛ/i for Ji dialect, versus ɔ/o and ɛ/e for other dialects, following a pattern we have seen before.

(680)		Pfv	base	Ipfv	gloss	comment
	a.	dārɔ̄	dɔ́	dó	‘divide, share’	Fl Ma
		"	"	dú	"	Ji
		jūā	"	dó	"	Bi
	b.	dərɔ̀	dɔ̄	dō	‘buy’	Bi Fl
		"	"	dū	"	Ji
	c.	tārɔ̄	tɔ́	tó	‘cook (sauce)’	Bi Fl Ma
		"	"	tú	"	Ji
	d.	tərɔ̀	tɔ̄	tō	‘hide’	Bi Fl
		"	"	tū	"	Ji
	e.	jərɔ̀	jɔ̀	jò	‘swallow’	Bi Fl Ma;
		"	"	jù	"	Ji; W jūrɔ̄, jūɔ̄, jū
	f.	sərɛ̀	sɛ̄	sē	‘carve; shape (v)’	Bi Fl Ma; not in W
		"	"	sī	"	Ji
	g.	dārɛ̄	dɛ́	dé	‘be sated (=full)’	Bi Fl
		"	"	dí	"	Ji

In (681), Bi dialect has r in the Ipfv as well as in the Pfv.

(681)	Pfv	base	Ipfv	gloss	comment
	dərè	dē	dārī	‘wade across’	Bi; see (663b)

10.1.5.5 Pfv and/or Ipfv have intrusive l

The insertion of l is parallel to that for r, but l occurs after noncoronal (i.e. labial or velar) C1. Another important difference is that most verbs with intrusive l show it in both Pfv and Ipfv or even (rarely) limit it to the Ipfv, while verbs with r almost always limit it to the Pfv (preceding subsection).

l in the Pfv only is presented in (682).

(682)		Pfv	base	Ipfv	gloss	comment
	a.	klɔ̀	kɔ̄	kō	‘go crazy; sweat (v)’	Bi Fl
		"	"	kū	"	Ji
	b.	plɛ̀	pɛ̄	pē	‘stuff, patch’	Fl Ji Ma

c.	kplɛ̀ʔɛ̀	kɔ̄ʔɔ̄	kūʔū	‘uproot’	Ji
	klɔ̀ʔɔ̀	kɔ̄ʔɔ̄	kōʔō	"	Bi; see (676a); W kɔ̄ʔɔ̄ ‘tear out’

Verbs with l in both Pfv and Ipfv are in (683).

(683)	Pfv	base	Ipfv	gloss	comment
a.	mlɔ̄^{n}	mɔ́	mlú^n	‘(wound) fester’	Bi Fl Ji
b	klɔ̄^{n}	kɔ́^{n}	klú^n	‘chew (kola), munch’	(all)
c.	blè	bē	blē	‘become tired’	Ji(var) Ma
	"	"	blī	"	Bi Ji(var) Fl
d.	flɛ̄^{n}	fɛ́^{n}	flí^n	‘stir; spin (cotton)’	Bi Ji Ma
	"	flí^n	"	"	Fl; W oral flɛ̄, flí
e.	blɛ̄^{n}	bɛ́^{n}	blí^n	‘beat (tomtom)’	(all)
f.	gblɛ̀	gbɛ̄	gblī	‘pick up’	(all)
g.	klɛ̀^{n}	kɛ̄^{n}	klī^n	‘tilt’	Bi Fl Ji
h.	mlɛ̄^{n}	mɛ́	mlí^n	‘throw, shoot’	Bi Fl Ji(var)
	mɛ̄	"	mí	"	Ma
	[W: ‘throw’ and ‘shoot’ are distinct in base and Ipfv]				
i.	klɛ̄^{n}ʔɛ̄^{n}	kɛ̄^{n}ʔɛ̄^{n}	klī^{n}ʔī^n	‘take up’ or ‘ascend’	§9.3.2

In ‘build’ (684), one unstable variant (Ji) has l only in the Ipfv.

(684) Pfv	base	Ipfv	gloss	dialect
mɛ̀	mɛ̄	mlī^n	‘build’	Ji(var)
mlɛ̀^{n}	"	"	"	Bi Fl
mɛ̀	"	mɛ̄	"	Ji(var) Ma

10.1.5.6 Minor base=Ipfv patterns (a/ɛ alternation, tones)

‘See’ (685a) has both an unusual Ipfv in ɛ and a unique tonal divergence between base and Ipfv (LML type). The Ipfv vowel quality is surprising since even verbs with base ɛ normally shift it to +ATR e or raise it to i in the Ipfv (§10.1.5.1). ‘Sleep (v)’ (685b) also has ɛ in the Ipfv, and for most dialects is the only M-toned form (LLM type). For Fl dialect the base is also M-toned, making at least the tonal pattern more regular (LMM).

(685)	Pfv	base	Ipfv	gloss	dialect
a.	ɲà	ɲī	ɲɛ̀	‘see’	(all)
b.	dɛ̀	dɔ̄	dɛ̄	‘sleep (v)’	Fl
	"	dɔ̀	"	"	Bi Ji Ma

For a somewhat similar case involving a bipartite Pfv=base ≠ Ipfv pattern, see bà/bà/bē ‘come’ (§10.1.3).

Other verbs that have the unusual Ipfv in ɛ are well-behaved tonally. Like ‘sleep (v)’, they also have ɛ in the Pfv. (686a-b) show the c/k alternation (§3.4.2.3). In (686a), non-Pfv forms beginning kp likely reflect compression of *ku, cf. §3.4.2.6. Bi Pfv ɲɥ̀ɛ̀^{n} in (686c) reflects *wìɛ̀^{n}, with further changes in the onset similar to those common in Fl dialect.

(686)	Pfv	base	Ipfv	gloss	comment
a.	cɥ̀ɛ̀	kpā	kpɛ̄	‘pick (fruits)’	Fl Ji Ma
	"	"	kpē	"	Bi, cf. (668b)
b.	cìɛ̀	kà	kɛ̀	‘eat (meat)’	W Ipfv kɛ̀
c.	wɛ̀^{n}	wā^n	wɛ̄^{n}	‘(infant) suckle’	Fl Ji
	ɲɥ̀ɛ̀^{n}	"	"	"	Bi; W wúɔ́^{n}, Pfv wīɛ̄^{n} ‘suck’
d.	sɛ̀^{n}	sā^n	sɛ̄^{n}	‘pick out, cull’	
e.	tə̀rɛ̀^{n}	tə̄rā^n	tə̄rɛ̄^{n}	‘sit down’	

The diachronic relationship, if any, between ‘pick (fruits)’ (686a) and cɥ̀ʔɛ̀/kùʔɔ̀/kùʔù ‘pick off (leaf)’ (Bi Fl Ji) is obscure.

‘Laugh’ and ‘stone-grind’ (677) above have an unexpected diphthong in the Ipfv (mīɛ̄, nīɛ̄), in addition to Ipfv ɛ and a base-to-Ipfv tone shift.

10.1.6 Morphology of verb-verb compounds

Lexical and semantic aspects of verb-verb compounds are covered in §15.1. Here we focus on the morphology.

In a verb-verb compound, the two verbs (the **initial** Vb1 and the **final** Vb2) are immediately adjacent without an intervening morpheme in the Pfv and base. By contrast, in the imperfective construction, the Ipfv morpheme à occurs twice, once before the initial and once intercalated between initial and final (§10.1.6.1 below). We hyphenate this second à, hence (à) Vb1-à-Vb2.

As shown below in more detail, Vb1 takes the same stem forms it would have taken in the absence of Vb2. In particular, Vb1 takes Pfv form in perfective contexts. By contrast, Vb2 can take base or Ipfv form, but not Pfv form. Instead, it generalizes its base stem to Pfv as well as base morphosyntctic contexts. This is suggestive diachronically (§10.1.6.2).

In the absence of a medial Ipfv particle, the Vb1-Vb2 combination is subject to tone sandhi. Specifically, M-toned Vb1 drops to L before an H-toned Vb2 by the tonal process M#H-to-L#H. This produces some unusual tonal patterns in the compounds. For example, a Vb1 with MHH tones by itself combines with an H-toned Vb2 to produce L-H Pfv and H-H base (§10.1.6.4).

10.1.6.1 Intercalated Ipfv -à- in verbal compounds

The Ipfv form of a verb-verb compound has the form (687).

(687) Ipfv positive verb-phrase schema with compound verb

(subject) à Vb1.Ipfv- -à- -Vb2.Ipfv

The medial -à- is prima facie evidence for compounding. It can be used as a diagnostic for compound stucture even when Vb1 and Vb2 do not occur independently. However, medial -à- is often pronounced more weakly than the pre-compound à. Since the initial (Vb1) always ends in a vowel, vv-contraction of one type or another is common (§3.4.6.4). In addition, -à- is nasalized after a nasalized vowel.

Except in careful style, an immediately preceding [+ATR] vowel {e o} or high vowel {i u} often shifts to [-ATR] {ɛ ɔ} as it partially fuses with -à-, to result in ɛa or ɔa or even monophthongal ɛ or ɔ (with or without slight lengthening). In addition, glottalic Cvʔv stems may reduce to Cvʔ- before -à-. If the Cvʔv stem is H-toned in Bi and Ji, and therefore realized as MH Cv̄ʔv́ (Fl) or as LH Cv̀ʔv́ (Ma) with the pitch peak at the end, the contracted combination may appear as Cv̄ʔ-á- (Fl) or Cv̀ʔ-á- (Ma) with the pitch peak realized on the contracted vowel. By contrast, Bi and Ji usually pronounce such combinations as Cv́ʔ-à-.

Ipfv à is one of the grammatical morphemes whose tone is raised to M before L (§3.6.2.1), and this applies equally to the medial -à-. As a consequence, the contracted form Cv́ʔ-à- just mentioned (Bi Ji) is heard as Cv́ʔ-ā- before L-tone.

A few Ipfv forms of compounds are in (688).

(688)	Pfv	base	Ipfv	gloss
a.	dīē-glō	dī-glō	(à) dī-à-glō	‘take out, remove’
b.	cə̄rē-tē	cə́ró-tē	(à) cə́ró-à-tē ~ cə́rɔ́-à-tē	‘hang (sth) up’
c.	mlɛ̄^{n}-jāʔā	mí-jāʔā	(à) mlí^{n}-a^{n}-jāʔā	‘disperse (intr)’
d.	sɛ̀^{n}-tó	sà^{n}-tó	(à) sɛ̄^{n}-à^{n}-tó	‘put together’

A three-verb compound in Ipfv form is (à) yɛ́-à-kɔ́-à-yé ‘went around weeping’ from /yé-à-kó-à-yé/ (women, 2017-18 @ 00:17).

10.1.6.2 Vb2 takes base stem in composite Pfv

We have seen that many individual verbs distinguish three stems by some combination of segmental and tonal oppositions. In theory, verb-verb compounds should harmonize the stems of the initial and final as in (689).

(689)	Pfv	base	Ipfv
	Vb1.**Pfv**-Vb2.**Pfv**	Vb1.**Base**-Vb2.**Base**	(à) Vb1.**Ipfv**-à-Vb2.**Ipfv**

Indeed, Vb1 (if it occurs independently) does present its usual forms including Pfv as initial in compounds. However, Vb2 (if it occurs independently) is often restricted when it functions as compound final. In particular, the Vb2 base regularly spreads into perfective contexts (for exceptions see §10.1.6.3 below). The actual paradigmatic structure for verb-verb compounds is therefore not (689) but (690), with the morphological stem category of Vb2 bolded.

(690)	Pfv	base	Ipfv
	Vb1.Pfv-Vb2.**Base**	Vb1.Base-Vb2.**Base**	(à) Vb1.Ipfv-à-Vb2.**Ipfv**

Pfv compounds are strongly asymmetrical, with only Vb1 treated as a main-clause verb with full aspectual marking. The Ipfv's, by contrast, are symmetrical, simply juxtaposing the independently existing Ipfv forms of the two verbs, complete with the Ipfv particle. The bases are also symmetrical.

The formulae in (690) have an immediate diachronic explanation if we assume that verb-verb compounds originated as infinitival constructions. We will show in chapter 15 that a second VP or clause can be added to an initial clause in infinitival form. The verb in an infinitival phrase (VP or clause) takes either base or Ipfv form (the latter preceded by the Ipfv particle). The Pfv stem cannot occur in infinitival phrases. So we reconstruct as in (691).

(691) a. perfective contexts
*Vb1.Pfv [kō Vb2.Base …]

b. base contexts (e.g. perfective negative, NA-future)
*Vb1.Base [kō Vb2.Base …]

c. imperfective contexts
*à Vb1.Ipfv [kō à Vb2.Ipfv …]

For this reconstruction to evolve into the attested verb-verb compound construction, infinitival *kō is attritted to zero in (691a-b), and *kō à is attritted to -à- in (691c). Indeed, infinitival kō is synchronically quite often lenited to gō, wō, or even ō.

We do not suggest that every verb-verb compound directly derives from an infinitival construction. We argue only that many of them do, and that those that do have defined the morphosyntax for all verb-verb compounds.

Verb-verb compounds are structurally distinct from full iterations of the same verb. In such iterations, like tiē-tiē (Pfv), tē-tē (base), and (à) tē-tē (Ipfv), each stem including Pfv is iterated verbatim and there is no intercalated Ipfv -à-. See (635-636) in §9.5.

10.1.6.3 Exceptional use of Pfv form in compound Vb2

Our lexical files show no examples of Pfv compounds whose Vb2 is marked as Pfv by vocalic shifts such as fronting of a back or low vowel to e or ɛ. The normal pattern, described schematically in the preceding subjection, is exemplified concretely in (692). The simple verb ‘raise (neck)’ has a distinctive Pfv cɛ̀ with fronted vowel. This Pfv form cannot occur as Vb2 in the compound. Instead, the base stem cā replaces it (dropping to cà- before H-tone).

(692)	Pfv	base	Ipfv	gloss
a.	ɲūɔ̄	ɲɔ́	ɲú	‘look (at)’
b.	cɛ̀-ɲɔ́	cà-ɲɔ́	cā-à-ɲú	‘look up (at)’

This is the general pattern. However, a rhotic Pfv does occur exceptionally as Vb2 in (693). The medial Ipfv -à- confirms that this is a verb-verb compound, not an iteration.

(693)	Pfv	base	Ipfv	dialect	gloss
a.	dɔ́-də̄rɔ̄	dɔ́-dɔ̄	dɔ́-à-dō	Fl	‘be lacking, missing’
	"	"	dɔ́-à-dū	Ji	"
	júá-dɔ̄	"	dɔ́-à-dɔ̄	Bi	"
b.	də́rɔ́-də̄rɔ̄	dɔ́-dɔ̄	dɔ́-à-dɔ̄	Ma	‘be lacking, missing’

The morphology is not transparent. The initial resembles də̄rɔ̄/dɔ́/dó (and variants) ‘divide, share’. The compounds in (693a) have an iterative look, and this impression is strengthened by the Ma paradigm (693b). We suggest that these paradigms are in the process of evolving from iterations to verb-verb compounds, with Ma dialect reflecting an earlier stage of the transition. In Ma, the only changes are the imposition of an H-M tone melody, and the intercalation of Ipfv -à-. The other dialects go farther by reducing the initial in the Pfv form of the compound.

The H-M overlay does not occur with true verb iterations synchronically. However, distributive numeral iterations do drop the tone of the second iteration, as in ò sá^{n}-sà^{n} ‘three by three’ (372b) in §4.6.1.6.

Other verbs that have rhotic Pfv’s when uncompounded do not allow them to appear in Vb2 position in compounds. For example, ‘be sated’ has a rhotic Pfv də̄rē as simple verb (694a), it is replaced by the non-rhotic base -dɛ́ as Vb2 after a Pfv Vb1 (694b).

(694)	Pfv	base	Ipfv	gloss
a.	dǝ̄rɛ̄	dɛ́	dé ~ dí	‘be sated, full’
b.	ɲùɔ̀-dɛ́	ɲɔ̀-dɛ́	ɲī-à-dé ~ -dí	‘quench one’s thirst’

10.1.6.4 Tones in verb compounds

We have seen that uncompounded verbs either have invariant tones or a one-notch tone distinction, usually LMM (L-toned Pfv and M-toned base=Ipfv) or MHH (M-toned Pfv and H-toned base=Ipfv).

Suppose first that Vb1 and Vb2 both have invariant tones. The combinations and their tonal outputs (excluding the Ipfv) are shown in the array (695). The outputs show Pfv and base separated by /. The Pfv compounds have the same tones as the base compounds for these verbs. We bold the output type where underlying M-H surfaces as L-H by the tone sandhi process M#H-to-L#H (§3.6.2.2), as well as the true L-H type with which it merges.

(695)	Vb1 tone	Vb2 tone	output (Pfv / base)
a.	L	H	**L-H / L-H**
		M	L-M / L-M
		L	L-L / L-L
b.	M	H	**L-H / L-H**
		M	M-M / M-M
		L	M-L / M-L
c.	H	H	H-H / H-H
		M	H-M / H-M
		L	H-L / H-L

Now suppose that Vb1 shifts tones from Pfv to base=Ipfv. There is no comparable issue if Vb2 shifts tones, since its Pfv form cannot occur in compounds. So our formulae allow for tone shifts in Vb1 but not in Vb2. The formulae are in (696). Now there are two pairings that call for commentary, in both cases because of the same M#H-to-L#H tone sandhi process. First, what should be a compound type with Pfv L-H and base M-H is unified tonally as L-H (696a). This is now indistinguishable from the two L-H types in (695) above. Second, what should be a compound type with Pfv M-H and base H-H is polarized into Pfv L-H versus base H-H. In other words, Vb1 now appears with L-toned Pfv and H-toned base, resulting in a surface LHH pattern that is impossible in uncompounded verbs.

(696)	Vb1 tone	Vb2 tone	output (Pfv / base)
a.	L/M	L	L-L / M-L
		M	L-M / M-M
		H	**L-H / L-H**

b.	M/H	L	M-L / H-L
		M	M-M / H-M
		H	**L-H / H-H**

Let us now add the Ipfv forms of the compounds in the types that have been bolded in (695) and (696). Because of the intercalated Ipfv particle -à-, a H-toned Vb2 can no longer trigger M#H-to-L#H and drop Vb1 from M to L. In (697) we assume that both verbs have the same base and Ipfv tones, like the vast majority of verbs.

(697)		Pfv/base type	Ipfv
	a.	L-H / L-H (695a)	(à) L-à-H
		L-H / L-H (695b)	(à) M-à-H
		L-H / L-H (696a)	"
	b.	L-H / H-H (696b)	(à) H-à-H

The three input classes whose Pfv/base pairings are tonally merged (697a) split into two Ipfv types, as a Vb1 of invariant M-tone or of LMM type appears in M-toned form, while a Vb1 of invariant L-tone remains L. In (697b), the H-H tones of the base are carried over into the à H-à-H Ipfv.

The formulae have to be adjusted when either Vb1 or Vb2 is one of the few verbs that belongs to a minority tonal type LLM ('come', 'sleep', 'laugh', 'stone-grind') or LML ('see'). These verbs have different tones in base and Ipfv.

One warning: certain verbs have a lower tone as Vb1 or as Vb2 in compounds, beyond what is attributable to tone sandhi. For example, 'eat (meal)' is dīē/dí/dí in all dialects. As Vb1 before dɔ̄rɛ̄/dɛ́/dé ~ dí 'be sated, have enough', the regular output including tone sandhi is (698a). This in fact is the Bi paradigm. By contrast, the Fl and Ji speakers treat 'eat (meal)' as M-toned dīē/dī/dī, or possibly as LMM dìè/dī/dī (which would have the same outputs). The M-tone is overt in the Ipfv, and must also be posited in the base in order to account for the surface L-tone after M#H-to-L#H tone sandhi.

(698)		Pfv	base	Ipfv	dialect
	a.	dìè-dé	dí-dɛ́	(à) dí-à-dé	Bi
	b.	dìè-dé	dì-dɛ́	(à) dī-à-dé	Fl
		"	"	(à) dī-à-dí	Ji

One might speculate that the diachronic motivation for the shift in tones of 'eat (meal)' as Vb1 was precisely to reduce the gap between the L-tone of the Pfv and the H-tones of the base and Ipfv in the Bi-type compound. However, why this happens in one case but not in another is unanswerable.

fīē/fó/fó 'pass, go past, continue going' is MHH as simple verb. As Vb2 it is M-toned in ló-fō 'make a detour and keep going'.

tīē/té/té ‘put down’ is MHH as simple verb. As Vb2 it keeps these tones in transparent compounds, but in more lexicalized compounds it is usually M-toned, as in cə́ró-tē ‘hang up’ (1044b).

já ‘leave (along), let’ is invariant and H-toned in most dialects (Bi has Pfv jɛ̄). As Vb2 it is M-toned in glú-jā ‘be deminished’.

yé ‘walk’ is invariant and H-toned as simple verb. It is M-toned (and drops further to L before H-tone by tone sandhi) in yè-ló-bāʔā ‘wander around’ and yè-yíʔí ‘walk around’. The M-tone surfaces in the Ipfv forms: yē-à-ló-à-b(l)īʔī and yē-à-yíʔí.

10.1.6.5 Verb-verb compounds with invariant final

Verbs of the invariant type Pfv=base=Ipfv and of the bipartite type Pfv ≠ base=Ipfv are invariant as Vb2 in compounds, because they do not distinguish base from Ipfv to begin with and because verb-verb compounds extend the base into the composite Pfv. Lists of verbs of these two types are given in §10.1.1 (invariant) and §10.1.2 (bipartite).

The invariant verb in (699a) is the final in the compound (699b). The initial means ‘sleep (v)’.

(699)	Pfv	base	Ipfv	gloss
a.	glùⁿ	glùⁿ	(à) glùⁿ	‘rumble, growl’
b.	dɛ̀-glùⁿ	dɔ̄-glùⁿ	(à) dɛ̄-ā-glùⁿ	‘snore’ (Fl)

The bipartite verb (700a) is reduced to just ló as Vb2 (700b). As Vb1 its Pfv as well as its base=Ipfv stems occur (700c). lɔ́- in the Ipfv is ló- optionally assimilating to -à- as part of vv-Contraction (§3.4.6.4).

(700)	Pfv	base	Ipfv	gloss
a.	lē	ló	(à) ló	‘turn, move, flip’
b.	dɛ̀ⁿʔɛ̀ⁿ-ló	dúⁿʔúⁿ-ló	(à) dúⁿʔ-àⁿ-ló	‘stir up (and flip)’
c.	lē-bāʔā	ló-bāʔā	(à) ló-à-blīʔī ~ (à) lɔ́-à-blīʔī	‘surround’

Given the bipartite stem paradigm lē/ló/ló and the extension of base as Vb2 in composite Pfv’s, all forms in (700) are predictable. For more compounds with lē/ló/ló, see §15.1.1.7.

10.1.6.6 Verb-verb compounds with variable final

By the rules given above, verbs that distinguish base from Ipfv maintain this morphological opposition as Vb2 in compounds. Some relevant compounds are in (701).

(701) Two forms of second stem

	Pfv	base	Ipfv	gloss	comment
a.	lē-bāʔā	ló-bāʔā	(à) ló-à-bīʔī ~ (à) lɔ́-à-bīʔī	‘surround’	
b.	flè-ɲɔ́	flè-ɲɔ́	(à) flè-à-ɲú ~ (à) flɛ̀-à-ɲú	‘peek’	
c.	gbà-kú	gɔ̀-kú	(à) gò-à-cʮ́í ~ (à) gɔ̀-à-cʮ́í Ji: (à) gù-à-cʮ́í	‘chop (wood)’	
d.	kplè-bà	klò-bà	(à) klò-à-bē ~ (à) klɔ̀-à-bē	‘approach (here)’	
e.	gbà-tərā^{n}	gɔ̀-tərā^{n}	(à) gò-à-tərɛ̄^{n} ~ (à) gɔ̀-à-tərɛ̄^{n} Ji: (à) gù-à-tərɛ̄^{n}	‘squat’	

10.1.6.7 Triple Vb1-Vb2-Vb3 and quadruple compounds

A number of compounds containing three verb stems have turned up in texts and elictation. Only the first verb has full aspect marking. Medial Ipfv -à- occurs at both junctions.

Many triple compounds are decomposible into binary compounds, one of whose elements is itself a compound. In most of our examples the final is composite, so the bracketing is [Vb1-[Vb2-Vb3]]. However, the bracketing has no effect on the output forms.

(702) Triple verb compounds

Pfv	base	Ipfv	dialect	gloss
gbɛ̀^{n}ʔɛ̀^{n}-yī-dà^{n}	gbā^{n}ʔā^{n}-yī-dà^{n}	gbā^{n}ʔ-à^{n}-yī-ā-dà^{n}	Fl Ji	‘cross (road)’
kpɛ̀ʔɛ̀-yí-ʃìʔì	kɔ̀ʔɔ̀-yí-ʃìʔì	kɔ̄ʔ-à-yíʔ-ā-ʃìʔì	Fl	‘get up’
sɛ̀^{n}-ló-càʔà	sɛ́^{n}-ló-càʔà	sɛ́^{n}-à-ló-ā-càʔà ~ sɛ́^{n}-à-lɔ́-ā-càʔà	(various)	‘lie on back’

gbā^{n}ʔā^{n}-yī-dà^{n} is gbā^{n}ʔā^{n} ‘block, bar (path)’ plus yī-dà^{n} ‘jump (over), cross’. kɔ̀ʔɔ̀-yí-ʃìʔì is kɔ̄ʔɔ̄ ‘uproot, extract; be uprooted’ plus yíʔí-ʃìʔì ‘get up’. sɛ́^{n}-ló-càʔà is sɛ́^{n} ‘lie down, go to bed’ plus ló-càʔà ‘lie flat on one’s back’.

A quadruple compound is tá^{n}-bɔ́-wē-tàʔà (do.again-tie.Base-put.in.Base-stick.on.Base) in (Bi, 2017-08 @ 03:02).

10.1.7 Obligatorily reduplicative verbs

A few verbs are intrinsically reduplicative (Cv-) or fully iterative. The two types are indistinguishable if the base is just Cv. These stems do not occur in unreduplicated forms, which distinguishes them from derivational iterations (§9.5). The forms are invariant, showing no special Pfv or Ipfv features, and there is no intercalated Ipfv particle -à-. The number of such verbs is low, and there are some dialectal variants. It is interesting to observe the L-H and especially L-M tone patterns in most of them, and the apparently intrusive l in (703f).

(703)		Pfv	base	Ipfv	dialects	gloss
	a.	cɔ̀-cɔ̀ɣɔ̀	cɔ̀-cɔ̀ɣɔ̀	cɔ̀-cɔ̀ɣɔ̀	Ji Ma	‘rinse (mouth)’
		cɔ̀-cɔ̄ɣɔ̄	cɔ̀-cɔ̄ɣɔ̄	cɔ̀-cɔ̄ɣɔ̄	Fl	"
		cɔ̀ɣɔ̀-cɔ̄ɣɔ̄	cɔ̀ɣɔ̀-cɔ̄ɣɔ̄	cɔ̀ɣɔ̀-cɔ̄ɣɔ̄	Bi	"
	b.	dɛ̀^{n}-dɛ̀^{n}	dɛ̀^{n}-dɛ̀^{n}	dɛ̀^{n}-dɛ̀^{n}	Bi Fl	‘stalk (v), lie in wait for’
	c.	—	—	gō-gō	Fl Ma	‘(eyes) blink’
		—	—	gū-gū	Fl	"
	d.	sɔ̀-sɔ́	sɔ̀-sɔ́	sɔ̀-sɔ́	Fl	‘contradict, disagree with’ (< Jula)
	e.	tɛ̀-tɛ́	tɛ̀-tɛ́	tɛ̀-tɛ́	Ji	‘(baby) take first steps’
		tɛ̀-tɛ̄	tɛ̀-tɛ́	tɛ̀-tɛ̄	Fl	"
	f.	kè-klē	kè-klē	kè-klē	Ji	‘ruin, damage’
		kè-klēʔē	kè-klēʔē	kè-klēʔē	Fl	"

While (703f) is obscurely related to equally invariant kèʔè/kèʔè/kèʔè ‘ruin’ or ‘be ruined’, none of the reduplicatives in (703) is a productive derivational iteration.

See also the discussion of dɔ́-dɔ̄ ‘be lacking, be missing’ in §10.1.6.3 above.

10.2 Positive indicative categories

At the level of narrow verb phrase (verb plus preverbal inflectional particles), the positive (=affirmative) indicative categories are those in (704). Except for the progressive, which preposes the direct object to the verb, the clause-level order is S-(infl-)V-O-X.

(704)	category	particle	verb stem
	a. perfective positive system		
	perfective (positive)	—	Pfv
	BE future perfective	bè	Pfv

b. imperfective positive system		
imperfective	à	Ipfv
BE future imperfective	bè	Ipfv
c. future positive system		
NA future	nà	base
d. progressive positive system		
progressive	kō	progressive + postposition

The most common future is the NA future. The less common BE future divides into perfective and imperfective subtypes.

Only the most basic TAMP (tense-aspect-mood-polarity) categories are described here. Some verb-verb compounds (§15.1) and verb plus infinitival VP constructions (§15.2) express related categories including relative tense, initiation or completion of actions, and experiential perfect 'have ever VP-ed'.

Deontic modals including imperative and hortatives are covered in §10.4 below.

10.2.1 Perfective positive system

In addition to the simple perfective described below, see the experiential perfect ('have ever VPed') with -ɲɔ́ (§15.1.4.3) and the 'finish VPing' with -kɔ̄ 'finish' (§15.1.3.6).

10.2.1.1 Perfective (positive)

10.2.1.1.1 Perfective clause with Pfv stem without particle

The perfective (positive) at narrow verb-phrase level consists of the Pfv stem with no preceding inflectional particle. It is the only indicative construction with zero inflectional particle. In simple main clauses, it corresponds roughly to English past tense.

(705)	a.	nó	bà	kúʔúⁿ
		1Sg	come.**Pfv**	today

'I came today.' (Ji)

b.	[ē	wùʔɔ́]	jùɔ̀ⁿ	nó
	[Art	snake]	bite.**Pfv**	1Sg

'A/The snake bit me.' (Ji)

A perfective clause presents an event as having occurred and been completed in a time interval preceding the moment of speaking or some other temporal reference point.

In past-time narratives, the frequency of perfective clauses is less than one would expect. Sprinkled among true perfective clauses are many infinitival VPs for same-subject sequences, and infinitival clauses including subjects for different-subject sequences

(§15.2.1.1). For example, in (706) the infinitival clauses (especially ‘return’) occur instead of perfective clauses.

(706)	ɔ̄ⁿ	[sɛ̀ⁿ-glō]-kɔ̄	[dáʔá	jə̀rɔ́ⁿ],
	3AnSg	[take.off.Pfv]-finish.Base	[time	Rel],

	[ē	sə̀ròʔò]	ò	klá	[ò	ɔ́ʔɔ́-tɔ̄ⁿ]
	[Art	baobab]	**Infin**	return.Base	[**Infin**	shut.Base]

‘When she (=hare) had finished picking (them) out, the baobab closed up again.’
(Bi, 2017-08 @ 02:02)

The perfective construction can occur in contexts where an explicitly stative-resultative verb form would be required in many other languages. This is not the case with stative adjectival predicates like ‘be red’, which are Ipfv-like in form. It is the case with verbs of stance (‘sit’, ‘stand’, ‘lie down’, and so forth). In Tiefo-D there is no consistent distinction between ‘X sat down’ and stative ‘X is sitting (=seated)’, cf. Fr *il s’est assis* versus *il est assis*. The alternative translations in (707) should be understood to be stative (not progressive) in spite of the ambiguity in Eng *is sitting* etc.

(707)	zàkí	sɛ̄ⁿ / yīʔē-ʃìʔì / tə̀rɛ̀ⁿ
	Z	lie.down.**Pfv** / get.up.**Pfv** / sit.**Pfv**

‘Zaki lay down / got up / sat down.’
or: ‘Zaki is lying down (=prone) / standing (=erect) / sitting (=seated).’ (Ji)

One might interpret the stative translations (‘be prone/erect/seated’) as reflecting implicatures from the semantically primary change of state (‘lay down/stood up/sat down’), rather than being directly asserted by the Pfv verb. However, this is difficult to reconcile with examples like (708). For kā= à-dàⁿ see (1204a) below.

(708)	zàkí	tə̀rɛ̀ⁿ	mā,	kā=	à-dàⁿ	kúⁿʔúⁿ
	Z	sit.**Pfv**	there.Def,	Infin	come.Base-arrive.Base	today

‘Zaki is still sitting (=seated) (there).’ (Ji)
(lit. “Zaki is seated (=has sat) there, until today/now”)

Similarly, the verb kùɔ̀ⁿ/kɔ̄ⁿ/kɔ̄ⁿ ‘know, realize’ (Fr *savoir*) typically occurs in the perfective in present-time stative contexts, as in ‘X knows/realizes that …’. The nuance is somewhat like the English perfect *have found out* (709).

(709)	nóⁿ	kùɔ̀ⁿ	jə̀rɔ́ⁿ …
	1Pl	know.**Pfv**	Rel …

‘what I know of (is that …)’ (Bi, 2017-09 @ 02:34)

The other ‘know’ verb jī tends to mean ‘be familiar with’ (Fr *connaître*) and is always Ipfv.

10.2.1.1.2 Perfective and infinitival echo clauses in narrative

A perfective clause presenting a foregrounded event in a narrative may be repeated more or less verbatim as a perfective echo clause, to set up the next foregrounded event. The first clause ends with low pitch marking completion. The perfective echo clause ends in nonlow pitch marking incompletion (710).

(710) ɔ̀ⁿ ŋò mɛ́ⁿ-kǒ= [Ø cīɔ̄ⁿ],
3AnSg Infin throw.at.Base-kill.Base [Art bird],
ɔ̀ⁿ mlɛ̄ⁿ-kǒ= [Ø cīɔ̄ⁿ],
3AnSg throw.at.**Pfv**-kill.Base [Art bird],
ɔ̀ⁿ kō kɔ̄ʔɔ̄ [Ø cīɔ̄ⁿ-bə̀ràʔà]
3AnSg Infin pluck.out.Base [Art bird-hair]
‘He then hit and killed the bird (with a rock). Having hit and killed the bird, he plucked out the feathers.’ (Bi, 2017-08 @ 07:39-41, edited)

Other examples from the same Bi speaker and the same text are @ 02:07, 07:10, 08:08, and 08:23.

If the first clause is itself an infinitival clause or VP, the echo clause mirrors the infinitival form. This is the case in (711), where both infinitival clauses are imperfective (denoting habitual event sequences in the past).

(711) ó gō rà-à-cīⁿ [bè tɔ̀ʔɔ̀]],
1Pl Infin go.Ipfv-Ipfv-spend.night.Ipfv [Dem.Def place]],
donc ó gō rà-à-cīⁿ [bè tɔ̀ʔɔ̀],
so 1Pl **Infin** go.Ipfv-Ipfv-spend.night.Ipfv [Dem.Def place],
[k-ā cɥ̀ĭ= [Ø kə̀-rá]
[Infin-Ipfv kill.Ipfv [Art meat-Pl]
‘We would go and spend the night at that place. So, having gone and spent the night there, we would kill wild animals.’ (Bi, 2017-10 @ 03:26-28)

This echo construction is distinct from repetition(s) of a perfective clause denoting multiple identical events.

10.2.1.2 Perfective future with bè plus Pfv (BE-future)

One future construction has post-subject particle bè followed by a Pfv verb. bè is raised to M-toned bē before an L-tone, as in bē bà ‘will come’. Whether it is raised or not, a preceding L-toned third-person subject pronominal cannot raise, so 3AnSg ɔ̀ⁿ remains L-toned in both ɔ̀ⁿ bē bà ‘he/she will come’ and ɔ̀ⁿ bè klɛ̄ ‘he/she will return’. This suggests a possible M-toned reconstruction *bē for the future particle. The b in bè can be fully nasalized (to mè) in Bi dialect after a nasalized vowel (§3.4.4.3). Also of possible diachronic interest is the occurrence of a mysterious optional ò after bè, attested only in the combinaton bē ò bɛ̄ⁿ ‘will be equal’, see (913a) in §12.2.2.

Perfective BE-futures denote single events. For a less common imperfective BE-future denoting multiple future events, with bè plus Ipfv verb, see §10.2.2.2 below.

The idea that future bè is etymologically related to Ipfv bē ‘come(s)’ is suggestive but doubtful, even if we reconstruct the future particle as *bē. An Ipfv verb requires a preceding Ipfv particle à, which is absent in the BE-future. A more tortuous etymological relationship cannot be ruled out, however.

Winkelmann states that the (perfective) bè future differs from the nà future in that bè indicates that the future event is certain to happen, while nà expresses an intended action. This implies that 1Sg subject (and logophoric subject) should be usual in NA-futures but uncommon in BE-futures. This is broadly verified by our data, though the situation is a bit more complex.

Examples of elicited BE-futures are In (712a-c). These are from the Ji speaker who generally preferred NA-futures in elicitation. Our Fl speaker, on the other hand, tended to prefer BE-futures in elicitation.

(712) a.

[ē	wùʔú]	bē	dìè-só
[Art	house]	**Fut**	fall.**Pfv**

‘A/The house will fall.’ (Ji)

b.

zàkí	bē	gbǎ=	[Ø	bū^{n}ʔɔ̄^{n}]
Z	**Fut**	hit.**Pfv**	[Art	dog]

‘Zaki will hit a/the dog.’ (Ji)

c.

nó	bē	ɲà	=ò
1Sg	**Fut**	see.**Pfv**	3AnSgObj

‘I will see him/her.’ (Ji)

The textual excerpts of perfective BE-futures in (713) are from an extended passage that describes tasks that are planned by the community (roadsigns will be erected to attract tourists to the local grotto). The futures have the flavor of ‘are to be installed’, ‘are to be planted’, ‘is to be done’.

(713) a.

[à=	Ø	gbāʔā]	à	bè	tīē	[ānàʔà	pà-pàʔà],
[3Inan	Ipfv	be.big.Ipfv]	3Inan	**Fut**	be.put.down.**Pfv**	[face	flat],

kō	lè	[à	tīē-kà]
Infin	show.Base	[3Inan	put.down.Pfv-manner]

‘It (=road sign) is big. It will be installed broadside (i.e. facing motorists), to show (=enhance) its installation position.’ (Ji, 2017-11 @ 08:35)
(bè tīē repeated later @ 09:27)

b.

donc	[è	plákí]	bē	kpɛ̀^{n}ʔɛ̀^{n}
so	[Art	sign]	**Fut**	be.planted.**Pfv**

‘So road sign(s) will be planted (=erected) …’ (Fl, 2017-11 @ 09:15)

c. wálà→, [[bè tóʔ] =à] [à bē klè kà-tó]
voilà, [[Dem.Def Foc] it.is] [3Inan **Fut** be.done.**Pfv** like.that]
'Right. That (way) [focus] is how it will be done.' (Ji, 2017-11 @ 09:19)

The textual examples in (714) are from conditionals, which foreground the truth value of each clause.

(714) a. dè [jó= ò bà bè yīēʔē] [dè *bon*]
say.Pfv [if 3Pl if **Fut** go.**Pfv**] [say.Pfv well]
dè bá= à jī= [[Ø ʃíó-kɛ̀ⁿ jī] tɔ̀ʔɔ̀]
say.Pfv LogoSg Ipfv know [[Art magician Indef] place]
'(Hare:) said: "if you-Pl will go (that way), well, I know the location of a magician." ' (Fl, 2017-05 @ 02:08)

b. jɔ́ =ɔ̄ⁿ nè jūʔɔ̄ [Ø làⁿ-ní] [[ē cīɔ̄ⁿ] bàʔà],
if 3AnSg IpfvPast hear.Base [Art advise-VblN] [[Art bird] Dat],
dáʔá-ʃìʔé ɔ̀ⁿ bè būō [ɔ̀ⁿ míⁿʔáⁿ]
at.that.time 3AnSg **Fut** get.**Pfv** [3AnSgRefl Refl]
'If he (=hyena) had listened to advice from the bird, then he would have gotten (=saved) himself.' (Bi, 2017-08 @ 11:00)

c. [jó= ɔ̀ⁿ mà bē tə̀rɛ̀ⁿ-pɔ̄ⁿ,
[if 3AnSg if **Fut** sit.**Pfv**-be.able.Base,
ɔ̀ⁿ wō dò =nì
3AnSg Infin say.Base 3InanObj
‘‘If he can (=is willing to) be seated (=serve as chief), he says (it).'
(Ma, 2018-01 @ 01:17)

d. móⁿ bē dè—, móⁿ mā dè …
2Sg **Fut** say.**Pfv**—, 2Sg if say.Base …
'you will say—, if you say (that …)' (Bi, 2017-08 @ 06:11)

The remaining textual examples express foregrounded, momentous future events (715). This is obvious in (715a-c). In (715d), the event is key to a young woman's winning a husband. In (715e), Hyena slyly plots to impersonate a singer at a future time in order to catch his prey.

(715) a. dē [kɛ̀ⁿ á] bē kùò bùò
Quot [fellow Dem.An.Sg] **Fut** kill.**Pfv** 2Pl
'(He) said, "the fellow will kill you-Pl." ' (Ma, 2017-04 @ 01:42)

b. [yúó jə̀rɔ́ⁿ] bē sùtə̄rá móⁿ] [máⁿ= áⁿ kɔ̄ⁿ =ʔ]
[person Rel] **Fut** bury.**Pfv** 2Sg] [2Sg PfvNeg know.Base Neg]
'You-Sg don't know who (=which of your children) will bury you.'
(Bi, 2017-07 @ 09:51)

c. [ē jṳ̀ʔɛ́] bē ʃìʔɛ̀ [[mó^{n} fə́rá^{n}] dó] [ɔ̀^{n} mó^{n}] dò
[Art God] **Fut** give.**Pfv** [[2Sg too] Poss.Inan] [Dat 2Sg] Emph
‘God will truly give you your share too.’ (Bi, 2017-08 @ 10:33)

d. ɔ̀^{n} mē ɲà [ā tɔ̀ʔɔ̀]
3AnSg **Fut** see.**Pfv** [3Inan place],
‘(She said:) “You-Sg will see its (=the) place.” ’
(women, 2017-13 @ 02:48)

e. [bó fə́rá^{n}] bē bà
[3AnSg too] **Fut** come.**Pfv**
[gā= à-wō [Ø də̀rì^{n}ʔ= ā̂=]] [Ø kō jī]
[Infin come.Base-sing.Base [Art song Dem.InanSg]] [Art day Indef]
‘(Hyena thought:) “I too will come and sing this song some day.” ’
(Bi, 2017-07 @ 01:45)

Few textual examples of perfective BE-future have a true first person subject, partially confirming Winkelmann’s analysis. The examples involve predictions of dramatic events, statements of tasks that ‘are to be’ carried out, and conditionals. In different ways they all foreground the truth of the future event.

10.2.1.3 Future bè =ʔí- ‘will go and …’

In constructions of the type [X *go* [Infin *go*.Base-Vb2.Base …] with ‘go’ echoed as a semantically redundant Vb1 in a verb-verb compound after the infinitival morpheme kō, the second ‘go’ takes a dialectally variable form differing from that of main-clause yīʔē/yíʔí/yíʔí ‘go’. Our Fl speaker has kò ó-, reducible to k= ó- in allegro speech (§15.2.3.3.1). He has a similar modification of ‘go’ as Vb1 when the compound follows future nà, hence nà á- ‘will go and …’ (§10.2.3.2).

After future bè, the Fl speaker has bè =ʔí-Vb2 ‘will go and Vb2’. Compare the future with uncompounded ‘go’ (716a) with the compounded form in (716b). Vb2 takes base rather than Pfv form in compounds. A fuller construction with kò ó- as infinitival add-on is (716c).

(716) a. ɔ̀^{n} bè yīʔē
3AnSg Fut go.Pfv
‘He/She will go.’ (all)

b. ɔ̀^{n} bè =ʔí-sɛ́^{n}
3AnSg Fut **go.Pfv**-lie.down.Base
‘He/She will go and lie down.’ (Fl)

c. ɔ̀^{n} bè yīēʔē [kò ó-sɛ́^{n}]
3AnSg Fut go.Pfv [**Infin** **go.Base**-lie.down.Base]
‘He/She will go and lie down.’ (Fl)

Since glottal stop does not normally occur word-initially, we conclude that =ʔí- is phonologically encliticized to bè. We transcribe bè =ʔí- with the enclitic boundary =.

Although =ʔí occurs in a construction calling for a Pfv verb, =ʔí sounds more like a contraction of base yíʔí (for Fl, yīʔí) than one of Pfv yīʔē.

10.2.1.4 Combinations nà bè and nà kò

When the two rival future markers, nà and bè, seemingly combine, the result is an irrealis statement ('would VP' or 'would have VPed'). We attribute the shift in meaning to the nà morpheme which we gloss as CFact (counterfactual) in this combination. This morpheme has a similar epistemic shift in the combination nà kō.

See §16.4.6 for nà bè and §16.4.7 for nà kò.

10.2.2 Imperfective positive system

10.2.2.1 Imperfective positive with à plus Ipfv

An imperfective positive verb phrase has L-toned particle à before a verb in its Ipfv stem. à raises to ā before an L-tone (§3.6.2.1), but it is still subtly distinct tonally from PfvNeg á. The perfective negative construction also uses the base stem of the verb.

Imperfective clauses are the usual way to express recurrent, often habitual events, cf. the English simple present: *see(s)*, *eat(s)*. In narratives that are clearly set in the past, a simple imperfective may occur without an overt past marker.

(717) are simple imperfective positives with à plus an Ipfv verb. As long as à is present, the imperfective positive construction is easily recognized, even if the verb has identical base and Ipfv forms. 'See' and 'eat (meat)' (717a-b) do distinguish the two. 'Exit' has glú for both base and Ipfv, but because à is present, (717c) is unmistakably imperfective positive at narrow VP and at clause level.

(717)	a.	zàkí	ā	ɲɛ̀	nó
		Z	**Ipfv**	see.Ipfv	1Sg
		'Zaki sees me (regularly).' (Ji)			

b.	[mó	sē]	ā	kɛ̆=	[Ø	kàʔá]	=ā
	[2Sg	father]	**Ipfv**	eat.meat.Ipfv	[Art	meat]	Q
	'Does your-Sg father eat meat?' (Ji)						

c.	ná=	à	glú
	1Sg	Ipfv	exit(v).Ipfv
	'I go out.' (Ji)		

This à is distinct from 3Inan pronominal à, though the two are homophonous and show the same tonal behavior. The inanimate pronominal occurs either clause-initially (as subject) or postverbally (e.g. as PP complement, or as possessor). Ipfv à always immediately follows a nonzero subject (or infinitival kō) and is therefore never clause-initial or postverbal.

3Inan à and Ipfv à combine as à= Ø, pronounced [à] without vocalic lengthening. The distinction between the perfective positive with simple 3Inan à and the imperfective positive à= Ø is made by the choice of verb stem (Pfv versus Ipfv), and/or by raising of à but not à= Ø to M-tone before L-tone (718a-b). Likewise with 3AnSg ɔ̀ⁿ versus imperfective ɔ̀ⁿ= Ø, and with 3Pl ò versus imperfective ò= Ø.

(718)	a.	à	klɛ̄	'It returned.'
		à= Ø	klá	'It returns.'
	b.	ā	dìè-só	'It fell.'
		à= Ø	dī-à-ʃí	'It falls.'

Like PfvNeg particle á, Ipfv à fuses partially with 1st/2nd person and logophoric subject pronouns. For example, 1Sg imperfective nó à often contracts as nɔ́= à or ná= à. and the final o of 1Pl é-yùo and of 2Pl or LogoPl bùò is elided (é-yù= à, bù= à).

For the full set of contractions of proclitic subject pronominals with Ipfv à, see the right-hand column in (130) in §3.4.6.3.

In all combinations with Ipfv à except those with third-person proclitics, Ipfv à is raised to M-tone before an L-initial verb stem (§3.6.2.1). This applies after pronominal as well as noun-headed NP subjects. For example, 1Sg nó à is realized before L as nó ā, nɔ́= ā, or ná= ā.

Further examples of imperfective clauses with dynamic (i.e. aspectually sensitive) verbs are in (719).

(719)	a.	mɔ́=	ā	kɛ̆=	[Ø	kàʔá]	=ā
		2Sg	**Ipfv**	eat.meat.**Ipfv**	[Art	meat]	Q

'Do you-Sg eat meat?' (Ji)

b.	ɔ̀ⁿ	=Ø	bē	[kɔ̀-kɔ̀	bíɛ́ʔ]
	3AnSg	**Ipfv**	come.**Ipfv**	[Rdp-day	all]

'He/She comes every day.' (Ji)

c.	[bó	à	sīⁿ	[Ø	[kē-ʃùⁿʔɔ̀ⁿ]]	ʃiɲá]	nī
	[LogoSg	**Ipfv**	work(v).**Ipfv**	[Art	[work(n)]]	situation]	Loc

'(He said:) "(This is) the way I work (=do things)." ' (Fl, 2017-03 @ 00:45)

d.	[[ē	jɥ̀ɛ̀ʔɛ́]	bā	dɛ̆=	[Ø	kɛ̆-kɛ̆]]
	[[Art	God]	if	say.Pfv	[Art	Rdp-matter]]
	[[bè	tōʔá=]	ā	klè]		
	[[Dem.Def	Foc]	**Ipfv**	be.done.**Ipfv**]		

'If God says (=ordains) things, that [focus] is how it happens.'
(Fl, 2017-03 @ 03:13)

The imperfective is usual for mental verbs jī 'know', sɔ̀^{n} 'think (believe)', fā 'look for, and seek; want', denoting current mental states.

(720) a. é, mó à jī̀= [[Ø blí-kɛ́] kě]
ah!, 2Sg **Ipfv** know.**Ipfv** [[Art hare] matter]
'Ah! You know about hare.' (Ji, 2017-01 @ 01:05)

b. dè [jó bó =ō sɔ̀^{n}] dè …
Quot [if 3AnSg **Ipfv** think.**Ipfv**] that …
'… that if he thinks that …' (Ji, 2017-01 @ 04:00)

c. nó, kétɛ̀klú à fā [*commencer* =nì]
1Sg, (name) **Ipfv** seek.**Ipfv** [begin 3InanObj]
'I, Keteklu, want to begin it …' (Ma, 2017-02 @ 00:02)

Like the English present tense, the Tiefo-D imperfective can be used loosely for a future event.

(721) ŋ̀ bā dè [má= ā klɛ̄= [Ø kě]]
2Sg if say.Base [2Sg **Ipfv** do.**Ipfv** [Art thing]]
'if you-Sg say (=intend) that you (will) do a (certain) thing, …'
(Fl, 2017-03 @ 02:54)

Ipfv à also occurs with various predicates that denote stative qualities (722); see also §11.4.1 on adjectival predicates.

(722) [bó dó] ā cò
[3AnSg however] **Ipfv** be.clever.**Ipfv**
'It (=hare) however is shrewd.' (Fl, 2017-05 @ 00:36)

Ipfv à is not part of the identificational 'it's X' construction (§11.2.1), and it does not combine with copula kō 'be' (§11.2.2). Ipfv à does combine with the homophonous infinitival morpheme kō as k=ā, followed by an Ipfv verb (§15.2.2).

10.2.2.2 Imperfective future with bè plus Ipfv

To indicate that the future event may recur, it is possible to have bè followed by an Ipfv rather than the usual Pfv verb. (723b) is the imperfective version of (723a).

(723) a. zàkí bē kùò mó
Z Fut hit.**Pfv** 2Sg
'Zaki will hit you-Sg (once).'

b.	zàkí	bē	cɥ̀ì	mó
	Z	Fut	hit.**Ipfv**	2Sg
	‘Zaki will hit you-Sg (more than once).’			

We have no textual examples of the imperfective BE-future. This is likely because the simple imperfective can be used in future contexts.

10.2.2.3 Past habitual with nǎ plus Ipfv

This construction has post-subject particle nǎ (Bi nǎ^{n}) plus Ipfv verb form. An example is nǎ^{n} ɲī^{n} ‘used to drink’ (Bi). With its phonetic prolongation and with its rising tone, which is not lowered before an H-tone, nǎ sounds like it should be decomposible, for example into a past morpheme and an aspectual morpheme. However, there are no obvious candidates for either part. The past morphemes are dialectally variable (tá, dè, etc.), and Bi dialect dè is nasalized to nè only after a nasal syllable. As for the second element, PfvNeg á would be a good choice phonologically, but it is semantically disconnected.

nǎ Vb.Ipfv (past habitual) is distinct in both form and function from nà á-Vb.Base, which is the NA-future of a verb-verb compound beginning with the á- allomorph of ‘go’ (§10.2.3.2). The difference between the two constructions is clear when the verb has distinct base and Ipfv stems.

Textual examples: (724a) is a main clause, while (724b) is a relative clause.

(724)	a.	… [Ø	ná^{n}-dì-ɔ̀]	nǎ^{n}	klè	bè-yá-ró
		… [Art	elder-Pl]	**PastHabit**	do.Ipfv	thus
		‘… the elders used to do that.’ (Bi, 2017-10 @ 02:50)				

b.	bùò	nǎ	ʃī^{n}=	[Ø	bə́rá	jə̀rɔ́^{n}]
	LogoPl	**PastHabit**	work(v).Ipfv	[Art	work(n)	Rel]
	‘(said:) “the work that we used to do …” ’ (Ji, 2017-04 @ 05:50)					

More examples occur at the beginning of texts from 2019-03 to -10, which describe traditional agricultural and ritual practices that are no longer performed.

This construction with nǎ competes with the regular past imperfective, e.g. Fl past tá à plus Ipfv verb (§10.3.1.3) or Bi IpfvPast dè plus Ipfv verb (§10.3.1.8). The past imperfective can be used in past habitual contexts (among others), as in 2017-10 @ 03:41 (‘that is what we used to eat’).

10.2.3 Future positive system

We elevate the NA-future to constitute its own subsystem. The NA-future allows no aspectual marking. It differs in this from the BE-future, which has both perfective and imperfective versions.

In competition with all three explicitly future constructions (with bè and nà), the simple imperfective construction (with à) can describe future events, roughly as in English (*Tomorrow I go to Bobo*).

10.2.3.1 Future (positive) with nà plus base (NA-future)

A marked, explicitly future VP is characterized by post-subject particle nà, followed by the base of the verb. The 1Sg combination nó nà and the 2Sg combination mó nà sometimes contract in allegro speech to ná= à and má= à, respectively. This has the unfortunate consequence of merging the future with the imperfective. Ambiguity is averted when the following verb distinguishes base (used in the NA-future) from Ipfv stems.

The use of the base, rather than Pfv or Ipfv which follow the rival future particle bè, suggests that the NA-future is aspectually unmarked. Phonologically, nà does not raise to M-toned before an L-tone as some other Cv̀ particles do (§3.6.2.1), and it does not allow a preceding L-toned pronominal proclitic to raise.

The NA-future was regularly produced by our Ji assistant in elicitation based on cues in future tense (in French). Examples are in (725).

(725) a. zàkí nà bà
Z **Fut** come.**Base**
'Zaki will come.' (Ji)

b. zàkí nà gɔ̌= [Ø bū^{n}ʔɔ̄^{n}]
Z **Fut** hit.**Base** [Art dog]
'Zaki will hit a/the dog.' (Ji)

c. nó nà dɔ̀ fā^{n}ʔā^{n}
1Sg **Fut** sleep.**Base** here
'I will sleep here.' (Ji)

The NA-future is called "Intentionalis" by Winkelmann on the grounds that the future eventuality is intended (*intendiert*) by the subject. Many examples in our data support this. However, the NA-future is so common in texts and elicitation that it is best analysed as the unmarked future. In some of our examples, it goes beyond voluntary acts by animate agents. (726a) has an inanimate subject that can be construed as a willful agent only with difficulty. (726b) has a human subject that will suffer an unwished-for accident.

(726) a. [ē cɔ̄^{n}] [Ø blɔ̄] nà wó
[Art tomorrow] [Art rain(n)] **Fut** rain.fall.**Base**
'Tomorrow (the) rain will fall.' (= '… it will rain.') (Ji)

b. [è ná^{n}-bí] nà dì-só
[Art person] **Fut** fall.**Base**
'The person will fall down.' (Ji)

In the textual examples (727), the future event is hypothetical to varying extents, i.e. its future realization is not strongly asserted.

(727) a.

bè	nà	plé
Dem.Def	**Fut**	be.better.Base

‘That (course of action) will (=would) be better.’ (Fl, 2017-11 @ 09:23)

b.

[ē	klòʔó]	mà	bú	[à	nī],
[Art	road]	if	be.gotten.Base	[3Inan	Loc],

à	nà	dáⁿ	[ɔ̀ⁿ	[ò	bíɛ́ʔ]]
3Inan	**Fut**	please.Base	[Dat	[3Pl	all]]

‘If the road is gotten therein (=thereby), it will please everybody.’
(Ji, 2017-11 @ 07:32)

c.

fɔ́→	[jə̀rɔ́ⁿ	jū→]	wùɔ̀ʔɔ́,
must	[Rel	eye]	be.open.Base,

[bó	tòʔó]	nà	ɲī	bùò
[3AnSg	Foc]	**Fut**	see.Base	2Pl

‘It must be one whose eyes are open (=who can see), he [focus] will (be able to) see you-Pl.’ (Ma, 2017-04 @ 02:02)

d.

bon,	é-yùò	nà	sūʔɔ̄=	[Ø	bí-mlɛ̀ⁿ]	[ɔ̀ⁿ	bùò]
well,	1Pl	**Fut**	give.Base	[Art	how.much.money]	[Dat	2Pl],

‘Well, how much money shall we give you-Pl?’ (Ji, 2017-04 @ 05:14)

In (728), the NA-future is a kind of complement to an existential predicate. For this construction, which can be positive or negative, see §17.7.1.

(728)

[ē	dìɛ̀]	ní-mā	[nà	tɔ́]	=ʔ
[Art	sauce]	not.be	[**Fut**	sauce.be.cooked.Base]	Neg

‘There was no sauce to cook.’ (Fl, 2017-05 @ 00:57)

Example (729a), consistent with Winkelmann’s interpretation, expresses the speaker’s or the subject’s intended future action. However, (729b) is clearly nonvolitional.

(729) a.

nó	nà	fūɔ̄ⁿ	[Ø	cī],	kúⁿʔúⁿ
1Sg	**Fut**	soak.**Base**	[Art	grain]	today

‘I will soak (sorghum) grain, today’ (women, 2017-17 @ 00:12)

b.

donc	jó=	ǒ=	Ø	tì-ɲɔ́=	[à	ūⁿʔúⁿ],
so	if	3Pl	PfvNeg	go-look.at.Base	[3Inan	head],

á!	[bó	nà	wú	[[yá	bè]	nī]]
ah!	[LogoSg	**Fut**	die.**Base**	[[Dem.InanSg	Top.Inan]	Loc]]

‘So, if you-Pl don’t go and do a consultation (with a magician), I will die in this state.’ (Fl, 2017-05 @ 01:49)

10.2.3.2 Future nà á- ‘will go and …’

In constructions of the type [X *go* [Infin *go*.Base-Vb2.Base …] with ‘go’ echoed as a semantically redundant Vb1 in a verb-verb compound after the infinitival morpheme kō, the second ‘go’ takes a form differing from that of main-clause yīʔē/yíʔí/yíʔí ‘go’. Our Fl speaker has infinitival kò ó- ‘and go-’, reducible to k= ó- in allegro speech (§15.2.3.3.1). A similar modification takes place with future bè, hence bè =ʔí- ‘will go and …’ (§10.2.1.3).

There is a similar construction with future nà. Compare simple ‘will go’ (730a) with ‘will go and …’ (730b).

(730) a. ɔ̀^{n} nà yíʔí
3AnSg Fut go.Base
‘He/She will go.’ (all, with minor tonal variants for yíʔí)

b. ɔ̀^{n} nà =á -sɛ́^{n}/-tə̄rā^{n}
3AnSg Fut **go.Base**-lie.down.Base/-sit.Base
‘He/She will go and lie down (=go to bed)/sit down.’ (Fl Ji)

A textual example is (731).

(731) ō dè [bùò nà á-kùʔɔ̀
3Pl say.Pfv [LogoPl **Fut** **go.Base**-remove.leaf.Base
[ā sə̀rɔ̀ʔò-dɔ̄^{n}ʔɔ̄^{n}]]
[3Inan baobab-sticky.sauce]]
‘They said: “We’ll go strip off (leaves) for its baobab-leaf sticky sauce.” ’
(Fl, 2017-05 @ 00:58)

This nà á- is homophonous with past habitual nǎ, but the latter is followed by the Ipfv stem of the verb (§10.2.2.3).

10.2.4 Progressive system

While semantically the progressive is most naturally allied with the imperfective, its morphosyntax and morphology in Tiefo-D require separate treatment.

10.2.4.1 Morphosyntax of the progressive

The progressive construction has the ingredients in (732). The form of the verb is discussed in the next subsection.

(732) a. kō ‘be’ (or pɛ̄^{n} ‘remain’) in post-subject position;
b. object NP preceding (rather than following) the verb;
c. verb is followed by nī, originally the locative postposition.

The formula can be represented as (733). The brackets suggest that [O Vb.Prog] originally functioned as the complement of the locative position. This in turn suggests that O, although an open-ended NP, was originally and perhaps still is a kind of compound initial for the verb, and that the verb form was nominal in function.

(733) S kō [[O Vb.Prog] nī] …
‘S is (engaged) in O-VERB(ing)’

A construction of this form is likely a slight modification of an original construction where the verb was a verbal noun. This combination of verbal noun and locative nī, without kō ‘be’, occurs in texts (734). -ní nī often reduces to [ńnī] or [ńn̄] in these examples, and may reduce even further. For example, kpàʔà-ń nī (734b) sounds like [kpàʔá̰à̰] on the recording, with tones pointing to the correct morphosyntax in spite of some segmental attrition.

(734) a. [ɔ̀ⁿ klè-ń] nī ‘(she) doing’ Bi, 2017-07 @ 05:13
b. à-māⁿ [Ø kpàʔà-ń] nī] ‘was in poverty’ Bi, 2017-08 @ 03:44
c. [è sóʔó-ní] nī ‘falling to ground’ women, 2017-16 @ 00:15
d. gō [dìè-ń nīⁿ] ‘was entering’ Bi, 2017-10 @ 04:54

Example (735a) presents a progressive-like construction with a noun (‘something bad’) instead of a verb as complement of the postposition. In (735b) the complement is a verbal noun; this looks very much like the ancestor of the productive progressive construction.

(735) a. bà kō [[[Ø kè] má [[á kòʔó jī] nī]]
if **be** [[[Art matter] IpfvNeg [[Inan be.good Indef] **Loc**]]
‘if (the person) is (involved) in something bad’ (Ma, 2018-02 @ 00:37)

b. dè [Ø ná-bíó] wō [[Ø kɛ̀ⁿʔɛ̀ⁿ-ń] nī]
Quot [Art person.Pl] **be** [[Art ascend.Base-**VblN**] **Loc**]
‘The people are (=will be) climbing there.’ (women, 2017-13 @ 00:54)

However, most progressives cannot be analysed synchronically in the fastion of (733). This is because the verb is not in verbal-noun form, and because when the verb is transitive the object preceding it may be a full NP with its own determiners, plural marking, etc. Our interlinear glosses therefore refrain from over-interpreting the morphological categories. In interlinears we label the verb with “.Prog” and we label the final nī simply as Prog. The form of the progressive verb is taken up in the following subsection.

Constructions like (733) occur in some other West European languages, though we have not mapped this feature geographically. Such constructions stick out clearly in otherwise SVO languages, because of the preverbal position of the object. In addition to Tiefo-D, this is the case in Pere in Côte d’Ivoire, on which one of us has worked. By contrast, in Mande-type S-(infl-)O-V-X languages, there is no sharp difference between progressives and other indicatives since objects precede verbs in all transitive clauses.

There is little danger that the final nī in Tiefo-D progressives could be misparsed as the 3Inan object =nì, a postverbal enclitic. Objects precede rather than follow the verb in progressives, and this applies to pronominal as well as nonpronominal objects. 3Inan object is expressed by proclitic à between kō 'be' and the verb, as in (738a,g) below.

Semantically, the progressive resembles the familiar English construction (e.g. *be sweeping*). In Tiefo-D it can be applied to some mental verbs like kùɔ̀ⁿ\kɔ̄ⁿ\kɔ̄ⁿ 'know', see (750b) in §10.2.5.7 below. There is no progressive for pure statives like jī 'know, be acquainted with'. The progressive does occur with perception verbs, e.g. ɲī 'see'. As in English, a progressive clause typically serves as background against which a new foregrounded event will be highlighted.

Some elicited progressive examples are in (736). As usual, the article ē is usually not heard immediately after kō 'be', which can therefore drop to kò before an H-tone.

(736) a. zàkí kō [bǎ nī]
Z **be** [come.**Prog** **Prog**]
'Zaki is coming.' (< bà) (Ji)

b. zàkí kō [[[Ø būⁿʔɔ̄ⁿ] gɔ̌] nì] kúʔúⁿ
Z **be** [[[Art dog] hit.**Prog**] **Prog**] today
'Zaki is hitting a/the dog today.' (< gɔ̀) (Ji)

c. zàkí kò [[nó gɔ̌] nī]
Z **be** [[1Sg hit.**Prog**] **Prog**]
'Zaki is hitting me.' (Ji)

d. nó kò [dí nī]
1Sg **be** [eat.**Prog** **Prog**]
'I am eating.' (Ji)

e. nó kò [[[máⁿgòrò yá] dí] nī]
1Sg **be** [[[mango Dem.InanSg] eat.**Prog]** **Prog**]
'I am eating this mango.' (Fl)

f. nó kò [[[Ø bɔ́ [ò jɔ̄ⁿ] kɔ̄-yùò] dɔ̌] nī]
1Sg **be** [[[Art sheep.Pl [Pl two] Dem.AnPl] buy.**Prog**] **Prog**]
'I am buying these two sheep.' (Ji)

g. zàkí kò [[[Ø lóʔó] té] nī]
Z be [[[Art attention] put.down.**Prog**] **Prog**]
'Zaki is paying attention.' (Ji)

In the texts, the most common verb in progressives is 'come', including 'come [with X]' meaning 'bring X', and including compounds like klá-bà 'come back'. Three examples are in (737a-c), followed by one example with the other major motion verb 'go' (737d).

(737) a. ɔ̄ⁿ kò [klá-bǎ nī] [bì tɔ̀ʔɔ̀] =dɛ̄ʔ
3AnSg **be** [return.Base-come.**Prog** **Prog**] [Dem.Def place] Emph
'He was coming back (to) that very place!' (Fl, 2017-02 @ 01:05)

b. jí   mó   kō   [bǎ   nī]   [kà   [Ø   fɛ́]],
if   2Sg   **be**   [come.**Prog**   **Prog**]   [with   [Art   talk(n)]],
mó   dè   jə̀rɔ̄^{n}=   [Ø   tī-tərā^{n}]
2Sg   say.Pfv   Rel   [Art   truth]
‘If you-Sg are bringing the words, what you said is true.’
(Ji, 2017-04 @ 02:08)

c. [ē   yǒ]   =ō   [bǎ   nī]   bè-kā
[Art   woman]   **be**   [come.**Prog**   **Prog**]   like.that
‘The woman was coming.’   (Fl, 2017-05 @ 01:34)

d. [ē   yə̀-ró]   bà   wò   [yíʔí   ñ]   [[Ø   blāʔā]   nī^{n}]
[Art   woman-Pl]   if   be   [go.**Prog**   **Prog**]   [[Art   pond]   Loc]
‘whenever the women were going to the pond’   (Bi, 2017-08 @ 00:30)

The remaining textual examples with kō ‘be’ are in (738).

(738) a. ó   kā=   [[à   jùɔ̀ʔɔ́]   nī]
1Pl   **be**   [[3Inan   hear.**Prog**]   **Prog**]
‘We are hearing (=listening to) it.’   (Ma, 2017-01 @ 00:53)

b. ɔ̄^{n} ɲà   [à   kò   [də́ró-bǎ   nī]]
3AnSg   see.Pfv   [3Inan   **be**   [abound.Base-come.**Prog**   **Prog**]]
‘It (=hare) saw that it (=pile of leaves) was growing.’   (Fl, 2017-05 @ 01:30)

c. [è   bítə́ró]   wō   [gbɛ̌   nī]
[Art   leper]   **be**   [take.**Prog**   **Prog**]
‘The leper was taking his turn.’   (women, 2017-13 @ 01:37)

d. ŋ̀   mà   wō   [[[Ø   kě]   klě]   nī]
2Sg   if   **be**   [[[Art   matter]   do.**Prog**]   **Prog**]
‘if you are doing something’   (Ji, 2017-08 @ 10:53)

e. [ò   dó]   wō   [kèʔé   =nī]
[3Pl   however]   **be**   [ruin(v).**Prog**   **Prog**]
‘And yet they (=elephants) are wreaking havoc.’   (Ji, 2017-09 @ 03:01)

f. ò   kò   [lá-bɛ̌^{n} nī]
3Pl   **be**   [prepare.**Prog**   **Prog**]
‘They are getting ready (=organizing).’   (Ji, 2017-11 @ 07:55)

g. ó   wɔ̄=   [[à   gɔ̌]   nī]
1Pl   **be**   [[3Inan   narrate.**Prog**]   **Prog**]
‘We are telling it (=tale).’   (women, 2017-12 @ 01:15)

h. [ē yō-dɛ̀] wō [[[Ø ɲū] wǒ] nī]
[Art woman-old] **be** [[[Art water] bathe.**Prog**] **Prog**]
‘An old woman was bathing.’ (women, 2017-13 @ 00:35)

i. ɔ̀^{n} gò [cíʔé nī]
3AnSg **be** [clean.**Prog** **Prog**]
‘He was cleaning (it).’ (women, 2017-13 @ 00:43)

There are occasional textual examples involving pìɛ̀^{n}/pɛ̄^{n}/pī^{n} ‘remain, stay’ instead of kō ‘be’, in what is otherwise a standard progressive clause. The difference is persistence: ‘keep VPing’ as opposed to just ‘be VPing’. (739a) has a transitive verb, whose object separates it from ‘remain’, which takes the place of ‘be’. (739b) has ‘remin’ in infinitival form, followed by an intransitive verb.

(739) a. bó pìɛ̀^{n} [[ɔ̀^{n} ɲɔ́^{n}] nī^{n}]]
3AnSg **remain**.Pfv [[3AnSg look.at.**Prog**] **Prog**]]
‘She kept looking at it (=hare).’ (Bi, 2017-08 @ 03:37)

b. ɔ̀^{n} gō pɛ̄^{n} [kpə̀rɛ̀^{n}-ɲɔ́^{n} nī^{n}]
3AnSg Infin **remain**.Base [turn.head.and.look.**Prog** **Prog**]
‘She kept turning her head to look back.’ (Bi, 2017-08 @ 02:56)

See also the section on the progressive negative (§10.2.5.7), with additional textual examples.

10.2.4.2 Form of progressive verb with nī

The morphosyntax of the progressive is described in the preceding section. It remains to consider the form of the verb.

The data in (740) show that the progressive verb is derived from the base of the verb. Monotonal L and M base stems become LH, while monotonal H base stems remain H. Monosyllabic stems that become LH in the progressive lengthen their final vowel to accommodate the contour tone. The kō drops to kò when directly followed by an H-tone, by regular tone sandhi. “…” in (740) shows the position of objects for transitive verbs. Note that ‘is sleeping’ and ‘is buying’ are homophonous, though the base stems differ tonally and the difference in transitivity should avoid confusion (740a). Also homophonous are ‘is carrying (on back)’ and ‘is sacrificing’ (740b).

(740)	base	‘be’	progressive	gloss
a. Cv				
	bà	kō	bǎ nī	‘is coming’
	bá	kò	bá nī	‘is cultivating’
	dò	kō	dǒ nī	‘is speaking’
	dɔ̀	kō	dɔ̌ nī	‘is sleeping’
	dɔ̄	kō …	dɔ̌ nī	‘is buying …’

dɔ́	kō …	dɔ́ nī	‘is sharing …’
fó	kō	fó nī	‘is passing/going past’
gbā^{n}	kō …	gbǎ^{n} nī	‘is sewing …’
gbɛ̄	kō …	gbɛ̌ nī	‘is taking …’
já	kō …	já nī	‘is leaving …’
té	kō …	té nī	‘is putting down …’
yé	kō	yé nī	‘is walking’
b. Clv			
blò	kō …	blǒ nī	‘is carrying … (on back)’
blō	kō …	blǒ nī	‘is sacrificing …’
klà	kō	klǎ nī	‘is hawking (before spitting)’
glú	kò	glú nī	‘is exiting’
klè	kō …	klě nī	‘is doing …’
c. Civ, Cuv			
pìè	kō …	pìé nī	‘is frightening …’
cùà^{n}	kō …	cùá^{n} nī	‘is measuring …’
d. CvCv			
càʔà	kō …	càʔá nī	‘is drying … out’
bāʔā	kō …	bàʔá nī	‘is ruining …’
dóʔó	kō …	dóʔó nī	‘is concealing …’
kə̀rà^{n}	kō	kə̀rá^{n} nī	‘is reading’

In compound verbs, only the final element is affected: də̄rā-lò ‘strip (palm fronds)’, progressive kō … də̄rā-lǒ nī ; klá-bà ‘come back’, progressive kò klá-bǎ nī.

10.2.5 Negation of indicative verbs

10.2.5.1 Clause-final glottal

As in some other languages of the zone, negative indicative main clauses often end in a glottal stop, pronounced at the end of the final word. We represent it as an enclitic =ʔ. Examples occur in the following sections.

The glottal is not always present, or at least is not always audible to our ears. In texts we do our best to capture what we hear, but readers should not put too much trust on this aspect of our transcriptions. We are usually unable to detect the negative glottal after an already glottalic sesquisyllable. The glottal is often omitted in long clauses, or in negative clauses that run into following clauses without a prosodic break. It is often absent from prohibitives (negative imperatives).

Clause-final elements that specifically block negative =ʔ include polar interrogative =ā→ or variant (§13.2.1.1), and (w)ò ~ yò ‘or; whether’ at the end of paired ‘whether or not’ clauses (§16.3). The presence or absence of negative =ʔ is moot when the clause already ends a morpheme that frequently takes a final glottal in either positive or negative clauses, such as bíɛ́(ʔ) ‘all’ (§6.6.1.1) and clause-final emphatic =dɛ̄ʔ ~ =rɛ̄ʔ (§3.2.1.9).

10.2.5.2 Perfective negative with á

The perfective negative verb phrase consists of preverbal PfvNeg particle á plus the verb in its base stem.

(741) a.

zàkì	á	gɔ̀	nó	=ʔ
Z	**PfvNeg**	hit.**Base**	1Sg	Neg

‘Zaki didn’t hit me.’ (Ji)

b.

[nó	sè]	á	yíʔí	(=ʔ)
[1Sg	father]	**PfvNeg**	go.**Base**	Neg

‘My father did not go.’ (Ji)

c.

zàkì	á	dí	=ʔ
Z	**PfvNeg**	eat.**Base**	=**Neg**

‘Zaki didn’t eat.’ (Ji)

d.

ɔ̌ⁿ=	Ø	ɲì	mó	=ʔ
3AnSg	**PfvNeg**	see.**Base**	2Sg	=**Neg**

‘He/She didn’t see you-Sg.’ (<ɲī) (Ji)

e.

nó	á	yíʔí	=ʔ
1Sg	**PfvNeg**	go.**Base**	=**Neg**

‘I didn’t go.’ (Ji)

The particle contracts phonologically in allegro speech with 1st/2nd and logophoric subject pronouns. For example, nó á in (741e) optionally contracts as nɔ́= á or ná= á, and diphthongal bùò (2Pl or 3Pl/LogoPl) regularly contracts as bù= á. The three L-toned third-person subject proclitics fuse more tightly but show rising tone: 3AnSg ɔ̌= Ø, 3Pl ǒ= Ø, 3Inan ǎ= Ø. For the full set of pronominal subject combinations, see the middle column in (130) in §3.4.6.3.

A few textual examples are in (742).

(742) a.

[ē	tìplípàⁿ]	=áⁿ	bà	=ʔ
[Art	monkey]	**PfvNeg**	come.**Base**	=**Neg**

‘The monkey did not come.’ (Ma, 2017-02 @ 00:35)

b.

ǎ=	Ø	gɔ̀-sō	=dɛ̄ʔ
3Inan	**PfvNeg**	be.right.**Base**	Emph

‘It wasn’t justified at all!’ (Fl, 2017-03 @ 02:15)

c. [jərɔ́ⁿ jù] á wùɔ̀ʔɔ́ =ʔ
[Rel eye(s)] **PfvNeg** be.open.**Base** Neg
'one whose eye has not opened (=is blind)' (Ma, 2017-04 @ 02:05)

10.2.5.3 Negative BE-future with má(ⁿ) bè and Pfv

The positive form of the perfective BE-future is bè plus Pfv verb. This is negated by adding má (Bi máⁿ) before bè, often accompanied by a clause-final glottal stop. Although má(ⁿ) is glossed "IpfvNeg" it has a broad distribution going beyond strictly imperfective clauses. The two well-attested future negative constructions are this one with má(ⁿ) bè and another (see the following section) with just má(ⁿ) but with the same Pfv verb, and we can detect no clear difference in meaning between them.

Elicited examples are in (743).

(743) a. zàkì má bē bà / =ʔ
" " bè /glō "
Z **IpfvNeg** **Fut** come.**Pfv**/exit.**Pfv** **Neg**
'Zaki won't come/leave.' (Ji)

b. nó má bè dɛ̄ fāⁿʔāⁿ =ʔ
1Sg **IpfvNeg** **Fut** sleep.**Pfv** here **Neg**
'I won't sleep here.' (Ji)

c. nó má bè bɛ̄ [Ø dɛ̀] =ʔ
1Sg **IpfvNeg** **Fut** cultivate.**Pfv** [Art field] **Neg**
'I won't cultivate the field (=do farming).' (Fl Ji)

d. mó má bè wūō =ʔ
2Sg **IpfvNeg** **Fut** die.**Pfv** **Neg**
'You-Sg won't die.' (Fl Ji)

There is one textual example (744), set in a past-time narrative.

(744) ò k-ā lí jərɔ́ⁿ dè tàmá, [ē sɛ̌ⁿ],
3Pl Infin-Ipfv call.Ipfv Rel Quot spear, [Art arrow],
[bè jì-ʃí] ò máⁿ bē ʃìʔ= [ɔ̀ⁿ mó]
[Dem.Def Indef-none 3Pl **IpfvNeg** **Fut** give.**Pfv** [Dat 2Sg]
'What they call "spear," (or) arrow(s), anything at all, they wouldn't give (it) to you.'
(Ma, 2017-10 @ 05:00)

10.2.5.4 Future negative with má(ⁿ) and Pfv

The Pfv marking on the verb distinguishes this future construction from the imperfective negative with má(ⁿ) plus Ipfv verb. The present construction is identical to the negative

BE-future described in the preceding section, except that bè is absent. It is possible that this simplified construction without bè evolved out of an original fuller one with bè, by gradual phonetic attrition. We can detect no meaningful semantic distinction between the two.

má(^{n}) plus Pfv is obviously morphologically perfective. However, this is the most common future negative and to that extent it functions in practice as the negative counterpart of the positive nà future, which is aspectually neutral.

Elicited examples are in (745).

(745) a. nó má cərē mā =ʔ
1Sg **IpfvNeg** do.long.time.**Pfv** there.Def **Neg**
'I won't be (=stay) there long.' (Fl Ji)

b. zàkì má ɲà mó =ʔ
Z **IpfvNeg** see.**Pfv** 2Sg **Neg**
'Zaki won't see you-Sg.' (Fl Ji)

c. zàkì má glō =ʔ
Z **IpfvNeg** exit.**Pfv** **Neg**
'Zaki won't come out.' (Fl Ji)

d. nó má bɛ̄ [Ø dɛ̀] =ʔ
1Sg **IpfvNeg** cultivate.**Pfv** [Art] field] **Neg**
'I won't cultivate the field (=do farming).' (Fl Ji)

There are quite a few textual examples, some of which are in (746). In (746a), the future negative clause is a paraphrase of a preceding positive future clause.

(746) a. á! [bó nà wú [[yá bè] nī]]
ah! [LogoSg Fut die.Base [[Dem.InanSg Top.Inan] Loc]]
[bó má yīēʔē-ʃìʔì]
[LogoSg **IpfvNeg** get.up.**Pfv**]
'I will die in this state, I will not be upright (=alive)!' (Fl, 2017-05 @ 01:49)

b. [é dó] má būō — [ē dìɛ́] tàʔà-kó
[1Pl however] **IpfvNeg** get.**Pfv** — [Art sauce] again
' "We won't get any more (baobab-leaf) sauce." ' (Fl, 2017-05 @ 03:12)

c. ńʔǹ! nó má^{n} fīē-pɔ̄^{n} =ʔ
unh-unh! 1Sg **IpfvNeg** pass.**Pfv**-be.able.Base Neg
'No, I can't go ahead (of you).' (Bi, 2017-8 @ 02:46)

d. *parce que* jí ɔ̌ⁿ= Ø dò =nì,
because if 3AnSg PfvNeg speak.Base 3InanObj,
ɔ̀ⁿ máⁿ mlɛ̄ⁿ-tɔ̄ⁿ =ò dò
3AnSg **IpfvNeg** release.**Pfv** 3AnSgObj Emph
'Because if he doesn't say it, he (=hyena) won't release him.'
(Bi, 2017-08 @ 06:20)

e. dē bùò má tə̀rɛ̀ⁿ dɛ̌= [Ø tə̀rāⁿʔáⁿ]
Quot LogoPl **IpfvNeg** sit.**Pfv** Quot [Art marriage]
'(They) said (=thought) "we will never get married." '
(Fl, 2017-05 @ 00:26)

10.2.5.5 Negative with má(ⁿ) plus base (absent)

Negative má (Bi máⁿ) is normally followed by the Pfv (for future negative), by bè plus the Pfv (for the other future negative), or by the Ipfv (for imperfective negative). See the preceding and following subsections. má plus base does not fit into this set of possibilities, and this combination did not occur in texts or in elicitation.

10.2.5.6 Imperfective negative with má(ⁿ) plus Ipfv

The imperfective negative (IpfvNeg) preverbal particle is má (Bi máⁿ). The 2Sg combination mó má sometimes reduces to ŋ̀ má ~ Ø má.

The verb is in Ipfv form, which distinguishes the imperfective negative from the future negative with má(ⁿ) plus Pfv (preceding section).

The imperfective negative denies the truth of the corresponding positive imperfective proposition. The time interval during which the truth of the proposition is denied normally includes the moment of speaking or another already established reference point (as in past-time narratives). However, as with the positive imperfective, the imperfective negative can function loosely as a future negative.

Elicited examples are in (747).

(747) a. zàkì má kɛ̌= [Ø kàʔá] =ʔ
Z **IpfvNeg** eat.meat.**Ipfv** [Art meat] **Neg**
'Zaki doesn't eat meat.' (Ji)

b. zàkì má gǔ= [Ø būⁿʔɔ̄ⁿ] =ʔ
Z **IpfvNeg** hit.**Ipfv** [Art dog] **Neg**
'Zaki doesn't hit (the) dog.' (Ji)

c. nó má ɲī =ʔ
1Sg **IpfvNeg** drink.**Ipfv** **Neg**
'I don't drink.' (Ji)

d. zàkì má glú =ʔ
Z **IpfvNeg** exit.**Ipfv** **Neg**
‘Zaki doesn’t go/come out.’ (Ji)

e. nó má bí =ʔ
1Sg **IpfvNeg** cultivate.**Ipfv** **Neg**
‘I don’t cultivate (=do farming).’ (Ji)

A few textual examples are in (748).

(748) a. [Ø būɔ̄ⁿʔɔ̄ⁿ] [kǎ= [Ø tìplípàⁿ] má bɛ̀ⁿ =ʔ
[Art dog] [with [Art monkey] **IpfvNeg** get.along.**Ipfv** **Neg**
‘The dog and the monkey don’t get along.’ (Ma, 2017-02 @ 01:45)

b. ɔ̀ⁿ má dɛ̄ =ʔ, [è blíʔí], kǎ= [Ø dìʔè]
3AnSg **IpfvNeg** sleep.**Ipfv** **Neg**, [Art night], and [Art daytime]
‘He wouldn’t sleep! Night and day!’ (Ji, 2017-04 @ 01:04)

c. mó má ɲɛ̌= [Ø tə̀-rɛ́ jə̄-rē] =ē
2Sg **IpfvNeg** see.Ipfv [Art hole-Pl Indef-InanPl] Q
‘Do you not see some pits?’ (Ji, 2017-04 @ 02:11)

d. [è ná-bí] má klɛ̌= [Ø kě] kɔ̀ʔɔ̀nì
[Art person] **IpfvNeg** do.Ipfv [Art thing] carelessly
‘A person doesn’t do something carelessly.’ (Ji, 2017-04 @ 02:52)

e. [bó kə̀rɔ̀ⁿ] má jī [à glō-tɔ̀ʔɔ̀] =rɛ̄ʔ
[LogoSg Top] **IpfvNeg** know.Ipfv [3Inan exit.Pfv-place] Emph
‘(said:) “I myself am not familiar with its place of exiting.” ’
(Fl, 2017-05 @ 01:46)

f. [[bó tóʔó] gō pɛ̀ⁿ] [bó máⁿ glú =ʔ]
[[3AnSg Foc] Infin remain.Base] [3AnSg **IpfvNeg** exit.**Ipfv** Neg]
‘She [focus] stays (here), she doesn’t come out.’ (Bi, 2017-07 @ 03:30)

10.2.5.7 Progressive negative (má kō)

The progressive construction with kō (§10.2.4 above) is negated by adding IpfvNeg particle má between the subject and kō. The usual clause final =ʔ is often added. The remainder of the clause is identical to the positive counterpart. This includes object-verb order. Elicited examples are in (749).

(749) a. nó má kò [dí nī] =ʔ
1Sg **IpfvNeg** **be** [eat.**Prog** **Prog**] **Neg**
‘I am not eating (right now).’ (Ji)

b.	zàkì	má	kō	[[[Ø	būⁿʔɔ̄ⁿ]	gɔ̌]	nī]	=?
	Z	**Neg**	**be**	[[[Art	dog]	hit.**Prog**]	**Prog**]	**Neg**

‘Zaki is not hitting a/the dog.’ (< gɔ̀) (Ji)

Textual examples are in (750).

(750)	a.	nó	má	kō	[kɛ̄ⁿʔɛ̄ⁿ-pɔ̌ⁿ	nī],
		1Sg	**IpfvNeg**	**be**	[ascend.Base-be.able.**Prog**	**Prog**],

‘(Hare:) “(But) I am unable to climb (the tree).” ’ (Ji, 2017-01 @ 03:30)

b.	ò	má	kȃ=	[[Ø	kɔ̌ⁿ]	nī]
	3Pl	**IpfvNeg**	**be**	[[3Inan	know.**Prog**]	**Prog**]

‘They weren’t aware of it.’ (Ma, 2017-04 @ 03:38)

c.	ɔ̀ⁿ	máⁿ	gɔ̄=	[[[Ø	náⁿ-bí]	bú]	nī]
	3AnSg	**IpfvNeg**	**be**	[[[Art	child]	get.**Prog**]	**Prog**]

‘She was not getting (=bearing) a child.’ (women, 2017-18 @ 00:13)

The construction with ‘be’ and a locative PP based on a verbal noun, the likely ancestor of the progressive construction, is negated in (751).

(751)	à	má	kō	[[jùò-ń	té]	nī]
	3Inan	**IpfvNeg**	**be**	[[sell.**VblN**	Foc.Inan]	**Loc**]

‘The (weekly) market, it is there, (but) it isn’t involved in (real) selling [focus].’ (Ma, 2018-07 @ 01:17)

10.2.5.8 Self-standing negative exclamations

The most common ‘yes!’ and ‘no!’ exclamations are positive ɔ̀ⁿhɔ́ⁿ! ~ ɔ̄ⁿɔ̀ⁿ! ~ m̄m̀! without glottal stop, and negative ɔ́ⁿʔɔ̄ⁿ! ~ āⁿʔàⁿ! with medial glottal stop (§19.3.5). Below we present more forceful negative exclamations.

10.2.5.8.1 éʔē→ ‘oh no!’

This particle can be translated as ‘oh no!’, expressing alarm.

(752)	ò	bà	dīē	[[[móⁿ	ɲə̀rɔ́ⁿ]	dɛ̀]	nīⁿ],	éʔē→
	3Pl	if	enter.Base	[[[2Sg	Rel]	field]	Loc],	**oh.no!**

‘You-Sg in whose field they may enter, oh no!’ (Bi, 2017-09 @ 01:52)

10.2.5.8.2 fóè ‘not at all!’ or ‘nothing at all!’

fóè is an emphatic negative interjection. It can be juxtaposed to an NP or to an already negative clause.

(753)	a.	[è	wùⁿʔúⁿ-kè]	fóè!
		[Art	problem]	**not.at.all**

‘No worries at all!’ (Ma, 2017-10 @ 04:51)

b.	[ē	dàⁿʔàⁿ]	ní-māⁿ	[móⁿ	bàʔà]	fóè!	fóè!
	[Art	fire]	not.be.Loc	[2Sg	Dat]	**not.at.all!**	**not.at.all!**

‘You had no fire (=light) at all!’ (Bi, 2017-10 @ 04:54)

fíó (Bo, 2019-10 @ 05:33) appears to be a variant of fóè.

10.3 Temporal clitics and particles

10.3.1 Past reference time

The inflectional categories described above are all based on the temporal perspective of the moment of speaking. In the middle of extended narratives where there has already been a reset of the reference time, such categories as imperfective and progressive are understood to respect this reset, and no specific temporal marking is needed.

However, a reset of the reference time can be marked overtly. This is done by adding a “past” particle immediately after the subject, preceding other inflectional particles (such as Ipfv à, kō ‘be’ in the progressive, future particles bè and nà, and negative particles á and máⁿ). Past marking is especially useful for statives. The combination of past marking with Pfv verbs produces a past perfect (‘had already VPed’).

In addition to the main-clause inflectional contexts described in the following subsections, past markers are featured in counterfactual conditionals (§16.4)

10.3.1.1 Dialectal past particles (ká, tá, tâ, dè, lè, yì)

The forms of the post-subject past marker are in (754). In most non-imperfective contexts, our Ji speaker prefers ká, our Fl and Ma speakers prefer tá ~ tâ, and our Bi speakers prefer râ ~ tâ or sometimes rà. There is a separate set of past forms found in imperfective, stative, and counterfactual contexts. We gloss them as PastIpfv in interlinears, though their distribution goes beyond strictly imperfective contexts. The PastIpfv form appears to be systematic for our Bi speakers, but the corresponding forms for other dialects are optional. Bi past marker dè is of course grammatically distinct from the pandialectal quotative particle dè, though in a few textual passages there might be some ambiguity.

(754)

form	dialect	comment
a. aspectually unmarked (including perfective)		
ká, kâ [kâ:]	Bi Fl Ji Ma	
tá, tâ [tâ:]	Bi Fl Ji Ma	
rà, râ [ɾâ:]	Bi	likely < *tâ
b. imperfective, stative, and counterfactual (optional except Bi)		
suppletive		
yì	Fl	
è	Ji	
dè ~ lè	Bi	rè (tapped < dè), nè (nasalized < dè or lè)
compositional		
tá à	Fl	
ká à	Ji	
dà= à ~ rà= à	Bi	< dè ; nasalized variant nà= à

Winkelmann (1998: 180) gives tá for Bi and ká for other dialects.

The variant tâ, phonetic [tâ:], looks like a combination of tá with Ipfv à, or with à- ‘come’ as Vb1 in verb-verb compounds. Likewise, [kâ:] looks like ká plus à or à-. When these variants precede Ipfv verbs, we transcribe them bimorphemically as tá à and ká à and identify the second morpheme as the Ipfv particle or as à-. ‘come’. Before an L-tone the imperfective forms are tá ā and ká ā by regular tone sandhi (§3.6.2.1). However, tâ also occurs especially in Fl dialect in past perfects before base verbs, which elsewhere cannot follow Ipfv à. One possible source for tâ plus base of verb is *tá (b)à-Vb2.Base, with bà ‘come.Base’ plus a second verb as compound final (§15.2.3). However, especially our Fl speaker appears to generalize tâ as a past marker, not only in past perfects but also before predicates with stative copula kō ‘be’ and má kō ‘not be’, where a compound with ‘come’ is out of the question.

For Fl, tâ combines with compounding allomorph á- ‘go’ as tà á-, pronounced [tǎ:] with rising tone. tà á- occurs chiefly in a specific construction meaning ‘when/as soon as’, so confusion is unlikely. See §15.3.5.5 for examples and analysis. This tà á- is distinct from past perfective negative tâ á, pronounced [tã:] by this speaker, with falling-rising <HLH> tone.

Rarely, it appears that Bo speakers can double past marking in the sequence dè tá, where the context does not support parsing dè as quotative. Relevant examples are (Bo, 2019-03 @ 01:46) and (Bo, 2019-10 @ 02:03).

10.3.1.2 Past perfect (perfective in past)

When the basic past morpheme (ká, tá ~ tâ, râ ~ rà) is followed by the base stem of a verb, the event is presented as having occurred before the past-shifted reference time. The examples most clearly recognizable as past perfect are those with verbs that have distinct forms for base and Ipfv. Many other verbs have identical base and Ipfv, making it difficult to distinguish past perfect from past imperfective in non-Bi dialects other than by context.

Elicited past perfect (positive) examples are in (755). The verbs in each case are definitely base rather than Ipfv. The three stems of the relevant verb are shown in parentheses under the free translation.

(755) a.

ɔ̄ⁿ	tá	ɲɔ̄
3AnSg	**Past**	drink.**Base**

‘He/She had (already) drunk.’ (Ji)
(ɲùɔ̀/ɲɔ̀/ɲì)

b.

nó	tâ	ɲɔ̄
1Sg	**Past**	drink.**Base**

‘I had drunk.’ (Fl)
(ɲùɔ̀/ɲɔ̀/ɲì)

c.

ɔ̄ⁿ	tá	wú
3AnSg	**Past**	die.**Base**

‘He/She had (already) gone died.’ (Ji)
(wūō/wú/wí)

d.

nó	tá	ɲì-ɲɔ̄=	[Ø	bɔ̌]
1Sg	**Past**	see.**Base**-ExpPf	[Art	elephant]

‘I had (once) seen an elephant (at that time).’ (Ji)
(experiential perfect, §15.1.4.3)
(ɲà/ɲī/ɲɛ̀ Ji)

Textual examples of the same type are in (756). Further examples in counterfactual conditionals are in §16.4.1.

(756) a.

… [(ē)	bɔ̌	[[n	dɛ̀ⁿʔɛ́ⁿ]	tóʔó]	ká	bà
… [Art	elephant	[[Sg	one]	Foc]	**Past**	come.**Base**

‘It was one single elephant [focus] that had come.’ (Ji, 2017-09 @ 05:59)
(bà/bà/bē)

b.

[ē	kā-wə̀-rù	jə̀rɔ́ⁿ]	ɔ̄ⁿ	nâ	sūʔ=	ɔ̄ⁿ
[Art	bone-Pl	Rel]	3AnSg	**Past**	give.**Ipfv**	Dat.3AnSg

‘the bones that he (=hyena) had given to her’ (Bi, 2017-08 @ 10:07)
(ʃìʔɛ̀/sūʔɔ̄/sūʔū)

c.

[ē	yǎ	jī]	ò	râ	yíʔí-ʃìʔì	[à	nī]]
[Art	year	Indef]	3Pl	**Past**	get.up.**Base**	[3Inan	Loc]]

‘One year they (=authorities) had come and gotten involved in that matter.’
(Bi, 2017-09 @ 04:48)
(yīʔē-ʃìʔì/yíʔí-ʃìʔì/yíʔ-ā-ʃìʔì for Bi)

d. *donc*, [è blí-kɛ́] kō lò, ɔ̄ⁿ kɛ̀-tɛ̀ʔɛ̀,
so, [Art hare] Infin show.Base, 3AnSgRefl hand,
jə̀rɔ̀ⁿ tâ dè [[bó ɲɔ̀ɣɔ̀] ní-mā =ʔ]
Rel **Past** say.**Base** [[LogoSg equal(n)] not.be.Loc Neg]
'So, the hare pointed his hand (at) the one who had said (that) there was no equal to her beauty.' (Fl, 2017-05 @ 03:58)
(dè/dè/dò)

e. [è bú] ká bú [bè yǎ rè]
[Art money] **Past** be.gotten.**Base** [Dem.Def year Emph]
'Money had been gotten that year.' (Ji, 2017-09 @ 05:01, cf. 05:03)
(būō/bú/bí)

f. [ē jə̀-rò] râ bû= [Ø mílyɔ́ⁿ]
[Art Indef-AnPl] **Past** get.**Base** [Art million]
'Some (people) had gotten a million (CFA francs)!' (Bi, 2017-09 @ 05:02)
(būō/bú/bí)

The textual examples in (757) below are likely or at least possibly past perfect (positive) as well, to judge from the context. However, the verbs in question have the same forms for base and Ipfv, making it difficult to distinguish past perfect from past imperfective. Many examples occur in the long texts 2017-09 and 2017-10, which describe past complex events or bygone practices. The temporal relationships from one clause to another are not always transparent, unlike the case with well-practiced tales that narrate a well-defined event sequence. nâ in (757a) is nasalized from tâ.

(757) a. mɔ́ⁿ nà wé [nó ɲə̀rɔ̀ⁿ] cɔ́
Sg **Past** refuse.Base [1Sg Rel] exactly
'precisely me whom you-Sg had abandoned' (Bi, 2017-07 @ 08:12)
(wīē/wé/wé)

b. kà-sə̀rɔ̄= [Ø wə̀rɛ̀ té] tá yíé =ē
while [Art leaf.loincloth Foc.Inan] **Past** be.girded.**Base** Q
'Whereas a leaf loincloth [focus] had been put on (hyena woman)?'
(Ji, 2017-08 @ 02:27) (yīē/yíé/yíé)

c. [ē làʔà] ká dīē mā
[Art hunger(n)] **Past** enter.**Base** there.Def
'A famine had come in there.' (Ji, 2017-09 @ 06:09)

A past perfect context lends itself to compounding of the verb with -kɔ̄ 'finish' (758).

(758) nó tá ɲɔ̄-kɔ̄ [ŋ̀ lǎⁿ]
1Sg Past drink.Base-**finish**.Base [1SgRefl beer]
'I had finished drinking my beer.' (Fl)

The nonpast version of the perfective negative is expressed by PfvNeg particle á plus the base of the verb (§10.2.5.2). The past perfect negative simply adds the past marker, before á. vv-Contraction may occur but it is inconspicuous when the past marker already has a-vowel. The attested combinations include ká á (Ji) in (759a-b) and tâ á (Fl) in (759c). The latter, when carefully spoken, has [tã] with rare <HLH> tones on a syllable, even though contracted. For Bi, because of vv-Contraction and lenition of t and d to tap r, there is some ambiguity as to whether rà= á is based on non-imperfective past râ ~ rà or on imperfective past dè. The tones of rà= á favor dè, though there is independent evidence that Fl past tá ~ tâ can occasionally appear L-toned before an H-tone, see tà á- (§15.3.5.5). The occasional Bi example with un-tapped dà á (759e) also favors dè, while tapped rà á (759d) is ambiguous. If we take the Bi examples as having dè rather than râ ~ rà, it means that dè has a broader range than the label "imperfective past" suggests.

(759) a. ɔ̀^{n} ká á glú / ɲɔ̄ / wú =ʔ
3AnSg **Past** **PfvNeg** exit(v).**Base**/drink.**Base**/die.**Base** Neg
'He/She had not (yet) exited / drunk / died.' (Ji)

b. ò ká á láblà =nì
3Pl **Past** **PfvNeg** authorize.**Base** 3InanObj
'They had not authorized it.' (Ji)

c. ó tâ á kɔ̄^{n} =nì
1Pl **Past** **PfvNeg** know.**Base** 3InanObj
'We didn't realize it.' (Fl, 2017-11 @ 10:21)

d. bó rà= á sɔ̀^{n}
3AnSg **Past** **PfvNeg** accept.**Base**
'It (=elephant) had been reluctant.'
(Bi, 2017-09 @ 01:26)

e. *est-ce que* [[mó bī-dɔ̀] dó]
Q [[2Sg younger.sib] Poss.Inan]
dà= á gàʔà-klè =ā→
(Ipfv)Past **PfvNeg** be.first.**Base**-be.done.Base Q
'Had not your younger brother's turn happened first?'
(Bi, 2017-09 @ 02:12)

The past perfect negative context lends itself to addition of clause-final tà^n '(not) yet).

(760) nó tá á ɲɔ̄ [ŋ̀ lǎ^n] tà^n =ʔ
1Sg **Past** **PfvNeg** drink.**Base** [1SgRefl beer] **yet** Neg
'I had not yet drunk my beer.' (Fl)

10.3.1.3 Past imperfective with past morpheme ká of tá ~ tâ

The past imperfective describes a prolonged or recurrent activity or a prolonged situation. The classic function of past imperfectives is to provide background for a following foregrounded past-time event.

In Tiefo-D, the past imperfective is expressed by a past morpheme followed by a verb in the Ipfv stem. The examples in this section are those with the unmarked form of the past marker for the given dialect. These examples are all from the non-Bi dialects. For past imperfectives with the alternative, specifically imperfective past morphemes yì, è, and dè see §10.3.1.8 below. Both types of past imperfective compete with the quite different past habitual construction, which describes regular actions and events in the past ('used to VP'). The past habitual has a single post-subject inflectional morpheme nǎ, followed by an Ipfv verb (§10.2.2.3).

As noted in the preceding section, for the numerous verbs that have identical base and Ipfv stems, the past imperfective is sometimes indistinguishable from the past perfect. The distinction can be made, either by distinguishing Fl/Ji tá ~ ká (past perfect) from tá à ~ ká à (past imperfective). However, this is unreliable especially for Fl where tâ is generalizing as the past marker and occurs even in the past perfect.

Winkelmann (1998: 180-181) states that the past imperfective is marked by ká (Bi dialect tá), which she labels the past imperfective morpheme ("Imperfektive-Vergangenheit"). This is followed by the base or Ipfv verb, in either case expressing past imperfective (not past perfect) for aspectually dynamic verbs, or past stative for statives. She gives (761) as an example of a dynamic verb that appears first in the past imperfective, then in the simple perfective (marking completion), setting up a foregrounded event.

(761)	Winkelmann	our transcription
i. the frog and the dove.	(omitted)	—
ii. they were working the field.	ʔò ká bá dɛ̀	ò ká bā́ = [Ø dɛ̀]
iii. they (had) worked the field.	ʔò bɛ dɛ̀	ò bɛ̄ [Ø dɛ̀]
iv. then the rains came.	(omitted)	—

The verb 'cultivate, do farm work' is bɛ̄/bá/bé, so bá is clearly base rather than Ipfv. It is therefore incorrect to state that past ká or tá is intrinsically imperfective.

The main difficulty in identifying past perfect and past imperfective clauses for non-Bi dialects in texts is that many of the most common verbs do not distinguish base from Ipfv verb stems. In elicitation, we did find a semantic distinction for all verbs between the past perfect (with base verb), described in the preceding section, and the past imperfective. Since there is also a dedicated past progressive, the past imperfective generally denotes recurrent events and states.

We transcribe [tâ:] and [kâ:] as bimorphemic tá à and ká à in past imperfective contexts. Elicited examples of the past imperfective (positive), with clearly Ipfv verb stems or with locational à-mā, are in (762).

(762) a. nó ká à ɲī [Ø lǎⁿ]
1Sg **Past** **Ipfv** drink.**Ipfv** [Art sorghum.beer]
'I used to drink sorghum beer.' (Ji)
(ɲùɔ̀/ɲɔ̄/ɲī)

b. nó tá à ɲī
1Sg **Past** **Ipfv** drink.**Ipfv**
'I used to drink.' (Fl)

c. [nó tóʔó] ká à-mā fāⁿʔāⁿ
[1Sg Foc] **Past** **be.Loc** here
'I [focus] was here.' (Ji)

Textual example (763a) is arguably past imperfective based on context, though the verb stem is ambiguous (base = Ipfv). (763b) is also probably past imperfective if we correctly transcribe intercalated Ipfv -à- in the verb-verb compound, but there is no audible difference between Ipfv gàʔ-à-sɛ́ⁿ and base gàʔà-sɛ́ⁿ.

(763) a. ɔ̀ⁿ tá à fâ= [Ø kɛ̂ⁿ]
3AnSg **Past** **Ipfv** seek.**Ipfv** [Art fellow]
'He would seek out the fellow.' (Ma, 2017-04 @ 01:17)

b. sǒ ká ā gàʔ-à-sɛ́ⁿ =ɛ̄ⁿ
who? **Past** **Ipfv** do.first.**Ipfv**-Ipfv-lie.down.Ipfv Q
'Who used to lie down first?' (Ma, 2017-10 @ 01:20)

The past imperfective negative adds IpfvNeg má (Bi máⁿ) between the past marker and the Ipfv verb. Elicited past imperfective negatives, with Ipfv verb stems, are in (764a-b), followed by a past negative stative locational (764c). Again, this is limited to non-Bi dialects.

(764) a. nó ká má ɲī =nì =ʔ
1Sg **Past** **IpfvNeg** drink.**Ipfv** 3InanObj Neg
'I didn't use to drink it.' (Ji)
(ɲùɔ̀/ɲɔ̄/ɲī)

b. nó tâ má ɲī =ʔ
1Sg **Past** **IpfvNeg** drink.**Ipfv** Neg
'I didn't use to drink.' (Fl)
(ɲùɔ̀/ɲɔ̄/ɲī)

c. zàkí tâ ní-mà fāⁿʔāⁿ
Z **Past** **not.be.Loc** here
'Zaki was not here.' (Fl)

Textual example (765) is past imperfective negative based on context and form.

(765) [ē nà-bí-ó bíɛ́] tá má dà^{n} mā =ʔ
[Art people all] **Past** **IpfvNeg** arrive.**Ipfv** there.Def Neg
'Not everyone used to arrive there.' (Fl, 2017-11 @ 02:28)

10.3.1.4 Past of copula kō 'be'

For copular constructions, see §11.2.2. As with other stative predicates, past time is expressed by adding the (dialectally variable) past morpheme. tâ is common for Fl, but we recorded just ká and tá for Ji. For Bi and closely related Bo the form is rà. As usual, the article of an immediately following noun is unpronounced after kō in the absence of an interruption, so kō drops to kò before H-tone.

(766) a. [ē wùʔù] tâ kò [(Ø) á tú-tūʔú]
[Art house] **Past** be [Art Inan big]
'The house was big.' (Fl)

b. [ē ná] tâ kō [Ø) kā tù-tūʔú]
[Art cow] **Past** be [Art An big]
'The cow was big.' (Fl)

c. [bó tóʔó] ká kò [(Ø) jə́rí^{n}— ānàʔà-nɔ̀]
[3AnSg Foc] **Past** be [Art djinn— in.front-person]
'He [focus] was the djinn boss.' (Ji, 2017-04 @ 01:25)

d. nó tá kò [(Ø) ú^{n}-dì^{n}]
1Sg **Past** be [Art chief]
'I was the chief.' (Ji)

e. zàkí rà kò [(Ø) ú^{n}-dì^{n}]
Z **Past** be [Art chief]
'Zaki was the chief.' (Bi)

f. [ē [dī-nā-dɛ̀^{n}]-dò té] rà kō bè
[Art [old.days]-Poss.Inan Foc.Inan] **Past** be Dem.Def
'That was the way of the old days.' (Bo, 2019-09 @ 03:01)

g. [ē dī-nā-dɛ̀^{n}] [é-yùò dó] rà wō [(Ø) lò tə́-ró]
[Art old.days] [1Pl Poss.Inan] **Past** be [Art chicken.Pl Foc-AnPl]
'In the old days, our way was chickens [focus].' (Bo, 2019-10 @ 04:00)

Negative 'X was/were not Y' adds IpfvNeg má, in stative negative function, between the past morpheme and kō.

(767)	nó	tá	má	kò	[(Ø)	wúⁿ-dìⁿ]
	1Sg	**Past**	**IpfvNeg**	**be**	[Art	chief]

‘I was not the chief.’ (Fl)

However, our Bi speaker switches from unmarked Past rà to IpfvPast dè before máⁿ kō ‘not be’ (§10.3.1.8) as in (768a). Our Fl speaker, after reflection, indicated that yì (imperfective-stative past morpheme, §10.3.1.8 below) was the appropriate past marker in this construction, even with positive polarity (768b).

(768)	a.	ō	dè	máⁿ	wɔ̄=	[Ø	jɔ̄ⁿ]	=nɛ̄ʔ
		3Pl	**IpfvPast**	IpfvNeg	be	[Pl	two]	Emph

‘They weren’t two (different ones) after all!’ (Bi, 2017-09 @ 01:07)

b.	nó	yì	kò	[Ø	wúⁿ-dìⁿ]
	1Sg	**IpfvPast**	**be**	[Art	chief]

‘I was the chief.’ (Fl)

kō ‘be’ also occurs in many predicate adjective constructions (§11.4.2). These too are shifted to past time using the dialectally appropriate past markers.

10.3.1.5 Past progressive

The nonpast version of the progressive consists of kō ‘be’, the object (if present), and the verb in a kind of locative PP with nī (§10.2.4). The past-time version adds the past morpheme before kō (769).

(769)	a.	nó	ká	kò	[dí	nī]
		1Sg	**Past**	**be**	[eat.meal.**Prog**	**Prog**]

‘I was eating (at that moment).’ (Ji)

b.	é!,	jǎ→	ò	ká	gō
	oh!,	lo!	3Pl	**Past**	**be**
	[ò	dígə̀-rɔ̀]	[sɛ̀gɛ́	nī]	=dɛ̄ʔ
	[PlRefl	Recip]	[weary(v).**Prog**	**Prog**]	Emph

‘Oh! Lo, they were wearing each other out!’ (Ma, 2017-04 @ 02:40)

Past progressive negative examples are in (770).

(770)	a.	nó	ká	má	kò	[dí	nī]
		1Sg	**Past**	**IpfvNeg**	**be**	[eat.meal.**Prog**	**Prog**]

‘I was not eating (at that moment).’ (Ji)

b.	zàkí	ká	má	kō	[[[(Ø)	kē-sùⁿʔɔ̀ⁿ]	sɔ̌ⁿ]	nī]
	Z	**Past**	**IpfvNeg**	**be**	[[[Art	work(n)]	work(v).**Prog**]	**Prog**]

‘Zaki was not working.’ (Ji)

10.3.1.6 Future-in-past

The nonpast positive versions of the future are with nà plus base (§10.2.3.1), and with bè plus Pfv (§10.2.1.2) or less often Ipfv (§10.2.2.2).

For a future-in-past ('was going to VP', 'was about to VP', etc.), the past morpheme can precede bè or nà. The positive future-in-past with bè is illustrated in (771).

(771)	a.	ó	ká	bè	tīē	[Ø	ɛ̀ʔɛ́	jī]
		1Pl	**Past**	**Fut**	put.down.**Pfv**	[Art	thing	Indef]

'We were going to put something down.' (Ji)

b.	nó	tâ	bè	wūō
	1Sg	**Past**	**Fut**	die.**Pfv**

'I was about to die.' (Fl)

c.	ó	dè	bè	glō	[[Ø	pìɛ̀^{n}ʔɛ̀^{n}]	nī]
	1Pl	**IpfvPast**	**Fut**	exit.**Pfv**	[[PlRefl	foot]	Loc]

'We would be about to go out on our own feet.' (Bo, 2019-03 @ 03:15)

A positive example with future nà is (772).

(772)	nó	tá	nà	ɲɔ̄
	1Sg	**Past**	**Fut**	drink.**Base**

'I was about to drink.' (Fl)

The nonpast version of the future negative has IpfvNeg má (Bi má^n), optional bè, and the Pfv of the verb (§10.2.5.3). This can be put in the past by adding the regular past morpheme of the dialect.

(773)	nó	tá	má	bè	wūō	=ʔ
	1Sg	**Past**	**IpfvNeg**	**Fut**	die.**Pfv**	Neg

'I was not about to die.' (Fl)

10.3.1.7 Past of locational 'be (somewhere), exist' à-mā(^{n})

Corresponding to nonpast à-mā 'be (somewhere), be present, exist' (§11.2.3), as in à-mā mā 'be there', speakers who use tá ~ tâ as the unmarked past morpheme have tá à-mā (774).

(774)	a.	[bè	dáʔá-sə́rɛ̄=]	[Ø	jɔ̀-ní]	tá	à-mā
		[Dem.Def	time-peer]	[Art	swallow-VblN]	**Past**	**be.Loc**

'In times like those, there was excision.' (Bo, 2019-10 @ 01:54)

b.	[ē	dìɛ́	jì]	tá	à-mā
	[Art	sauce	Inef]	**Past**	**be.Loc**

'There used to be a sauce, …' (Bo, 2019-11 @ 01:53)

Speakers who use ká as basic past morpheme have ká à-mā.

(775) a. [jə̀rɔ̀^{n} ká à-mā] [[bì tòʔó] kò yá]
[Rel **Past** **be.Loc**] [[Dem.Def Foc] be Dem.InanSg]
'What(-ever) was there (in the tale), <u>this</u> [focus] is how it was.'
(Ma, 2017-02 @ 01:49)

b. [è bú-ní] ká à-mā [à nī]
[Art get.Base-VblN **Past** **be.Loc** [3Inan Loc]
'There was a benefit there.' (Ji, 2017-04 @ 06:45)

c. [nó fɛ̄-nī =rɛ̀] ká à-mā [nàsərá-kɛ̀^{n} kǎ^{n}]
[1Sg greet-VblN even] **Past** **be.Loc** [white.person-male Dem.AnSg]
'My salute was (also) to this white man.' (Fl, 2017-11 @ 11:09)

For Bi dialect, IpfvPast dè rather than regular past râ ~ rà is used; see the following section.

The past negative is based on ní-mā 'not be (somewhere)'. Non-Bi dialects prepose the regular past marker. A Bo speaker used tà as variant of past rà.

(776) a. mó tá ní-mā fā^{n}ʔā^{n}
2Sg **Past** **not.be.Loc** here
'You-sg were not here.' (Fl)

b. [ē jùsú^{n}] tà ní-mà
[Art cotton] **Past** **not.be.Loc**
'There didn't use to be cotton.' (Bo, 2019-03 @ 00:32)

10.3.1.8 Imperfective past yì (Fl), è (Ji), or dè ~ lè or dà= à (Bi)

In this construction, the usual past markers (ká, tâ, râ ~ rà) are replaced by the marked imperfective past (IpfvPast) inflectional morpheme yì (Fl), è (Ji), or dè ~ 2 (Bi). In Fl and especially Ji dialects, the replacement is optional. It is systematic in Bi dialect. Bi has both a simple form dè (with surface variants nè and rè), for some speakers also lè, and a composite form dà= à including Ipfv particle à.

The IpfvPast morpheme occurs before imperfective verbs, both positive and negative. It also occurs in the combination yì-mā (Fl) or dè mā^{n} (Bi) 'was/were (somewhere)', the past-time version of à-mā 'is (somewhere)'.

In Ji dialect, è can contract with a preceding vowel, especially 1Sg nó and 2Sg mó, as nó =ò and mó =ò. Bi dè contracts with Ipfv à as dà= à.

Positive examples below have Fl/Ji yì and è (777a-b), Bi simple dè (777c-k), and Bi composite dà= à (777l-o). The textual examples with simple dè happen to involve verbs of base=Ipfv type, but the elicited example (777k) has a clear Ipfv verb.

(777) a. [è lɛ̄^{n}ʔɛ́^{n}] yì cɥ̀ì zàkí
[Art cold(n)] **IpfvPast** hit.**Ipfv** Z
‘Zaki was cold (=felt cold).’ (Fl)

b. nó yì ʃī^{n} [Ø kē-ʃù^{n}ʔɔ̀^{n}] (Fl)
nó =ò " " " (Ji)
1Sg **IpfvPast** work(v).Ipfv [Art work(n)]
‘I used to work/was working.’ (Fl Ji)

c. ā klè tá [bó dè cɔ̄ʔɔ̄]
3Inan do.Pfv like [3AnSg **IpfvPast** fear.**Ipfv**]
‘It was like it (=elephant) was afraid.’ (Bi, 2017-09 @ 01:26)
(cɛ̀ʔɛ̀/cɔ̄ʔɔ̄/cɔ̄ʔɔ̄)

d. já^{n}bè à rè klè bè-yá-ró
anyway 3Inan **IpfvPast** be.done.**Ipfv** thus
‘Anyway, that’s how it was done.’ (Bi, 2017-10 @ 00:44)

e. [ó kɔ̀nì^{n}] dè é =nì^{n} bè-yá-ró
[1Pl Top] **IpfvPast** walk.**Ipfv** 3InanObj thus
‘As for us, we used to walk it like that.’ (Bi, 2017-10 @ 06:40)

f. í-yùò rè dí [bè tóʔó]
1Pl **IpfvPast** eat.**Ipfv** [Dem.Def Foc]
‘That [focus] is what we used to eat.’ (Bi, 2017-10 @ 03:41)

g. [ē pòʔò bó] rè é kɔ́sɔ́bɛ́ʔ
[Art the.bush Top] **IpfvPast** walk.**Ipfv** well
‘The hunt [topic] was going well.’ (Bi, 2017-120 @ 05:06)

h. [ē jɔ̄-yùò ró] dè gàʔ-à-sɛ́^{n}
[Art fetish-owner.Pl Foc] **IpfvPast** do.first.**Ipfv**-Ipfv-lie.down.Ipfv
‘It was the fetishists [focus] who used to lie down first.’
(Bi, 2017-10 @ 01:23)

i. í-yùò dè mā^{n}
1Pl **IpfvPast** **be.Loc**
‘We were there.’ (Bi, 2017-10 @ 03:10)

j. [é sāwāʔā] dè mā^{n}
[Art rattle(n)] **IpfvPast** **be.Loc**
‘There were rattles there.’ (Bi, 2017-10 @ 05:39)

k. nó^{n} dè ɲī^{n} [Ø lǎ^{n}]
1Sg **IpfvPast** drink.**Ipfv** [Art beer]
‘I used to drink beer.’ (Bi)

l.	[ē	lè-kə̀-rò	ró]	dà＝	à	fɔ̄＝	[[Ø	ānà^{n}ʔà^{n}]	nī]
	[Art	citizen-Pl	Foc]	**IpfvPast**	**Ipfv**	pass.**Ipfv**	[[Art	face]	Loc]

‘It was rather the ordinary citizens [focus] who went ahead (first).’
(Bi, 2017-10 @ 01:33)

m.	ó	dà＝	à	glú
	1Pl	**IpfvPast**	**Ipfv**	exit.**Ipfv**

‘We were getting out (=abandoning it).’ (Bo, 2019-06 @ 00:30)

n.	[[è	yúó	jɔ̄^{n}]	kě]	dà＝	à	dá^{n}	[ɔ̀^{n}	bó]
	[[Art	people	two]	matter]	**IpfvPast**	**Ipfv**	be,pleasant.**Ipfv**	[Dat	LogoSg]

‘(said:) “Two of them were beloved of me.” ’ (Bi, 2017-07 @ 07:52)

o.	jə̀ró	dà＝	à	fɔ̄＝	[[Ø	ānà^{n}ʔà^{n}]	nī^{n}]
	Rel.AnPl	**IpfvPast**	**Ipfv**	pass.**Ipfv**	[[Art	face]	Loc]

‘the ones who went forward (first)’ (Bi, 2017-10 @ 01:29)

Past imperfective negative clauses also have these IpfvPast morphemes (778). In (778a), /nó è/ → nó ＝ò.

(778)	a.	nó	＝ò	má	ʃī^{n}	[Ø	kē-ʃù^{n}ʔɔ̀^{n}]
		1Sg	**IpfvPast**	**IpfvNeg**	work(v).**Ipfv**	[Art	work(n)]

‘I didn’t use to work.’ (Ji)

b.	[ē	lɛ̄^{n}ʔɛ́^{n}]	yì	má	cɥ̀ì	zàkí
	[Art	**cold(n)**]	**IpfvPast**	**IpfvNeg**	hit.**Ipfv**	Z

‘Zaki wasn’t cold (didn’t feel cold).’ (Fl)

c.	ò	tá	má	yē＝	[Ø	pòʔ＝]	＝ā
	3Pl	**IpfvPast**	**IpfvNeg**	walk.**Ipfv**	[Art	the.bush]	Q

‘Would they not have gone hunting?’ (Ma, 2017-10 @ 02:54)

d.	nó^{n}	nè	má^{n}	glú-ā-yìʔèmó^{n}]	
	1Sg	**IpfvPast**	**IpfvNeg**	exit.**Ipfv**- Ipfv-unload.Ipfv	2Sg]
	[kɔ̀-kɔ̀	sú→]			
	[Rdp-day	all]			

‘I have not been going out to unload you every day.’ (Bi, 2017-07 @ 04:45)

e.	í-yùò	dè	má^{n}	jī	＝wò	＝ʔ
	1Pl	**IpfvPast**	**IpfvNeg**	know.**Ipfv**	3PlObj	Neg

‘We were unfamiliar with them.’ (Bi, 2017-09 @ 00:24)

f.	[kètà^{n}	dá^{n}]	ó	dè	má^{n}	sɔ̀^{n}
	[truth	pleasant]	1Pl	**IpfvPast**	**IpfvNeg**	consent.**Ipfv**

‘Truthfully, we didn’t use to consent …’ (Bi, 2017-10 @ 06:32)

g. ɔ̀ⁿ nè máⁿ klè jɔ̀rɔ́ⁿ
3AnSg **IpfvPast** **IpfvNeg** do.**Ipfv** Rel
‘what she (previously) was not doing’ (women, 2017-12 @ 02:38)

Substitition of yì ~ è for the general past markers is optional. The examples given above can be rephrased, in non-Bi dialects, with general past markers ká and tá ~ tâ, which combine with Ipfv à as ká à and tá à.

(779) a. nó tá à ʃīⁿ [Ø kē-ʃùⁿʔɔ̀ⁿ]
1Sg **Past** **Ipfv** work(v).Ipfv [Art work(n)]
‘I used to work.’ (Fl)

b. [è lɛ̄ⁿʔɛ́ⁿ] tá à kɛ̀ⁿʔɛ̀ⁿ nó
[Art cold(n)] **Past** **Ipfv** go.up.Base 1Sg
‘I was cold.’ (lit. “the cold climbed up on me”) (Fl)

c. nó tâ má ʃīⁿ [Ø kē-ʃùⁿʔɔ̀ⁿ]
1Sg **Past** **IpfvNeg** work(v).Ipfv [Art work(n)]
‘I didn’t use to work.’ (Fl)

In Bi dialect, general past râ ~ rà is replaced by dè before Ipfv à as dà= à, although its tapped variant rà= à might be parsed by some speakers with rà rather than with dè.

In §16.4 below we show that the same IpfvPast morphemes (yì, è, dè) also occur in counterfactual conditionals, where they normally combine with base (not Ipfv) verbs.

10.3.1.9 Stative adjectival verbs with regular past markers

Adjectival verbs (‘be hot’, ‘be big’, etc.) are described in §11.4.1 below. In nonpast contexts they co-occur with Ipfv particle à or IpfvNeg má(ⁿ). The verbs merge base with Ipfv, and often with Pfv (if the latter exists at all), so these stem labels don’t have much value for adjectival verbs. Some other stative verbs like invariant plé ‘be easy’ or ‘be better’ behave similarly.

The corresponding past-time clauses add the dialectally appropriate past marker after the subject. In dialects other than Bi, the positive past forms are tá à and ká à plus the verb. Examples are in (780).

(780) a. [ē ɲù] tá à bɔ̀
[Art water] **Past** **Ipfv** be.hot/burn.Ipfv
‘The water was hot.’ (Fl)

c. zàkì ká à gbāʔā
Z **Past** **Ipfv** be.big.Ipfv
‘Zaki was fat.’ (Ji)

For Bi dialect, the IpfvPast morpheme dɛ̀ is followed directly by the verb, without Ipfv à, as also in regular past imperfectives.

(781) a. zàkí dɛ̀ dīʔɛ̄
Z **IpfvPast** be.long.Ipfv
'Zaki was tall.' (Bi)

b. zàkí dɛ̀ gbāʔā
Z **IpfvPast** be.big.Ipfv
'Zaki was fat.' (Bi)

c. [bó [n dɛ̀^{n}ʔɛ́^{n}]] nè plé
[3AnSg [Sg one]] **IpfvPast** be.better.Ipfv
'By itself it was better.' (Bi 2017-09 @ 01:24)

d. é! [ē kě] rè kāʔā dī-nā^n-dɛ̀^{n} =nɛ̄ʔ
oh! [Art thing] **IpfvPast** be.hard.Ipfv in.the.past Emph
'Oh, the thing was indeed difficult back in those days!'
(Bi, 2017-10 @ 03:31)

e. [ā [ɲùʔɔ́-sūʔō]-dàʔà] à lè kò
[3Inan [mouth-catch.Pfv]-time] 3Inan **IpfvPast** be.good.Ipfv
'In the beginning (=at first), it was good.'. (Bo, 2019-03 @ 01:04)

Past negative examples are in (782). The past or IpfvPast morpheme precedes IpfvNeg má(^{n}), the regular negative marker for all non-perfective clauses.

(782) a. ɔ̀^{n} nè má^n gbāʔā bè-yá =rɛ̄ʔ
3AnSg **IpfvPast** **IpfvNeg** be.big.Ipfv thus Emph
'It was not all that big.' (Bi, 2017-09 @ 00:31)

b. zàkí dɛ̀ má^n dīʔɛ̄ (=ʔ)
Z **IpfvPast** **IpfvNeg** be.long.Ipfv Neg
'Zaki wasn't tall.' (Bi)

c. [ē wùʔù] tâ má kò [á tú-tūʔú]
[Art house] **Past** **IpfvNeg** be [Inan big]
'The house was not big.' (Fl)

d. zàkí tâ má dìʔɛ̀ / gbāʔā (=ʔ)
Z **Past** **IpfvNeg** be.long.Ipfv/be.big.Ipfv Neg
'Zaki was not tall/fat.' (Fl)

e. zàkí tá má dìʔɛ̀ / gbāʔā (=ʔ)
Z **Past** **IpfvNeg** be.long,Ipfv/be.big.Ipfv Neg
[=(d)] (Ma)

f.

zàkí	ká	má	dìʔɛ̀ / gbāʔā	(=ʔ)
Z	**Past**	**IpfvNeg**	be.long.Ipfv/be.big.Ipfv	Neg

[=(d)] (Ji)

g.

[ē	ɲù]	tâ	má	bɔ̀	=ʔ
[Art	water]	**Past**	**IpfvNeg**	be.hot.Ipfv	Neg

‘The water was not hot.’ (Fl)

10.3.1.10 Past of identificational ‘it is’ construction

The nonpast version of this construction has enclitic =à ~ =yà (or variant) after the predicative NP, followed by glò under some conditions (§11.2.1.1). The negative version is má(ⁿ) glò=ʔ (§11.2.1.2).

Adding a past marker to this is problematic. Our Fl and Ji speakers rejected any version of [X Past it.is] meaning ‘it was X’, such as #X ká =à or #X tá =à. There is a textual example of [X Past it.is] for Bi, but expected =à glò is replaced by wò glò (783a). Here wò is a cross between the segmental form of copula kō (which does not drop to kò before an L-tone) and the tone and syntax of =à ‘it is’. Other Bi textual examples that we initially thought were of the type [X Past it.is], such as (783b), turn out on closer inspection to involve dá= lenited from inanimate focalizer té.

(783) a.

[bè	tóʔó]	râ	wò	glò
[Dem.Def	Foc]	**Past**	it.is	it.is

‘<u>That</u> [focus] is what it was.’ (Bi, 2017-10 @ 05:03)

b.

[ē	pōʔō-kɛ̀ⁿʔɛ̀ⁿ-ń	dá=]	=à	=dɛ̄ʔ
[Art	the.bush-ascend.Base-VblN	**Foc.Inan]**	**it.is**	Emph

‘That was (=really meant) going up (=out) into the bush.’
(Bi, 2017-10 @ 00:50)

Since [X Past it.is] is either ungrammatical or marginal depending on speaker, a back door can be used to express the relevant sense. The topic noun is focalized, which requires final =à glò for positive polarity. The regular past marker may then be added (784a). The negative counterpart is past marker plus má plus glò =ʔ (784b).

(784) a.

[bè	tōʔó]	tá	[=à	glò]
[Dem.Def	**Foc]**	**Past**	**[it.is**	it.is]

‘<u>That</u> [focus] is what it was.’ (Fl)

b.

[bè	tōʔó]	tá	má	glò	=ʔ
[Dem.Def	**Foc]**	**Past**	IpfvNeg	**it.is**	Neg

‘‘<u>That</u> [focus] is not what it was.’ (Fl)

10.3.2 Phasal polarity

10.3.2.1 ‘Still’, ‘up to now’ (dá = à, bə̀ré)

In the elicited example (785), the combination dá = à including Ipfv particle à, followed by an Ipfv verb form, was offered as a translation of ‘still, up to now’. We identify the initial morpheme (factoring out vv-Contraction) as dó ‘however’, a subject-final particle (§19.3.8) with mildly adversative function (lightly challenging the addressee’s expectations).

(785)	[zàkí	dá =]	à	ʃĩⁿ	[Ø	kē-ʃùⁿʔɔ̀ⁿ]	mā
	[Z	**however**]	**Ipfv**	work(v).Ipfv	[Art	work(n)]	there.Def

‘Zaki is still working there.’ (Fl)

A similar construction occurs in textual example (786). The individual observed was dead but was being propped up to make the djinns think he was still alive.

(786)	[è	jə́ríⁿ-ní	dá =]	ā	ɲɛ̀	[ɔ̀ⁿ	lɛ̄ⁿ-kàʔà]
	[Art	djinn-Pl	**however**]	**Ipfv**	see.Ipfv	[3AnSg	stand.Pfv-Ppl.An]

‘The djinns still saw him standing.’ (Ji, 2017-04 @ 03:22)

This construction is only available to aspectually dynamic verbs, i.e. those which can combine with Ipfv à.

In texts, bə̀ré (< Jula bèléⁿ) occurs in the sense ‘still’, either by itself as in (Bi, 2017-08 @ 03:11) or in the combination álè bə̀ré (§19.1.7) as in (Bi, 2017-08 @ 08:47). álè kúⁿʔúⁿ ‘even today’ is also in common use, when the time frame extends over long periods. tàʔà-kó ‘again’ can sometimes be translated as ‘still’, as in 2017-09 @ 08:01. The verb ‘stay, remain’ (pìɛ̀ⁿ/pɛ̄ⁿ/pīⁿ) is common in texts. Its usage can obviate the need for a dedicated ‘still’ adverb. One of several examples is (Bi, 2017-08 @ 08:08).

10.3.2.2 ‘Again’ (klá, táⁿ-, tàʔà-kó)

For ‘VP again’, two options are a VP sequence or compound beginning with klɛ̄/klá/klá ‘return, do again’ (§15.1.3.1) or a compound beginning táⁿ- (§15.1.3.3). These are covered in chapter 15 in the sections just indicated. Compare English *re-* with verbs.

There is also an adverb tàʔà-kó that can be added to any VP. It can be glossed ‘again’, as ‘lately, since then’, or under negation ‘any longer, any more’.

(787)	zàkí	bà	tàʔà-kó
	Z	come.Pfv	**again**

‘Zaki came again.’ (Fl)

Textual examples of tàʔà-kó are: **Fl** (2017-05 @ 00:02 ‘once again’, 02:34 ‘the very same’, and 03:21 ‘again’), **Ji** (2017-07 @ 03:13 ‘again’, 2017-08 @ 09:07 [sense unclear], 2017-09 @ 08:01 ‘still, since then’), **Bi** (2017-09 @ 05:37 ‘again’), **Bo** (2019-03 @ 01:46 ‘lately’, 2019-06 @ 00:25 ‘lately’). Some of these passages also include the verb klɛ̄/klá/klá. Further examples of tàʔà-kó are given or cited in the following subsection.

For pragmatic ‘moreover, furthermore’, see §19.1.5 at (1482).

10.3.2.3 ‘No longer’ (negation plus tàʔà-kó)

‘No longer; not any more’ can be expressed by combining an imperfective negative predicate with tàʔà-kó ‘again’. This construction can be used with ordinary verbs or with statives like ‘have’ and ‘be’. A more precise gloss in some passages is ‘(not) since then’.

(788)	a.	nó	má	ʃĩⁿ	[Ø	kē-ʃùⁿʔɔ̄ⁿ]	tàʔà-kó
		1Sg	Ipfv**Neg**	work(v).Ipfv	[Art	work(n)]	**again**

‘I no longer work.’ (Fl)

b.	nó	má	kǎ=	[Ø	wùʔú]	tàʔà-kó
	1Sg	Ipfv**Neg**	with	[Art	house]	**again**

‘I no longer have a house / any houses.’ (Fl)

c.	nó	má	kò	[(Ø)	wúⁿ-dìⁿ]	tàʔà-kó
	1Sg	Ipfv**Neg**	be	[Art	chief]	**again**

‘I am no longer the (village) chief.’ (Fl)

Textual examples of ‘no longer; not any more’ are **Fl** (2017-05 @ 03:12), **Ji**, (2017-08 @ 08:55), and **Bo** (2019-03 @ 01:53-57).

10.3.2.4 ‘Not yet’ (negation plus tàⁿ)

‘Not yet’ is expressed by adding adverb tàⁿ ‘yet’ to a negative clause.

(789)	a.	zàkì	á	bà	tàⁿ	ʔ
		Z	Pfv**Neg**	come.Base	**yet**	Neg

‘Zaki has not yet come.’ (Fl)

b.	nó	má	kǎ=	[Ø	wùʔú]	tàⁿ	ʔ
	1Sg	Ipfv**Neg**	with	[Art	house]	**yet**	Neg

‘I don’t have a house yet.’ (Fl)

c.	ɔ́=	á	dí	tàⁿ	=ʔ
	1Pl	PfvNeg	eat.Base	**yet**	Neg

‘We haven’t eaten yet.’ (Ji)

There is one textual example (790).

(790) dè bùò á ɲī [ò jū-dɔ̌] tàⁿ ʔ
Quot LogoPl PfvNeg see.Base] [PlRefl eye-man] **yet** Neg
'(said:) "we haven't seen (=gotten) our husbands of choice yet." '
(Fl, 2017-05 @ 00:29)

tàⁿ does not occur in positive statements. However, it can occur in polar interrogatives like (791).

(791) *est-ce que* zàkí bà tàⁿ =āⁿ
Q Z come.Pfv **yet** **Q**
'Has Zaki come yet?' (Fl)

10.3.2.5 'Already' (kɔ̄)

'Already' can be expressed by a verb sequence or compound ending in kɔ̄ 'finish' (§15.1.3.6). With a more or less punctual verb like 'come', 'already' is the usual interpretation (792b). kɔ̄ can also be added to stative constructions like 'have' (792c).

(792) a. nó bɛ̄-kɔ̄
1Sg cultivate.Pfv-**finish.Base**
'I have finished cultivating.' = 'I have already cultivated.' (Fl)

b. zàkí bà-kɔ̄
Z come.Pfv-**finish.Base**
'Zaki has already come.' (Fl)

c. zàkí kǎ= [Ø dɔ̄rāʔá] [ò jɔ̄ⁿ] kɔ̄
Z with [Art courtyard] [Pl two] **finish.Base**
'Zaki already has two houses.' (Fl)

As with Eng *already*, it is understood that the completion was fairly recent. For cases where the event may have occurred at any time in the past, see the experiential perfect 'have ever VPed, have VPed (at least once)', §15.1.4.3.

Some textual passages where 'already' would be part of an idiomatic English translation lack kɔ̄, for example (Fl, 2017-03 @ 02:05).

This kɔ̄ should be distinguished from the noun kɔ̄ '(a specific) day', and the related adverbial kɔ̄-kɔ̄ 'nowadays'.

10.4 Deontic modals

10.4.1 Imperatives and prohibitives

10.4.1.1 Imperative (unsuffixed singular, plural preverb ɔ̀)

The verb, in the base form, serves as imperative. The Ipfv form of the verb cannot be used. There is usually no overt marking of 2Sg subject (addressee), although the full 2Sg subject pronoun mó is occasionally present before the verb. 2Pl subject (addressee) is expressed by ɔ̀, which is partially homophonous to the 3Pl pronominal proclitic ɔ̀ ~ ɔ̄.

(793) a.

bá	dɛ̀-à
cultivate.**Base**	field-2SgPoss

‘Cultivate-2Sg your field!’ (Ji)

b.

ɔ̀	bá	[ɔ̀	dɛ̀]
Imprt.Pl	cultivate.**Base**	[PlRefl	field]

‘Cultivate-2Pl your field(s)!’ (Ji)

Textual examples of the singular imperative include mó tɛ̀ʔɛ̀-klɛ́ ‘you be quiet!’ (Ji, 2017-01 @ 01:43), kɔ̄ =nì ‘finish it!’ (Ma, 2017-01 @ 00:35), and lɛ́ⁿ [[Ø jɥ̀ɛ̀ʔɛ́ dó] nī] ‘accept God’s (role)!’ (Ma, 2017-02 @ 03:07). A textual example of the plural imperative is ɔ̀ tó-jūʔɔ̄ ‘listen-2Pl!’ (Ji, 2017-01 @ 00:53).

Imperative subjects can bind reflexives in non-subject NPs. (793a-b) above show reflexive possessor marking on the object. For simple reflexive objects in imperatives (‘kill yourself!’ etc.), see §18.1.2.

Most imperatives in the texts are quoted. Quoted imperatives present the same base stem of the verb as in nonquoted imperatives. Unless the original addressee is the current speaker or addressee, the original addressee is shifted to third person, either 3AnSg ɔ̀ⁿ or 3Pl ɔ̀ (§17.1.4).

Plural imperative with ɔ̀ and 3Pl perfective with ɔ̀ are usually distinguishable by either or both of two indicators. First, the verb takes base form in imperatives and Pfv form in perfectives. Second, plural imperative ɔ̀ does not raise to ɔ̄ before an L-tone, while 3Pl proclitic ɔ̀ does (794a-b).

(794) a.

ɔ̄	ɲɛ̀ʔɛ̀
3Pl	write.Pfv

‘They wrote.’ (Ji)

b.

ɔ̀	ɲɛ̀ʔɛ̀
Imprt.Pl	write.Base

‘Write-2Pl!’ (Ji)

So full ambiguity results only with verbs that have a single nonlow-toned form for Pfv and base. Some such verbs have adjectival semantics and are not often used in commands.

10.4.1.2 Prohibitive

10.4.1.2.1 Prohibitive mâ(ⁿ), plural ò mâ(ⁿ)

The prohibitive (negative imperative) is expressed by mâ (Bi mâⁿ) plus the base stem of the verb. The contour tone requires some prolongation of the vowel. However, in allegro speech the tone can be flattened to mā, which does not require secondary prolongation. For plural subject, ò is preposed to mâ. The clause-final glottal stop that is common in indicative negatives is occasionally present in prohibitives.

The Ipfv stem may occur instead of the usual base stem for blanket prohibition over a wide time interval, as in 'don't ever …!' There is a textual example of Ipfv gblī 'take' in the sense 'choose' in a quoted prohibitive; see (1313a) in §17.1.6.2.

Prohibitive mâ differs tonally from IpfvNeg má, which occurs in a range of negative clauses (imperfective, stative, future). The danger of confusion is mitigated by the fact that IpfvNeg má is immediately followed either by an Ipfv or Pfv (but not base) verb stem, or by future bè.

Some elicited prohibitives are in (795).

(795) a. mâ bà
Proh come.**Base**
'Don't-2Sg come!' (Ji)

b. ò mâ bà
Imprt.Pl **Proh** come.**Base**
'Don't-2Pl come!' (Ji)

c. mâ bá dɛ̀-à
Proh cultivate.**Base** field-2SgPoss
'Don't cultivate-2Sg your field!' (Ji)

d. ò mâ bá [ō dɛ̀]
Imprt.Pl **Proh** cultivate.**Base** [PlRefl field]
'Don't cultivate-2Pl your field(s)!' (Ji)

e. ò má ɲɔ̄ =ʔ
Imprt.Pl **Proh** drink.**Base** Neg
'Don't-2Pl drink!' (Fl Ji)

Two textual examples of prohibitives with second-person subject-addressee are in (796).

(796) a. mâ mà
Proh laugh.**Base**
'Don't-2Sg laugh!' (Ma, 2017-01 @ 01:48)

b. mâ dè dè [[Ø ú^{n} bíɛ́] nī]
Proh say.**Base** Quot [[Art village all] Loc]
'Don't say (=think) that (it's) in the whole village!' (Ji, 2017-01 @ 04:31)

The specific combination in (796b), namely mâ dè 'don't say', is especially common, since 'say' has a broad range of meanings including 'think' and therefore 'intend, plan (to)'. mâ dè occurs when the speaker wishes to dissuade the addressee from a course of action or from a thought. Other textual examples are (Ji, 2017-01 @ 04:34), along with numerous examples from our Bi speaker pronounced mā^{n} dè ~ mā nè : (2017-07 @ 09:43 & 09:59), (2017-08 @ 10:22 & 10:31), and (2017-10 @ 06:35). Likewise mâ dò (Fl, 2017-03) with a different form of the base verb.

Prohibitives can be made emphatic. One predictable way to do this is to add the all-purpose clause-final emphatic =dɛ̄ʔ (§19.4.1), as in mâ bà =rɛ̄ʔ 'don't come!'. Another emphatic attested with prohibitives is ké (§19.4.6), as in mâ bà ké 'don't come!' Another adverb that can be added is tàʔà or tàʔà-kó 'again' (§10.3.2.2), as in mâ bà tàʔa 'don't come back (again)!'.

Many prohibitives that occur in the recordings are quoted prohibitives, with an explicit quotative verb or quotative particle. They have the same mâ(^{n}) and the same base verb as in unquoted prohibitives; see §17.1.6.2 for discussion and examples. Purposive clauses can also use prohibitives (§17.6.2.4).

Prohibitives may also have first or third person subjects, without an overt quotative or other subordinator. The examples in (797) reflect the speaker's own views. The form of ò mâ in (797b) would also be compatible with 2Pl subject prohibitive, but the context suggests that it is 3Pl.

(797) a. é-yùò mâ klà-lò [[dùʔ= á] nī]
1Pl **Proh** play.**Base** [[cliffs Dem.InanSg] Loc]
'We mustn't play in (=be neglectful of) those cliffs.' (Ji, 2017-11 @ 10:10)

b. ò mâ glō [Ø kè-tɛ̀ʔ=] [à nī]
3Pl **Proh** take.out.**Base** [Art hand] [3Inan Loc]
'So, the villagers too, they mustn't keep— they mustn't abandon it.'
(Ji, 2017-11 @ 10:50)

c. [kā jì] mâ kè-klē =nì
[creature Indef] **Proh** ruin(v).**Base** 3InanObj
'Nothing (=no creature) must spoil it.' (Ji & Fl, 2017-11 @ 04:53)

The examples in (797) have the same structure as quoted prohibitives (§17.1.6.2) and other subordinated prohibitives, but they do not imply a subordinator.

10.4.1.2.2 Prohibitive variant má-nà

A variant prohibitive má-nà instead of mâ is attested but appears to be much less common. We can discern no semantic or pragmatic difference between mâ and má-nà. má-nà occurs in one ordinary textual passage (798b), and in traditional songs (text 2019-13).

(798) a. má-nà bà
Proh come.Base
'Don't come!' (Fl)

b. [ē yǒ] má-nà kàⁿʔàⁿ-klú [kǎ= [Ø dǒ bàⁿʔàⁿ]]
[Art woman] **Proh** get.together.Base [with [Art man other]]
'The woman may not get together with another man.'
(Bo, 2019-10 @ 05:19)

One is tempted to parse -nà as a special case of either future nà (§10.2.3.1) or counterfactual nà (§16.4.2). However, it may be that má-nà (possibly unsegmentable) is simply the archaic form of mâ. This would account diachronically for the falling tone of mâ, which is otherwise rare in stems and grammatical morphemes.

The nà element is more reliably present in the combinations with 'go' compounds to which we now turn.

10.4.1.2.3 Prohibitive má-nà á- or mà á- 'don't go and …!'

mâ and má-nà can be followed by a special form of 'go' as verbal compound initial preceding another verb (in base form). The 'go' verb, whose base is elsewhere yíʔí, takes the form í- (Fl) or (probably assimilated) á- (Ji). The attested combinations are má-nà í- varying with mâ í- for Fl, and má-nà á- for Ji.

(799) a. má-nà (~ mâ) í-dīē =ʔ
Proh **go**.Base-enter.Base Neg
'Don't go in!' (Fl)

b. má-nà á-dīē =ʔ
Proh **go**.Base-enter.Base Neg
'Don't go in!' (Ji)

10.4.2 Hortatives

Hortatives are suggestions rather than commands. Classically they have one or more second person addressees, and indicate or imply a potential agentive group also including the speaker, as in 'let's VP!' Such hortatives are hybrids between imperatives (addressed to one or more listeners) and 1Pl subject clauses. The English type *let's VP!* derived from biclausal *let us [_ VP]!* reflects this hybridization.

Tiefo-D hortatives can often be translated as 'let's VERB!' with implied 1Pl agentive group. However, they can also occur in suggestions for action to be carried out by agentive groups not including the speaker. This is to be expected in quoted hortatives, but it can also happen in unquoted hortatives.

10.4.2.1 Hortative positive

10.4.2.1.1 gbɛ̀ʔɛ́ 'let's go!'

There is a suppletive hortative-only verb gbɛ̀ʔɛ́, which by itself usually means 'let's go!' It is phonologically unrelated to yīʔē/yíʔí/yíʔí 'go'. In fact, gbɛ̀ʔɛ́ can be combined with a following verb, including yīʔē/yíʔí/yíʔí.

When used without an overt subject or other preverbal morpheme, gbɛ̀ʔɛ́ implies a single addressee (800a). If the addressee is plural, so that the agentive 'we' includes at least three persons, ò is preposed (800b). This is the same morpheme that occurs in plural-addressee imperatives.

(800) a. gbɛ̀ʔɛ́
go.Hort
'Let's-2Sg go!' (Ji)

b. ò gbɛ̀ʔɛ́
Imprt.Pl go.Hort
'Let's-2Pl go!' (Ji)

jó (see the following section) is optionally preposed.

There is one unquoted gbɛ̀ʔɛ́ in the recordings, addressed by one speaker to the other speaker before beginning a tale (801).

(801) gbɛ̀ʔɛ́ [kà lō]
go.Hort [with1 3Inan]
'Let's proceed with it!' (Ma, 2017-01 @ 01:48)

While 'let's go!' is often an appropriate free translation, gbɛ̀ʔɛ́ sometimes has a more subtle exhorting function and does not always include the speaker in the agentive role. Most textual examples of gbɛ̀ʔɛ́ are in quoted hortatives, presented and analysed in §17.1.6.3). Quoted hortatives add an overt subject.

gbɛ̀ʔɛ́ does not occur in hortative negatives ('let's not go!').

10.4.2.1.2 Hortative jí, jó, kò without overt subject

Elicited hortatives (the cues being French hortatives like *allons-y!* and *asseyons-nous!*) other than 'let's go!' (on which see the preceding section) generally begin with jó before the verb. For plural addressee, ò is preposed to jó, consistent with preverbal ò for other plural-addressee deontics (imperatives, prohibitives, gbɛ̀ʔɛ́ ‘let’s go!’). This linear order distinguishes jó from jí ‘if’, which precedes subjects.

jó is optionally but often followed by kò, which often contracts to encliticized =ò, resulting in jó =ò. We label both jó and kò as “Hort” in interlinears.

Hortative kò is audibly distinct from infinitival kō when immediately followed by a non-high tone. However, infinitival kō drops to kò before an H-tone, in which case the two morphemes are homophonous.

The verb in a hortative may be in Ipfv (802a,f) or base (802b-e) stem for verbs that distinguish the two. The choice depends on whether the proposal is for a single action (base stem), or for open-ended repetitions of the action (Ipfv stem). In the imperfective construction there is no Ipfv particle à following kò. Therefore kò plus Ipfv (imperfective hortative) is clearly distinct from k-ā plus Ipfv (imperfective infinitive). However, Ipfv -à- is intercalated between compounded verbs in imperfective hortatives (802f).

(802) a. jó =ò dí / ɲī / dɛ̄
Hort **Hort** eat.**Ipfv** / drink.**Ipfv** / sleep.**Ipfv**
‘Let’s-2Sg eat/drink/sleep!’ (Fl)

b. jó =ò tərā^{n} / kɛ̄^{n}ʔɛ̄^{n} / bá / bà
Hort **Hort** sit.**Base** / ascend.**Base** / cultivate.**Base** / come.**Base**
‘Let’s-2Sg sit down/go up/do farm work/come!’ (Fl)

c. jó bá [ó dɛ̀]
Hort cultivate.**Base** [PlRefl field]
‘Let’s-2Sg cultivate our field(s)!’ (Fl Ji)

d. jó dɔ̄= [Ø bá^{n}]
Hort buy.**Base** [Art sheep]
‘Let’s-2Sg buy a sheep!’ (Ji)
(< dɔ̄ [è bá^{n}])

e. ò jó dɔ̄= [Ø bá^{n}]
Imprt.Pl **Hort** buy.**Base** [Art sheep]
‘Let’s-2Pl buy a sheep!’ (Ji)

f. ò jó kò sù^{n}-à^{n}-[yīʔ-á-ʃìʔì]
Imprt.Pl **Hort** **Hort** do.early.**Ipfv-Ipfv**-[get.up.**Ipfv**]
‘Let’s-2Pl get up early (regularly)!’ (Fl)

g. ŋ́ ŋò rà-tē
1Sg Hort go.Base-put.down.Base
[wò dī-à-glō =nī^{n}] [wò bó]
[**Hort** remove.**Ipfv** 3Inan] [**Hort** tie.**Ipfv**]
‘Let me go and put down (the baobab) and take it (=finery) out and tie (it on).’
(Bi, 2017-08 @ 09:05)

The origin of jó is an interesting question. Some of our speakers suggest that jó is a contraction of jí ó ('if we'), but since jó follows imperative plural ò it cannot be taken as clause-initial. An alternative etymon is já 'leave, let', which occurs in causative constructions (§17.4.2.5.4). The shift to jó may have generalized from assimilation in jó =ò.

kò by itself without jó can mark a clause as hortative (803a). However, (803a-b) without jó and with no other overt subject can be interpreted as second-person subject hortatives ('go ahead and eat!'), not including the speaker. For plural addressee, ò (which remains L-toned) is preposed to kò (803b). If jó is added clause-initially, the speaker is included in the proposed action group.

(803) a.

kò	dí / ɲī
Hort	eat.Ipfv(or base) / drink.Ipfv

'Go ahead-2Sg and eat/drink!' (Fl Ji)

b.

ò	kò	dí / ɲī
Imprt.Pl	**Hort**	eat.Ipfv(or base) / drink.Ipfv

'Go ahead-2Pl and eat/drink!' (Fl Ji)

Compare hortative-style wishes with overt pronominal subject proclitics (§10.4.2.3.1 below).

In texts, jó in hortative function (i.e. disregarding contractions of jí 'if' with pronominal subjects) is uncommon. There is one example of plural-addressee ò jó (804).

(804)

[ò	jó	kà=	á-nɛ̀ʔɛ̆=	[Ø	wānàʔà-yùò]
[Imprt.Pl	**Hort**	**Hort**	go.Base-ask.Base	[Art	face-people]

'Let's go request (it) from the authorities.' (Fl, 2017-11 @ 06:45)

Hortative jó kò ~ jó =ò is distinct from infinitival jí kō, which highlights the locally climactic event in an event series (§15.2.1.2, §16.1.1.5).

10.4.2.1.3 Hortatives with overt subjects

The common form of hortatives in texts has just kò without jó. Unlike the elicited examples (preceding section), the textual hortatives often have overt subjects, whether 1Pl or otherwise (1Sg, 2Sg, third person). Here we present only hortatives without quotative frames. The verbs are specified in interlinears as base, Ipfv, or base/Ipfv (the latter when the verb has the same form for both stems).

(805) a.

ó	kò	dò-wē—	[[ó	wì-ɛ̀ʔɛ̀]	nī
1Pl	**Hort**	speak.**Base**-put.Base—	[[1Pl	put-Ppl.Inan]	Loc]

'Let's speak into our recorder.' (Ji, 2017-01 @ 00:23)
(refers to a digital microphone)

b.

mó	wò	kà^{n}ʔ-à^{n}-ʃī	=ǹ	kɛ̀
2Sg	**Hort**	reply.**Ipfv**	3InanObj	Emph

'Come on, respond to it!' (Ma, 2017-02 @ 00:35)

c. ŋ̀ gò tê= [Ø lóʔá=] =ā
2Sg **Hort** put.**Base/Ipfv** [Art intelligence] Q
‘You-Sg should pay attention (=be wary), right?’ (Fl, 2017-06 @ 01:40)

d. [mó gbɛ̄ [Ø jī] kɔ̄]
[2Sg pick.up.Base [Art Indef] finish.Base]
[nó kò gbɛ̄ [ē cīō [ò sá^{n}]]
[1Sg **Hort** pick.up.**Base** [Art bird.Pl [Pl three]]
‘You-Sg take an(other) one! Let me pick up (=talk about) three birds.’
(Bi, 2017-06 @ 00:03)

e. [bì tóʔó] kò yíʔí
[Dem.Def Foc] **Hort** go.**Base/Ipfv**
‘May that [focus] go (on)!’ (women, 2017-12 @ 01:08)

f. jə̀rɔ́^{n} mā bà [kǎ= [Ø wù^{n}ʔú^{n}-kě]],
[Rel if come.Base [with [Art head-matter]],
ɔ̀^{n} ŋò ɲɔ́ =nì
3AnSg **Hort** look.**Base** 3InanObj
‘If someone has come with a problem, he (=chief) should look at it.’
(Ma, 2018-02 @ 01:12)

A special case of hortative with subjects is imprecations of the type ‘(May) God VP!’ (§10.4.2.3). However, they do not have quotative frames.

Additional elicited examples are in (806).

(806) a. ó kò dɛ̄/ɲī
1Pl **Hort** sleep.**Ipfv**/drink.**Ipfv**
‘Let’s sleep/drink!’ (Fl Ji)

b. ɔ̀^{n}/ò kò ɲī
3AnSg/3Pl **Hort** drink.Ipfv
‘Let him-or-her/them drink!’ (Fl Ji)

10.4.2.2 Hortative negative (má jó, má jó kò)

The hortative negative is much less common than its positive counterpart. It is formed by preposing IpfvNeg má(^{n}) to jó, without kò. The verb can only take base stem form. Plural addressee is marked with initial ò in the same way as other positive and negative deontics. ‘Let’s not go!’ is based on the regular ‘go’ verb yīʔē/yíʔí/yíʔí, not on the suppletive gbɛ̀ʔɛ́ ‘let’s go!’ (807c).

(807) a. má jó bá [ò dɛ̀]
IpfvNeg **Hort** cultivate.Base [PlRefl field]
‘Let’s-2Sg not cultivate our field(s)!’ (Ji)

b.	ò	má	jó	bá	[ō	dɛ̀]
	Imprt.Pl	**IpfvNeg**	**Hort**	cultivate.Base	[PlRefl	field]

‘Let’s-2Pl not cultivate our field(s)!’ (Ji)

c.	má	jó	yíʔí
	IpfvNeg	**Hort**	go.Base

‘Let’s-2Sg not go!’ (Ji)

d.	ò	má	jó	ɲō	=ʔ
	Imprt.Pl	**IpfvNeg**	**Hort**	drink.Base	Neg

‘Let’s not drink!’ (Fl Ji)

If kò is added after jó, the verb can take Ipfv form. In other words, má jó kò plus Ipfv functions as the imperfective counterpart of má jó plus base. Our Fl assistant rejected (808) with base bá instead of Ipfv bé.

(808)	ò	má	jó	kò	bé	[ē	dɛ̀]
	Imprt.Pl	**IpfvNeg**	**Hort**	**Hort**	cultivate.Ipfv	[Art	field]

‘Let’s not cultivate the field (now or ever)!’ (Fl)

Textual example (1318) below has the same form as the elicited hortatives given just above, except that an overt subject is present.

10.4.2.3 Wishes and imprecations

10.4.2.3.1 Wishes with hortative kò

Divine wishes and imprecations have ‘God’ as subject (‘may God …!’), and otherwise have the form of regular hortatives. The subject may be any NP or pronoun, including 1Pl (809c). A special 1Pl non-subject form (ē) mìé (§4.3.1.4) is attested chiefly in such formulae, notably the very common (809a).

(809)	a.	[ē	jɥ̀ɛ̀ʔɛ́]	kò	tà^{n}-jūʔō	[Ø	mìé]
		[Art	God]	**Hort**	help.Base	[Art	1Pl]

‘May God help us!’ (Ma, 2017-03 @ 03:18)
likewise (Fl, 2017-02 @ 02:09), (Ma, 2017-05 @ 04:46), (Ma, 2017-10 @ 07:06), (women, 2017-12 @ 00:39)

b.	[ē	jɥ̀ʔɛ́]	ò	súʔū=	[Ø	dùgá]
	[Art	God]	**Hort**	catch.Base/Ipfv	[Art	blessing]

‘May God receive our prayers!’ (women, 2017-12 @ 00:43)

c.	ó	kò	dí
	1Pl	Hort	eat.Base

‘Let’s eat!’ (Fl Ji)

10.4.2.3.2 Wishes with kò ká including subjunctive ká

In the combination kò ká, the first morpheme could in theory be infinitival kō or hortative kò. We take it as hortative. A difficulty with the identification of ká is that a ká- occurs as Vb1 in verb-verb compounds in the sense 'VP again' (§15.1.3.2). Both kò ká in wishes and ká- 'VP again' are immediately followed by a verb in base form. Moreover, in some textual occurrences one could argue that kò ká is really just the hortative of 'VP again'.

The textual passages involving wishes are in (810).

(810) a.

[ò	wò	ká	klá	[[è	dɛ́-lɛ̀ʔɛ̀ⁿ]	nī]
[3Pl	**Hort**	**Sbjn**	return.Base	[[Art	health]	Loc]

[ò	ká	yíʔí	[à	[Ø	úⁿ]],
[**Hort**	**Sbjn**	go.Base	[with	[Art	village]],

[è	úⁿ]	[ānàʔà	nī]
[Art	village]	[face	Loc]

'May they go back in good health. May they take the village (=local area) forward.' (Ji, 2017-01 @ 00:35 & 00:37)

b.

[ē	jɥ̀ɛ̀ʔɛ́]	wò	ká	tàⁿ-jūɔ̄ʔɔ̄	[ò	biɛ́ʔ],
[Art	God]	**Hort**	**Sbjn**	help.Base	[3Pl	all],

[kò	sūɔ̄ʔɔ̄	[Ø	bɛ̆ⁿ]
[Hort	give.Base	[Art	peace]

'May God help all of them! (And) give (them) peace!'
(Fl, 2017-02 @ 02:09)

c.

ò	gò	ká	tàⁿ-jūʔɔ̄	[Ø	mìé],	ē→,
3Pl	**Hort**	**Sbjn**	help(v).Base	[Art	1Pl],	oh!,

kă=	[[Ø	kā	sɛ̀ⁿ-sə̄-rɛ́ⁿ	jəró]	à	bē	[ó	bàʔà]]
with	[[Art	creature	red-Pl	Rel.AnPl]	Ipfv	come.Ipfv	[1Pl	chez]]

'May they help us! Along with the white people who come to our zone.'
(Fl, 2017-11 @ 06:50)

ká alone, and the combination kò ká, also occur in purposive clauses (§17.6.2.6).

10.4.2.4 Negative wish with Jula kánà

kánà, said to be borrowed from Jula, occurs in a negative imprecation in one textual passage (811).

(811)

ò	kánà	kèʔè-kɔ̀-də́rā̂=	[Ø	mìé]
3Pl	**HortNeg**	ruin(v).Base-finish.Base-do.a.lot.Base	[Art	1Pl]

'May they (=elephants) not completely ruin (all of) us!' (Ji, 2017-09 @ 08:10)

11 Clause, VP, and predicate structure

11.1 Clausal constituents

The basic order of constituents is (812).

(812) a. preclausal elements (topic, jí ‘if’, pragmatic elements)
  b. subject
  c. ‘however’ (dó ~ dé), analysed as part of the subject
  d. infinitive (kō) or ‘if’ (bà ~ mà)
  e. past (ká, tâ, dè, etc.)
  f. aspect-negation inflections
  g. verb stem (Pfv, base, or Ipfv)
  h. direct object (including ditransitive theme)
  i. indirect object (dative)
  j. adverbial adjuncts
  k. clause-final emphatic particle

An example showing a portion of this order is (813).

(813)	má=	á	sūʔɔ̄=	[Ø	bú]	[ɔ̀^{n}	nó]	kú^{n}ʔú^{n}	=ʔ
	2Sg	PfvNeg	give.Base	[Art	money]	[Dat	1Sg]	today	Neg

‘You-Sg didn’t give me the money today.’ (Ji)

In the progressive construction, direct objects precede verbs.

There is no “structural” case marking. That is, there are no morphological distinctions between subject and direct object NPs. The exception is that some pronominal categories have special post-verbal enclitic object forms, and/or reduced pre-verbal proclitic subject forms.

There is no productive valency-changing derivational morphology (passive, causative, applicative). Many verbs are ambi-valent (labile), allowing ready alternation of transitive ‘X VERB Y’ and mediopassive (middle) ‘Y VERB’.

Temporal adverbials (‘today’) either occur late in the clause, or fronted to preclausal position to establish a setting (814a).

.

(814) a.	kú^{n}ʔú^{n}	ná=	à	yíʔì=	[[Ø	yíʔé]	nī]
	today	1Sg	Ipfv	go.Ipfv	[[Art	trip(n)]	Loc]

‘Today I am traveling.’ (Ji)

b.	ná=	à	yíʔì=	[[Ø	yíʔé]	nì]	kú^{n}ʔú^{n}
	1Sg	Ipfv	go.Ipfv	[[Art	trip(n)]	Loc]	**today**

‘I am traveling today.’ (Ji)

Spatial and manner adverbials are fronted less often. They usually occur at or near the end of the clause. NPs can appear as preclausal topics, generally requiring pronominal resumption in the clause proper. Constituents can be focalized without being moved, by adding focus markers.

11.1.1 Subjects

Subjects occur in clause-initial position, before any clause-level inflectional particles (if present) and before verbs and other predicates. Pronominal as well as nonpronominal (noun-headed) subjects occur in the same linear position. There is no “nominative” case-marking. There is no subject agreement on the verb.

11.1.1.1 Subjects in indicative main clauses

Noun-headed NPs can function as subjects in the same form that they have in other functions (object, possessor). Pronominal subjects can take full (independent) form or proclitic form, the details varying from one pronoun to another. Third-person pronominal subjects generally take proclitic form (3AnSg ɔ̀ⁿ, etc.), as they do when functioning as possessor or postpositional complement.

The only major difference in form between subjects and other NPs is that subjects may end in dé ~ dó ‘however’ (§19.3.8).

When there is no overt clause-level inflectional particle, the subject is immediately followed by the verb or other predicate. This is the case in perfective positive clauses (815a-b). The subject is followed by the copula ‘be’ in (815c).

(815)	a.	zàkí / nó	dìè-só
		Z / 1Sg	fall.Pfv
		‘Zaki / I fell.’ (Fl)	

b.	[nó	sē]	/	mó	klɛ̄ⁿʔɛ̄ⁿ	[[Ø	ʃīⁿʔíⁿ]	yá]
	[1Sg	**father]**	**/**	**2Sg**	ascend.Pfv	[[Art	tree]	Dem.InanSg]
	‘My father / You-Sg climbed that tree.’ (Fl)							

c.	[è	bí-ʃīō]	/	é-yùò	kō	[Ø	cɔ̀fɔ́]
	[Art	**child.Pl]**	**/**	**1Pl**	be	[Art	Tiefo]
	‘The children / We are Tiefo.’ (Fl)						

When a nonzero clause-level inflectional particle is present, the particle occurs between the subject and the verb. This is the case for imperfective and future positive clauses, and for all negative clauses. Pronominal subjects usually contract with vocalic inflectional particles (PfvNeg á, Ipfv à) as in (816a); see §3.4.6.3 for analysis and paradigms.

(816) a. ná= á ɲī zàkí
1Sg **PfvNeg** see.Base Z
'I did not see Zaki.' (Fl)
(< nó á ɲī)

b. [mó sē] bē bà fā^{n}ʔā^{n} kū^{n}ʔú^{n}
[2Sg father] **Fut** come.Pfv here today
'Your-Sg father will come here today.' (Fl)
(< bè bà)

c. zàkí à ʃī^{n} [Ø kē-ʃù^{n}ʔɔ̄^{n}] [ɔ̄^{n} bàʔà]
Z **Ipfv** work(v).Base [Art work(n)] [3AnSgRefl chez]
'Zaki works at (his) home.' (Ji)
(< ɔ̀^{n} bàʔà)

11.1.1.2 Subjects in relative and complement clauses

In relative clauses, subjects occur in their usual clause-initial position. If a non-subject head NP is not shifted to the left (preceding the relative clause), it occurs in its regular postverbal position.

(817) a. mó kùō= [Ø bū^{n}ʔɔ̄^{n} jə̀rɔ́^{n}]
2Sg hit.Pfv [Art dog Rel]
'the dog that you-Sg hit-Past' (Ji)

b. má= á ko᷅= [Ø bū^{n}ʔɔ̄^{n} jə̀rɔ́^{n}]
2Sg PfvNeg hit.Base [Art dog Rel]
'the dog that you-Sg didn't hit' (Ji)

In textual passages where several successive actions are predicated, noninitial clauses are often expressed as sequenced VPs containing infinitival kō (§15.2). If the subject is held constant, it may or may not be repeated as a pronoun before the kō VPs. In (818), two infinitival VPs follow the initial main clause. The first infinitival clause repeats the subject as a pronoun, the second does not.

(818) ó bà flò =nì,
1Pl if sauté.Base 3InanObj,
ó gō júá^{n}-glō =nì,
1Pl **Infin** lick.Base-remove.Base 3InanObj,
kō càʔà =nì,
Infin dry.in.sun.Base 3InanObj
'When we have sautéd it, we scoop it out. Then (we) dry it (in the sun).' (women, 2017-16 @ 00:24-00:27)

11.1.1.3 Subjects of imperative and hortative verbs

In main-clause (i.e. not quoted) imperatives, there is no overt marking for singular addressee, and a special marker ò (distinct from 2Pl pronoun bùò) occurs for plural addressee. The plural-addressee construction is often distinguishable from perfective main clauses with 3Pl subject ò, since imperatives use the base of the verb, not the Pfv.

(819) a. tə̄rā^{n}
sit.Base
'Sit-2Sg down!' (Fl)

b. ò tə̄rā^{n}
Imprt.Pl sit.Base
'Sit-2Pl down!' (Fl)

c. ō tə̀rɛ̀^{n}
3Pl sit.Pfv
'They sat down.'
(< ò)

There is an issue whether ò in (819b) marks 2Pl subject as such, or merely plural addressee. The issue is clearer with hortatives, which use ò to mark plural addressee, while the logical subject may be 1Pl, cf. Eng *let's eat!* This suggests that ò with deontic clauses marks addressee rather than subject, but that deontics also have subjects which strictly include the addressee(s).

In examples where a regular 2Sg or 2Pl pronoun precedes the imperative, we take it to be a vocative or a topic.

(820) a. mó(,) tə̄rā^{n}
2Sg(,) sit.Base
'You-Sg, sit-2Sg down!' (Fl)

b. bùò(,) ò tə̄rā^{n}
2Pl(,) Imprt.Pl sit.Base
'You-Pl, sit-2Pl down!' (Fl)

Imperative subjects can bind reflexives in non-subject functions. See (793a-b) above for reflexive possessors, and §18.1.2 for reflexive objects.

11.1.1.4 Temporal and meteorological subject-verb collocations

Some temporal and meteorological events are expressed by lexicalized subject-object collocations.

(821) a. [è tɛ́ⁿ] klē
[Art **daybreak**] day.break.Pfv
'Day broke.' (Fl)

b. [ē blīʔí] yūɔ̄
[Art **night**] become.black.Pfv
'Night fell.' (Fl)

c. [ē dè] tīɛ̄ⁿʔɛ̄ⁿ
[Art **sun**] become.warm.Pfv
'It was (=became) mid-day.' (around noon to 2 PM) (Fl)

d. [ē dè] sē(-dīē)
[Art **sun**] land(v).Pfv(-enter.Base)
'The sun set.' (Fl)

In (821a), the noun tɛ́ⁿ has the specialized sense 'daybreak' and it occurs chiefly in this collocation with the otherwise unattested klē/klē/klē '(day) break', distinct in the Pfv from klè/klē/klē 'crack open (nut, shell)', and distinct throughout from invariant klè 'do' or 'be done, happen'. Compare dè 'day (as unit of time)' or 'sun', and kɔ̄ 'daytime (daylight hours)' or '(a specific) day'.

The collocations in (821b-c) have adjectival (color and temperature) verbs. The verb in (821d) is sē/sɔ́/sɔ́ (Bi sūɔ̄/sɔ́/sɔ́) 'land (v); (bird) perch, come to rest'.

The verb 'become black' in (821b) can also be used in a construction with human subject. (822) could describe someone who came late for a morning rendez-vous. We take yūɔ̄ as causative 'cause to become black', i.e. 'cause to be (still) night'.

(822) zàkí yūɔ̄ [Ø blīʔí]
Z make.black.Pfv [Art **night**]
'Zaki showed up late.' (Fl)

The onset of meteorological seasons of the year is expressed by 'enter', by 'exit (v)' (in the sense: come out, appear, emerge), by 'arrive', or by 'be put'. Of these, 'exit (v)' denotes the transition into the indicated season, cf. local Fr *l'hivernage s'annonce* 'the rainy season announces itself', while 'enter' and 'arrive' denote the full onset. Expressions for the middle and end of a season, using transparent vocabulary, are in (823d-e).

(823) a. [ē klàʔá] glɔ̄ / dìè / dɛ̀ⁿ
[Art **rainy.season**] exit(v).Pfv / enter.Pfv / arrive.Pfv
'The rainy season has begun.' (Fl)

b. [ē tùwíé] glɔ̄ / dìè / dɛ̀ⁿ
[Art **dry.season**] exit(v).Pfv / enter.Pfv / arrive.Pfv
'The dry season has begun.' (Fl)

c. [ē klàʔá] dìè [à ʃícùòʔò]
[Art **rainy.season**] enter.Pfv [3Inan middle]
‘The rainy season is in its middle.’ (Fl)

d. [ē klàʔá] kpà
[Art **rainy.season**] finish.Pfv
‘The rainy season has ended.’ (Fl)

e. [ē fūʔú] tīē
[Art **heat(n)**] be.put.Pfv
‘It’s hot season.’ (Fl)

A nominal expression for the middle of the rainy season, around August, is [sə̀-rɔ̀-ʔɔ́]-blō-dāʔá (Fl), literally ‘caterpillar-rain-time’. This alludes to the prevalence of *Cirina butyrospermi*, an edible caterpillar on karité (shea) tree (*Vitellaria paradoxa*) that occurs in enormous numbers in the area and is consumed at that time.

The verb wē/wó/wó, elsewhere meaning ‘(wet clothes) dry out’, combines with the noun ‘rain’ as subject in the sense ‘rain fall’ (824a), perhaps in the sense that the clouds are emptied of water. Another collocation with ‘rain (n)’ as subject is with the verb kɛ̀ⁿ/kāⁿ/kāⁿ ‘(rain) cease’ (824b), distinct tonally in base=Ipfv from kɛ̀ⁿ/kàⁿ/kàⁿ ‘scrape’. ‘Rain (n)’ is also used with ‘come’ in the sense of ‘be about to rain’ or ‘start raining’.

(824) a. [ē blō] wē
[Art **rain(n)**] rain.fall.Pfv
‘It rained.’ (Fl)

b. [ē blō] kɛ̀ⁿ
[Art **rain(n)**] rain.cease.Pfv
‘It stopped raining.’ (Fl)

The noun ‘wind’ combines most often with the verb gbà/gɔ̀/gò ~ gù ‘tap, bump’. This noun can also combine with the stative, adjective-like predicate fɔ̄rɛ̄ ‘fan (sth, sb)’ in the sense ‘be breezy, wind blow off and on’ (825b). ‘Wind stop’ is transparent, with lɛ̄ⁿ/lɛ́ⁿ/lɛ́ⁿ ‘stop’ (825c).

(825) a. [ē ɲùɔ̀ʔɔ́] ā gò
[Art **wind(n)**] Ipfv tap.Ipfv
‘The wind blows/is blowing.’ (Fl)

b. [ē ɲùɔ̀ʔɔ́] à fɔ̄rɛ̄
[Art **wind(n)**] Ipfv fan(v).Ipfv
‘It’s breezy.’ (wind is blowing off and on) (Fl)

c. [ē ɲùɔ̀ʔɔ́] lɛ̄ⁿ
[Art **wind(n)**] stop.Pfv
‘The wind has stopped (blowing).’ (Fl)

Ambient temperature (heat, cold) is covered in §11.1.1.6 below.

11.1.1.5 Emotional subject-verb collocations

Predications of personality type have as subject a possessed form of lī^n 'guts; interior' or of sɔ̀^{n} 'heart, moral center'. 'Guts' can be 'sweet' or 'bitter'. 'Heart' is simply 'good' or its negation.

(826) a. [zàkí lī^n] =à^n dá^n
[Z **guts**] Ipfv be.sweet/pleasant.Ipfv
'Zaki is kind.' (Fl)

b. [zàkí lī^n] =à^n tɛ́^{n}
[Z **guts**] IpfvNeg be.bitter.Ipfv
'Zaki is mean.' (Fl)

c. [zàkí sɔ̀^{n}] =ā^n kò
[Z **heart**] Ipfv be.good.Ipfv
'Zaki is good-natured (doesn't anger easily).'

Some predicates of temporary emotional state have as subject a possessed form of ɲɔ́ (or variant). Here it can be glossed as 'heart' in the sense of energy, courage, vitality. ɲɔ́ is related to ɲɔ́-rɔ́^{n} 'liver', an originally plural form that now functions as singular. Happiness or unhappiness is expressed with the verb 'become cold', i.e. 'cool (down)'. This verb can take the full range of tense-aspect inflections (827).

(827) a. [zàkí ɲɔ́] lɛ̄^{n}
[Z **heart**] become.cold.Pfv
'Zaki is (has become) happy.' (Fl)

b. [zàkí ɲɔ́] á lí^n =ʔ
[Z **heart**] PfvNeg become.cold.Base Neg
'Zaki is unhappy (sad).' (Fl)

c. [zàkí ɲɔ́] bè lɛ̄^{n}
[Z **heart**] Fut become.cold.Pfv
'Zaki will be(come) happy.' (Fl)

Anger takes as subject a possessed form of ɲá-jù^{n}ʔɔ̀^{n} 'anger' (Bi dialect ɲá-ɲù^{n}ʔɔ̀^{n}), a compound consisting of a variant of ɲɔ́ 'heart (seat of emotions)' and the noun jù^{n}ʔɔ́^{n} 'pain' (828a). A stronger expression emphasizing the somatic manifestation of rage uses 'breath' (828b). In both cases the verb is klɔ̀/kɔ̄/kō ' (water) stir, be agitated, start to boil', also 'emit (sweat); suffer (craziness)'.

(828) a. [zàkí ɲá-jùⁿʔɔ̀ⁿ] klɔ̀
[Z **heart-pain**] be.agitated.Pfv
‘Zaki is (=has gotten) angry.’ (Fl)

b. [zàkí gùʔó] klɔ̀
[Z **breath**] be.agitated.Pfv
‘Zaki is seething (livid) with rage.’ (Fl)

For ‘shame’ see (831) below.

11.1.1.6 Bodily-state collocations

Nouns ‘hunger’ and ‘thirst’ are subjects of ‘be’ plus a locative PP denoting the experiencer. The alternative phrasing has ‘hunger’ or ‘thirst’ as subject with verb ‘catch’ in the sense ‘afflict’.

(829) a. [ē làʔà] kō [zàkí nī]
[Art **hunger**] be [Z **Loc**]
‘Zaki is hungry.’ (Fl)

b. [ē ɲɔ̄ʔɔ́] kō [zàkí nī]
[Art **thirst**] be [Z **Loc**]
‘Zaki is thirsty.’ (Fl)

c. [ē làʔà / ɲɔ̄ʔɔ́] sūʔō zàkí
[Art **hunger** / **thirst**] catch.Pfv Z
‘Zaki is hungry/thirsty.’ (Fl)

For ‘be hungry’ see the textual example (Bi, 2017-07 @ 05:54).

Sickness is associated with felt heat. It is predicated in the same phrasing as with ‘hunger’ and ‘thirst’ above. Other predicates of affliction not involving somatic states can use ‘get’ as verb, as with ‘misfortune’ in (830c).

(830) a. [ē lá-fūʔù] kō [zàkí nī]
[Art **heat**] be [Z **Loc**]
‘Zaki is sick.’ (Fl)

b. [ē lá-fūʔù] ʃūʔō zàkí
[Art **heat**] **catch**.Pfv Z
‘Zaki is sick.’ (Fl)

c. [ē kò-má-kò] bùò zàkí
[Art **misfortune**] **get**.Pfv Z
‘Zaki had an accident (misfortune).’ (Fl)

ʃūʔō ‘catch’ can also be used with the noun ‘shame’ as subject. This construction denotes a sudden feeling of shame (831a). A more enduring shame is expressed as (831b), with verb kùò/kò/cɥ̀ì ‘hit, kill’. Interestingly, the experiencer does the hitting!

(831) a. [ē sə̀rí] ʃūʔō nó
[Art **shame(n)**] **catch**.Pfv 1Sg
‘I (suddenly) felt shame; I was overcome by shame.’ (Fl)

b. nó kùō= [Ø sə̀rí]
1Sg **hit**.Pfv [Art shame(n)]
‘I was ashamed.’ (Fl)

The noun (è) dɛ́-lɛ̀ⁿʔɛ̀ⁿ ‘(good) health’ occurs in two frames. (832a) is literally “… has health”. (832a) is literally “health is in …”.

(832) a. zàkí kà [Ø dɛ́-lɛ̀ⁿʔɛ̀ⁿ]
Z **with** [Art **health**]
‘Zaki is healthy.’ (Fl)

b. [è dɛ́-lɛ̀ⁿʔɛ̀ⁿ] à-mā [zàkí nī]
[Art **health**] be.Loc [Z **Loc**]
‘Zaki is healthy.’ (Fl)

As temperature expressions, ‘heat’ (in the literal sense) and ‘cold (n)’ are subjects of action verbs with the experiencer as object. tó in (833a) is the verb tə̄rɔ̄/tɔ́/tó ~ tú ‘cook (sauce) by boiling; brew (beer) by boiling’.

(833) a. [ē lá-fùʔù] à tó zàkí
[Art **body.heat(n)**] Ipfv **boil**.Ipfv Z
‘Zaki is hot (feels hot).’ (Fl)

b. [ē lɛ̄ⁿʔɛ́ⁿ] ā cɥ̀ì zàkí
[Art **cold(n)**] Ipfv **hit**.Ipfv Z
‘Zaki is cold (feels cold).’ (Fl)

c. [ē lɛ̄ⁿʔɛ́ⁿ] klɛ̀ⁿʔɛ̀ⁿ nó
[Art **cold(n)**] **go.up**.Pfv 1Sg
‘I am cold.’ (lit. “Cold climbs up on me”) (Fl)

The phrasing “climbs up on X” is also used with full-body trembling (ē jì-jí) as subject.

Ambient cold and heat can also be described without overt reference to an experiencer. In addition to transitives where the object is simply omitted, i.e. generalized (834a-b), there is a dedicated construction with tɔ̀ʔɔ̀ ‘place’ as subject (834c-e)

(834) a. [è lá-fũʔù] à tó
[Art **body.heat(n)]** Ipfv boil.Ipfv
‘It’s sweltering hot.’

b. [ē lɛ̄ⁿʔɛ́ⁿ] ā cɥ̀ì
[Art **cold(n)**] Ipfv hit.Ipfv
‘It’s bitterly cold.’

c. [ē tɔ̀ʔɔ̀] ā bɔ̀
[Art **place**] Ipfv burn.Ipfv
‘It’s hot (out).’ (Fl)

d. [ē tɔ̀ʔɔ̀] à tūʔū
[Art **place**] Ipfv be.hot.Ipfv
‘It’s hot (out).’ (Fl, archaic verb)

e. [ē tɔ̀ʔɔ̀] lɛ̄ⁿ
[Art **place**] be.cold.Pfv
‘It’s cold (out).’

‘X bleeds’ is phrased as “blood exits from X.” However, ‘X has a nosebleed’ is phrased as “X’s nose bursts.” The noun ‘blood’ is optionally added as object.

(835) a. [ē tərɔ́ⁿ] =ɔ̄ⁿ glú [zàkí nī]
[Art **blood**] Ipfv exit.Ipfv [Z Loc]
‘Zaki is bleeding.’ (Fl)

b. [zàkí mɛ̄ⁿʔɛ́ⁿ] fɛ̀ ([ē tərɔ́ⁿ])
[Z **nose**] burst.Pfv ([Art blood])
‘Zaki’s nose is bleeding.’ (Fl)

‘X sweats (profusely)’ can be expressed as ‘X’s sweat jumps’. The verb ‘jump’ is usually yìè/yī/yi but an intensive form yə̄rī ‘keep jumping’ is attested in a text (836). yə̄rī may be a derived verb but we have no other similar examples (§9.6).

(836) [[ò bíɛ́] fə̄rú] g-ā yə̄rī
[[3Pl all] **sweat(n)**] Infin-Ipfv **jump**.Ipfv
‘All of them were sweating profusely.’ (Bi, 2017-10 @ 06:19)

11.1.2 Simple transitives

11.1.2.1 Direct objects of simple transitives

Direct objects immediately follow transitive verbs (except in the progressive construction). There is no case-marking of noun-headed object NPs (837a). First and second person pronominal objects have the same forms as in other grammatical functions (837b).

(837) a. nó kùǒ= [Ø nà-bí]
1Sg hit.Pfv **[Art child]**
'I hit the child.' (Fl)

b. [ē nà-bí] kùò nó
[Art child] hit.Pfv **1Sg**
'The child hit me.' (Fl)

Third person pronominals, however, have special object enclitics (§4.3.2.3): inanimate =nì, animate singular =(y)ò, animate plural =(w)ò and their variants. There is also an optional 2Sg object enclitic =mì (§4.3.1.3).

11.1.2.2 Predicates with onomatopoeias and loanwords

Onomatopoeias denoting sounds produced by an entity can function directly as stative predicates. For present time, either Ipfv à or IpfvNeg má precedes the onomatopoeia (838a-b). For past time, the dialectally appropriate past morpheme is added after the subject (838c-d).

(838) a. [ē mɔ́tə́rɛ́] ā pò-pò-pò-pò
[Art motor] Ipfv (sound of motor)
'The motor is rumbling.' (Fl)

b. à má pò-pò-pò-pò
3Inan IpfvNeg (sound of motor)
'It is not rumbling.' (Fl)

c. à tâ pò-pò-pò-pò
3Inan Past (sound of motor)
'It was rumbling.' (Fl)

d. à tâ má pò-pò-pò-pò
3Inan Past IpfvNeg (sound of motor)
'It wasn't rumbling.' (Fl)

Onomatopoeias can be made into regular verbal predicates using the semantically light and formally invariant transitive verb klὲ ‘do’, here in its intransitive function ‘be done; happen; become’. In this case the predicate has the full range of tense-aspect categories.

(839) [ē mɔ́tərέ] …
[Art motor] …

a.	…	klὲ	pò-pò-pò-pò	perfective
b.	…	á klὲ	pò-pò-pò-pò	perfective negative
c.	…	à klὲ	pò-pò-pò-pò	imperfective
d.	…	má klὲ	pò-pò-pò-pò	imperfective negative
e.	…	bē klὲ	pò-pò-pò-pò	BE-future
f.	…	má bē klὲ	pò-pò-pò-pò	future negative
g.	…	nà klὲ	pò-pò-pò-pò	NA-future

klὲ ‘do’ or ‘be done’ also forms collocations with loanwords that cannot directly combine with inflectional particles. An example is klὲ *constat* ‘made a report’ (Bi, 2017-09 @ 05:08)

11.1.2.3 Lexicalized verb-object collocations

A number of lexicalized subject-verb collocations were presented above, especially in §11.1.1.4. There are also a number of tightly-knit verb-object collocations. Some examples are in (840).

(840)

	verb	object	collocation gloss	comment
a.	wè/wō/wō (Bi Ji) wè/wūō/wūō (Fl Ma)	(ē) dərìⁿʔíⁿ	‘sing a song’	
b.	lὲ/lɔ̄/lɔ̄	(any surface)	‘scratch (sth)’	
		(ē) flìⁿʔìⁿ	‘cough (v)’	
c.	kūō/kú/cɥ́í	(any object)	‘cut (sth)’	
		(ē) dὲ	‘clear a field’	
		(any person)	‘interrupt (sb)’	
		(any woman)	‘court (v), woo’	
d.	kpὲⁿʔὲⁿ/kpàⁿʔàⁿ/kpìⁿʔìⁿ	(nail, needle)	‘drive in, nail (v)’	
		(è) ló-tù-tə̀-rù	‘kneel’	“drive in knees”
e.	wɛ̄ʔɛ/wáʔá/wáʔá	(è) ná-tè	‘make noise’	cf. (ē) nā-tò ‘ear’
f.	yɥ̀ὲ/wē/yɥ̄ī (Fl)	(ē) kὲ-tὲʔὲ	‘lend a hand, help’	“put in hand”

11.1.2.4 Cognate nominals associated with verbs

Deverbal nominals are presented in §4.2.1.1 (productive verbal noun) and §4.2.1.2 (lexical nominals). In most cases verbs and cognate nominals do not combine into fixed collocations. One doesn't 'weep a weeping', 'die a death', 'jump a jump', 'fall a fall', or the like. One important exception is that one does 'work (=perform) a work' (841). Here the cognate nominal adds a compound initial (presumably kě 'matter, issue').

(841)	verb	noun	gloss of combination
	sùɔ̀^{n}/sɔ̄^{n}/ʃī^{n}	(ē) kē-sù^{n}ʔɔ̀^{n}	'work (v), perform work'

There is a textual example of 'damage (some) damage' including a verb and the related verbal noun (Ji, 2017-09 @ 04:07).

11.1.2.5 Ditransitives

The prototypical ditransitive verbs are 'X give Y to Z' and 'X show Y to Z'. In Tiefo-D the order is similar to the English translations just given: subject, inflectional particles, verb, theme (Y) as direct object, and indirect object Z as dative PP. The Y constituent may be pronominal or a full noun-headed NP, and it takes the same form as direct objects in simple transitives. Pronominal indirect objects do not move to postverbal position over a nonpronominal direct object.

The indirect object Z is expressed as a PP with dative preposition ɔ̀^{n} or variant (§8.1.2, §4.3.2.3). ɔ̀^{n} can also function with no further morphemic material as the 3AnSg dative form. Although this is syntactically a preposition bracketed with the following NP, it is pronounced as an enclitic on a preceding theme NP if there is one. If the theme is omitted, ɔ̀^{n} is encliticized to the verb.

(842) a.	ò	bà	sūʔɔ̄,	[ē	yīɛ̄-bìʃìɔ̀^{n}]	[ɔ̌^{n}=	[Ø	dɔ̌]]
	3Pl	if	**give**.Pfv,	[Art	young.woman]	[**Dat**	[Art	man]]

'when they give a young woman to a man' (Bo, 2019-10 @ 00:06)

b.	d=	ó	mâ	lò	bè	[ɔ̀^{n}	[Ø	yúó]]
	Quot	1Pl	Proh	**show**.Base	Dem.Def	[**Dat**	[Art	people]]

'(They said) for us not to show that to people.' (Fl, 2017-11 @ 04:22)

Preposition ɔ̀^{n} occurs only in such ditransitives, and in the complement of dá^{n} 'be pleasing (to sb)'. The indirect object of 'say' is expressed by dative postposition bàʔà (§8.1.1).

11.1.3 Additional arguments and adjuncts

11.1.3.1 Syntax of expressive adverbials (EAs)

Tiefo-D is not rich in expressive adverbials (EAs), a term we prefer to "ideophone." See §8.5.8 for those we have observed.

Of the textual examples, most are adverbial adjuncts rather than predicates or NP-internal modifiers. See kpàpìò-kpàpìò-kpàpìò 'digging furiously' (Fl, 2017-03 @ 00:50), jàⁿ→ 'much-branched (tree)' (Bi, 2017-07 @ 05:40), and pərὲkὲtὲ 'wrecked, in terrible shape' (Bi, 2017-09 @ 03:47).

Some EAs can be made predicative by preposing the copula kō 'be' or its negation má kō 'not be'. See the examples with sέⁿ→ 'tiny' in (593) in §8.5.2.2.5. Another example is (843), which occurs in greetings (§19.6).

(843) [è bí-sīō] kò é-glé =ē→
[Art child.Pl] **be** Rdp-in.good.health Q
'Are the children in good health?' (Ji, 2017-01 @ 00:11)
(similarly @ 00:12 as glé-glé =ē→)

11.1.3.2 Adverbial phrases with verbs of motion and location

As explained in §8.3.1, directional 'to X' and 'from X' are expressed not by adpositions but by motion verbs like 'go', 'arrive', and 'exit, go/come from'.

Intransitive verbs of motion, and verbs like 'be' or 'sit' that denote static position, readily combine with locational adverbial phrases such as the PP 'in the field' (844a-c).

(844) a. ɔ̄ⁿ yīēʔē [[Ø dὲ] nī]
3AnSg **go**.Pfv [[Art field] **Loc**]
'He/She went to the field.' (Fl)

b. ɔ̄ⁿ glō [[Ø dὲ] nī]
3AnSg **exit(v)**.Pfv [[Art field] **Loc**]
'He/She left (=has come from) the field.' (Fl)

c. ɔ̄ⁿ= Ø-mā [[Ø dὲ] nī]
3AnSg **be.Loc** [[Art field] **Loc**]
'He/She is in the field.' (Fl)

One can substitute lexical adverbs like 'here' and 'there' for 'in the field' in these examples.

Transitive verbs of transfer ('put' 'remove') also take locational adverbial complements, as well as direct objects. The direct object (theme) follows the verb and precedes the locational.

(845)	a.	nó	wìè	[Ø	bū́ =]	[[[Ø	plùʔú]	līⁿ]	nī]
		1Sg	**put.in**.Pfv	[Art	money]	[[[Art	bag]	guts]	**Loc**]
		‘I put the money in(side) the bag.’ (Fl)							

	b.	nó	dīē-glṓ =	[Ø	bū́ =]	[[[Ø	plùʔú]	līⁿ]	nī]
		1Sg	**remove**.Pfv	[Art	money]	[[[Art	bag]	guts]	**Loc**]
		‘I took the money out of the bag.’ (Fl)							

	c.	nó	tīḕ =	[Ø	bū́ =]	[[[Ø	plùʔú]	līⁿ]	nī]
		1Sg	**put.down**.Pfv	[Art	money]	[[[Art	bag]	guts]	**Loc**]
		‘I kept/left the money in(side) the bag.’ (Fl)							

Similarly, directional predicates of conveyance (‘bring’, ‘take/convey’) consisting of ‘come’ or ‘go’ plus a ‘with X’ PP, are often followed by spatial adverbials.

(846)	zàkí	bà	[kà	[Ø	náklɔ̀]	fāⁿʔāⁿ
	Z	**come**.Pfv	[**with**	[Art	rice]]	**here**
	‘Zaki brought the rice here.’ (Fl)					

These examples show that the final constituent which denotes the location is an adverbial phrase rather than a (first or second) direct object or theme. Their characterization as adverbials is obscured by the fact that some nouns denoting common locations omit a locative postposition, cf. Eng *went home*. An example is lē ‘village, homestead’ in (847a-b).

(847)	a.	ɔ̀ⁿ	yīēʔē	[Ø	lē]
		3AnSg	**go**.Pfv	[Art	**village**]
		‘He/She went to the village.’ (Fl)			

	b.	ná =	à	yīʔí	[kà	mṓ =]	[Ø	lē]
		1Sg	Ipfv	**go**.Ipfv	[with	2Sg]	[Art	**village**]
		‘I’ll take you-Sg to the village.’ (Fl)						

That ‘village’ is adverbial rather than a direct object in (847a-b) is shown by the fact that it cannot be pronominalized. Instead, it is replaced by a demonstrative adverb like mā ‘there’.

11.1.4 Verb phrase

The main evidence for positing VP as a phrasal category, without a subject or a clause-level inflectional particle, is the infinitival construction with kō followed by a verb (in base form) and any postverbal arguments and/or adjuncts. See §15.2 for discussion and examples.

11.2 ‘Be’, ‘become’, ‘have’, and other statives and inchoatives

11.2.1 Identificational predicates (‘it’s X’)

11.2.1.1 Positive ‘it is X’ (=à ~ =yà, sometimes plus glò)

Identificational ‘it’s X’ (Fr *c’est X*) is an enclitic =à (variant =yà). The topical referent is understood but covert (or expressed as a preclausal topic). The overt NP specifies it further. If there is an overt subject-topic within the clause, i.e. ‘Y is (an) X’, the copula construction Y kō X with kō ‘be’ (§11.2.2 below) is normally used.

The L-tone distinguishes the ‘it is’ enclitic from polar interrogative =ā, which is articulated at a pitch level slightly below that of modal M-tone (§13.2.1.1). The absence of =à in negative má glò=ʔ (see the following section) suggests that =à might be identified as a variant of the Ipfv particle à, which is otherwise always followed by a verb or other predicate. However, Ipfv à does not have a variant with initial y.

(848) a. sɔ̌^{n} =yà
who? **it.is**
‘Who is it?’ (e.g. to someone knocking at the door) (Ji)
dialectal variants: sɔ̀^{n}-wí=yà, sǒ=yà, sòá=à (§13.2.3.1)

b. [ē ʃìʔá=] =à
[Art what?] **it.is**
‘What is it?’ (< ʃìʔɛ́ =à) (Ji)

c. [è ná] =yà
[Art cow] **it.is**
‘It’s a cow.’ (Ji)

Pronouns take full independent form, as opposed to proclitic or reduced form, in this construction. Definite inanimate demonstrative bè is the only option for inanimates. Minor dialectal variants are omitted in (849).

(849)	category	‘it’s __’	textual example
a.	1Sg	nó =(y)à	
	2Sg	mó =(y)à	(Bi, 2017-07 @ 04:39)
	1Pl	é-yù =à ~ é-yùò =yà	
	2Pl	bùò =(y)à	
b.	3AnSg/LogoSg	bó =(y)à	(Bi, 2017-07 @ 08:44), logophoric
	3Pl/LogoPl	bùò =(y)à	
	Dem.Def	bè =(y)à	(women, 2017-18 @ 00:28)

The forms with =à that are shown in (849) are before optional vv-Contraction. For example, mó =à ‘it’s you-Sg’ may appear as má =à or as mɔ́ =à.

The fuller form with =yà is preferred when it is in turn followed by the interrogative enclitic =ā. Thus é-yùò =yà =ā 'is it us?', which is pronounced with a prolonged final [àā] whose tone rises to a pitch between that of modal L and M tone.

glò (interlinear gloss 'it.is') is added after identificational =(y)à (same interlinear) when the theme is focused, either by a focus morpheme or by dó ~ dé 'however; contrary to expectation' (850). See also §13.1.3.5, which includes several textual examples.

(850)	a.	[ē	ʃìⁿʔìⁿ	dá=]	=à	glò
		[Art	tree	however]	**it.is**	**it.is**
		'It's <u>a tree</u> [focus].' (Bi)				
	b.	[ē	yò	dóʔ=]	=à	glò
		[Art	woman	Foc]	**it.is**	**it.is**
		'It's <u>a woman</u> [focus].' (Bi)				

Most exceptions to this (i.e. without glò) involve the specific phrase [bè tóʔó] =(y)à (and minor variants) 'that's it', which summarizes a just-described general situation ('that's how it is/was') rather than identifying a referent. However, =à glò does appear in past-time versions of this, see (852a-b) below.

In conditional antecedents ('if' clauses), the combination bà ~ mà 'if' plus =à 'it is' appears to require glò. It occurs in multiple textual examples (851).

(851)	a.	jí	bè	bā	=à	glò	
		if	Dem.Def	if	**it.is**	**it.is**	
		'if <u>that</u> [focus] is (the way) it is' (Bi, 2017-07 @ 02:53)					
	b.	[ē	ɲū-kě]	bā	=à	glò	
		[Art	water-matter]	if	**it.is**	**it.is**	
		'if it's a question of water' (Fl, 2017-11 @ 06:10)					
	c.	[ē	kě	ō	kě]	bā	=à	glò
		[Art	matter	or	matter]	if	**it.is**	**it.is**
		'if it's <u>whatever question</u> [focus]' (Fl, 2017-11 @ 06:17)					
	d.	[ɔⁿ	glō-kɔ̀]	bā	=à	glò	
		[3AnSg	exit.Pfv-day]	if	**it.is**	**it.is**	
		'if it is his/her (baby's) day for coming out' (women, 2017-19 @ 00:31)					
	e.	[ē	yǒ]	bā	=à	glò	
		[Art	woman]	if	**it.is**	**it.is**	
		'if it's a girl' (women, 2017-19 @ 00:33)					
	f.	[ē	dɔ̌]	bā	=à	glò	
		[Art	man]	if	**it.is**	**it.is**	
		'if it's a boy' (women, 2017-20 @ 00:20)					

For past-time 'it was X' including a dialectally appropriate past morpheme, the enclitic =à is seemingly replaced by the copula (k)ō 'be' or variant (852a). However, this may just be a slightly irregular contraction. The regular =à does appear in other dialects (852b).

(852) a. [bè tóʔó] rè ō glò
[Dem.Def Foc] **IpfvPast** **Infin** **it.is**
'That [focus] is what it was.' (Bi, 2017-10@ 05:03)

b. [bè tōʔó] tá =à glò
[Dem.Def Foc] **Past** **it.is** **it.is**
'That [focus] is what it was.' (Fl)

11.2.1.2 'It is not X' (X má glò =ʔ)

The negative counterpart of 'it's X' (preceding section) is X má(^{n}) glò plus negative enclitic =ʔ. The glottal stop is omitted in the polar interrogative form which ends in glò =ā.

Again, the topical referent ('it' in the translation) is understood as specific, but covert. Here má (Bi má^n) is the IpfvNeg particle, which is also used in negative statives. The final glò is obligatory under negation, just as in positive conditional antecedents and in positive clauses after a focalized constituent (preceding section).

(853) a. nó má glò =ʔ
1Sg **IpfvNeg** **it.is** **Neg**
'It isn't me.' (Ji)

b. [è ná] má glò =ʔ
[Art cow] **IpfvNeg** **it.is** **Neg**
'It isn't a cow.' (Ji)

c. zàkì má glò =ā
Z **IpfvNeg** **it.is** **Q**
'It isn't Zaki?' (Fl Ji)

If the theme is a pronoun, it generally takes full independent form, as in é-yùò má glò =ʔ 'it isn't us' and bó má glò =ʔ 'it isn't him/her'. A proclitic did occur in a textual example (854).

(854) jǎ→ ŋ̀ má^n glò =ʔ
lo! **2Sg** IpfvNeg it.is Neg
'But lo, it isn't (=wasn't) you-Sg.' (Bi, 2017-07 @ 04:39)

This construction with má glò=ʔ also occurs in focalized constructions (§13.1.3.5). má(^{n}) glò=ʔ is unrelated to the phonologically similar IpfvNeg má(^{n}) glú =ʔ 'does not go out'. It is also distinct from the negative copula construction X má(^{n}) kō Y or variant 'X is not Y' with both the referent X and the predicate Y overtly expressed. Copula kō 'be' is covered in the following section.

11.2.2 Copular predicates ('X is Y')

11.2.2.1 Positive 'X is Y' (kō)

kō 'be' can function as a copula, equating two NPs X and Y. Since copula kō is normally followed by a noun (rarely by a PP, see below), it is easily distinguishable from infinitival kō and from hortative kò, which are directly followed by verb stems. However, all of these morphemes undergo similar phonetic processes, with k lenited to g, then w, then zero.

An overt subject-topic X is obligatory in the copula construction. The subject-topic is often a pronoun. When the predicative element is a noun-headed NP, in theory it is preceded by the article ē, but unless there is a hesitation pause and restart the article usually has no phonetic manifestation. For example, in (855c) the form with kò ná rather than kō= [Ø ná] (< /kō [è ná]/) is usual. The M-toned article does not function as a buffer between kō and ná, so kō drops to L-tone. We therefore often parenthesize Ø in the Tiefo-D transcription, while keeping "Art" in the interlinear on the belief that it is structurall present.

(855) a. nó kō [(Ø) cɔ̀fɔ́]
1Sg **be** [Art Tiefo]
'I am a Tiefo.' (Ji)

b. kă^{n} kō [(Ø) sàkpèʔè]
Dem **be** [Art donkey]
'That's a donkey.' (Ji)

c. kă^{n} kò [(Ø) ná]
Dem **be** [Art cow]
'That's a cow.' (Ji)

d. kɔ̄-yùò kò [(Ø) nɔ́]
Dem.AnPl **be** [Art cow.Pl]
'Those are cows.' (Ji)

In textual examples (856), kō is followed by a predicative PP. The PP is understood as abstract rather than spatiotemporal. Usually à-mā 'be (somewhere)' rather than copula kō occurs before adverbial phrases.

(856) a. [nó fɛ̃-nī] kō [[bùò bíɛ́] bàʔà]
[1Sg greeting(n)] **be** [[2Pl all] **Dat**]
'My greeting is to all of you.' (Ji, 2017-01 @ 00:14)

b. mó kō [[ʃìʔɛ́ kē-sùⁿʔɔ̄ⁿ] nī] fāⁿʔāⁿ
2Sg **be** [[which? work(n)] **Loc**] here
'What activity are you in here?' (Ji, 2017-01 @ 02:51)

Additional textual examples are in (857). (857b-c) illustrate the frequent pre-copula position of the more informative NP in the equation, the opposite of English order, making literal translations unidiomatic.

(857) a. mâ dò dè mó kō [Ø nā-dɛ̀]
Proh say.Base Quot 2Sg **be** [Art old.man]
''Don't say (=think) that you are an old man.' (Fl, 2017-03 @ 03:00)

b. à kō kà-tó
3Inan **be** like.that
'It's like that.' (i.e. 'That's the way it is') (Ji, 2017-04 @ 02:08)

c. *donc,* dè [[bùò dó] bɔ̀ɲá té] ō bè
so, Quot [[3Pl Poss.Inan] gift Foc.Inan] **be** Dem.Def
'So, the reward for their (action) [focus] is that.' (i.e. 'That's the reward…')
(Ji, 2017-04 @ 06:18)

Some other functions of copula kō are listed in (858), with section references. The presentatives are further examples of fronting the more informative NP.

(858) a. in progressive construction (§10.2.4, §10.2.5.7)
b. in presentative construction with predicate demonstrative (§4.4.4.2)
c. makes expressive adverbials predicative (§11.4.4)

11.2.2.2 Negative 'X is not Y' (má kō)

Copula kō is negated by a preceding má, which is also the IpfvNeg particle.

(859) kǎⁿ má kō [Ø ná]
Dem **IpfvNeg** **be** [Art cow]
'That isn't a cow.' (Ji)

Two among several textual examples are in (860).

(860) a. [è ʃíó-wùʔù té] má kò yá =ā
[Art magician-house Foc.Inan] **IpfvNeg** **be** Dem.InanSg Q
'Isn't that the magician's house [focus]?' (Fl, 2017-05 @ 03:50)

b. [è náⁿbɛ̀ʔɛ̀ bó] máⁿ gò [(Ø) ʃíglò rā=] =ā
[Art Bouki Top] **IpfvNeg** **be** [Art hyena even] Q
'Is not Bouki (the same as) hyena?' (Bi, 2017-07 @ 01:06)

11.2.3 Existential and locative predicates (‘be in/at X’)

11.2.3.1 Positive locational predicates (à-mā)

Positive predications of location valid for present time, hence ‘be (somewhere), be present, exist’, are based on a form that appears as à-mā (Bi dialect à-mā^{n}) in the absence of a following locational. The à- is required after nonpronominal NPs and after 1st/2nd person pronouns. It resembles the (positive) Ipfv morpheme à. It also combines with third person subject proclitics in the same way that Ipfv à does, hence 3AnSg ɔ̀^{n}= Ø-mā, 3Pl ò= Ø-mā, and 3Inan à^{n}= Ø-mā. Also like Ipfv à, it can be replaced by IpfvPast morphemes in yì-mā (Fl) and dè mā^{n} (Bi) ‘was (somewhere)’.

There are some objections to identifying the onset of à-mā as the Ipfv morpheme. First, -mā has no other verb-like properties. It has no verbal noun, for example. Second, the negation of à-mā is not the expected #má mā with IpfvNeg má, rather a suppletive ní-mā (see the following section). The opposition of positive à- and negative ní- does not occur elsewhere in the language. Since ní-mā is clearly irregular, which leaves à-mā structurally isolated, we transcribe them both as shown here.

The mā in à-mā, negative ní-mā, and past yì-mā resembles the discourse-definite demonstrative adverb mā ‘there’, inteterlinear gloss “there.Def”. The adverb is a candidate to be the etymological source for locational -mā, but the two are distinct synchronically. For one thing, they co-occur, so à-mā mā ‘is/are there (definite)’ is very common throughout the texts, as is the nearly synonymous à-mā [à nī] ‘is/are in it, is/are therein’. For another, à-mā readily combines with adverbial phrases that are incompatible with ‘there (definite)’, as in à-mā fā^{n}ʔā^{n} ‘is/are here’ and with locations that are introduced into the discourse for the first time. Finally, à-mā may occur without an adverbial in the sense ‘be present, exist’ unspecified for location. This existential function (‘there is/are X’) is common when the subject is something like ‘milk’, ‘sugar’, or ‘money’

Pronominal-subject combinations with à-mā are in (861).

(861)	a.	1Sg	ná= à-mā (or nɔ̄= Ø-mā)
		2Sg	má= à-mā (or mɔ̄= Ø-mā)
	b.	1Pl	é-yù= à-mā (or ō= Ø-mā)
		2Pl	bù= à-mā
	c.	3AnSg	ɔ̀^{n}= Ø-mā
		3Pl	ò= Ø-mā
		3Inan	à= Ø-mā

Some elicited examples are in (862).

(862) a. ná= à-mā
1Sg **be.Loc**
‘I’m present (here/there).’ (Fl Ji)

b. ná=   à-mā   fā^{n}ʔā^{n}
1Sg   **be.Loc**   here
'I'm here.'   (Fl Ji)

c. ná=   à-mā   [[Ø   dɛ̀]   nī]
1Sg   **be.Loc**   [[Art   field]   Loc]
'I am at/in the field.'   (Fl Ji)

d. ná=   à-mā   [[Ø   pòʔó]   nī]
1Sg   **be.Loc**   [[Art   the.bush]   Loc]
'I am out in the bush.'   (Fl Ji)

e. ná=   à-mā   [[Ø   blāʔā]   nī]
1Sg   **be.Loc**   [[Art   pond]   Loc]
'I am at the pond.'   (Fl Ji)

f. ná=   à-mā=   [[Ø   dúʔú]   nī]   (Ji)
"   "   "   dūʔú   "   (Fl)
1Sg   **be.Loc**   [[Art   forest]   Loc]
'I am in the forest.'   (Fl Ji)

g ná=   à-mā   [[Ø   wùʔú]   tɔ̄^{n}]
1Sg   **be.Loc**   [[Art   house]   Loc]
'I am at/in the house.'   (Fl Ji)

h. ná=   à-mā   [[zàkí   tɔ̀ʔɔ̀]   nī]
1Sg   **be.Loc**   [[Art   place]   Loc]
'I am at Zaki's place.'   (Fl Ji)

11.2.3.2 Past-time locational predicates (yì-mā, dè mā^{n}, etc.)

There is a past-time form yì-mā, glossed 'was/were present' or 'was/were (somewhere)'. There is one textual attestation (863).

(863) [ē   lɔ̄   [yūō   jɔ̄^{n}]   jə̀-rò   tə́-ró]   yì-mā
[Art   young.woman.Pl   [people   two]   Indef-AnPl   Foc-AnPl]   **Past-be.Loc**
'There were two young women [focus] (there).'   (Fl, 2017-05 @ 00:19)

The yì- in yì-mā matches the past imperfective morpheme for this dialect (§10.3.1.8).

The infrequency of yì-mā is due to the fact that (à-)mā can be directly moved into past time by preposing the dialectally appropriate past morpheme. For Bi, the usual past morpheme is dè, and this combines directly with mā^{n} as dè mā^{n} (variant rè mā^{n}).

(864) a. [è ná-dɔ̀ⁿʔɔ̀ⁿ jī] rè māⁿ
[Art Hum-one Indef] **IpfvPast** **be.Loc**
'There was (also) another person' (Bi, 2017-07 @ 07:52)

b. í-yùò dè māⁿ
1Pl **IpfvPast** **be.Loc**
'We were there …' (Bi, 2017-10 @ 03:10)

Additional Bi dialect textual examples of dè māⁿ are (2017-10 @ 02:10 & 05:39). The à- morpheme is absent, as it is in past imperfectives in this dialect with dè and Ipfv verb.

In other dialects the past morpheme is tá, tâ, or ká, and because of their alternative pronunciations it can be difficult to determine whether they are preposed to mā or preposed to à-mā (in the latter case, with vowels contracting).

(865) a. [jə̀rɔ̀ⁿ ká à-mā] [[bì tòʔó] kò á]
[Rel **Past** **be.Loc**] [[Dem.Def Foc] be Dem.InanSg]
'What(-ever) was there (in the tale), this [focus] is how it was.'
(Ma, 2017-02 @ 01:49)

b. ò gō→, ká à-māⁿ í-á-lɔ̀,
3Pl Infin, **Past** **be.Loc**, you.know.it,
[ē wìè-[fə̂-rɛ̀]] ní-māⁿ [ō bàʔà]
[Art wear.Pfv-[garment-Pl] not.be.Loc [3Pl Dat]
'They were there. You know. They had no clothes to wear.'
(Bi, 2017-08 @ 00:11) (í-á-lɔ̀ < Jula 'you know it')

c. [nó fɛ̄-nī =rɛ̀] ká à-mā [nàsə̀rá-kɛ̀ⁿ kǎⁿ]
[1Sg greet-VblN even] **Past** **be.Loc** [white.person-male Dem.AnSg]
'My salute was (also) to this white man.' (Fl, 2017-11 @ 11:09)

11.2.3.3 Negative locational predicate (ní-mā)

The negative counterpart of à-mā and its variants replaces à- by ní-. This is the only context where negative ní- occurs. Some simple elicited examples are in (866).

(866) a. nó ní-mā =ʔ
1Sg **not.be.Loc** Neg
'I am not present (here/there).' (Ji)

b. nó ní-mā [[Ø wùʔú] tɔ̄ⁿ] =ʔ
1Sg **not.be.Loc** [[Art house] Loc] Neg
'I am not in the house.' (Ji)

c. nó ní-mā [[Ø dɛ̀] nī] =ʔ
1Sg **not.be.Loc** [[Art field] Loc] Neg
‘I am not at/in the field.’ (Ji)

d. zàkí ní-mā [[Ø wùʔú] tɔ̄ⁿ] =ʔ
Z **not.be.Loc** [[Art house] Loc] Neg
‘Zaki is not in the house.’ (Ji)

There are many textual examples. Most are negative existentials (‘there is no X’ or ‘X does not exist’) as in (867a) below and (865b) above. A smaller number express the absence of an individual from a specific place as in (867b).

(867) a. [ē tə̀ràⁿ-wò-ní =rɛ̀] ní-mā [à nī]
[Art rest(v).Base-VblN even] **not.be.Loc** [3Inan Loc]
‘There was no rest therein.’ (Ma, 2017-04 @ 01:13)

b. [ē tìʔɛ́ jì] móⁿ ní-mā [[à kūō-tɔ̀ʔɔ̄] nī]
[Art hole Indef] 2Sg **not.be.Loc** [[3Inan cut.Pfv-place] Loc]
‘A burrow. You-Sg were not there where (and when) it was dug out.’
(Bi, 2017-10 @ 04:54)

Superlative predicates are regularly phrased as ‘X’s equal (for some quality) does not exist’. One of several examples is (868). ɲɔ̀ɣɔ̀ is from Jula but is very common.

(868) dè [[bó tóʔó] lóʔó ɲɔ̀ɣɔ̀] ní-mā =ʔ
say.Pfv [[LogoSg Focus] intelligence **equal(n)**] **not.be.Loc** **Neg**
‘(Hare said:) ‘I [focus] am the smartest (of the animals).” ’
(Ji, 2017-01 @ 01:02)

Negative ‘was not (somewhere)’ or ‘did not exist’ is expressed as the dialectally appropriate past morpheme plus ní-mā, for example Fl tâ ní-mā.

11.2.4 ‘Become’, ‘happen’, and ‘remain’ predicates

11.2.4.1 ‘Remain’ (pìɛ̀ⁿ/pɛ̄ⁿ/pīⁿ)

This verb means ‘(someone) stay, remain, stay behind’ (869a) or ‘(something) be left over’ (869b).

(869) a. zàkí pìɛ̀ⁿ= [Ø lē]
Z **remain**.Pfv [Art village]
‘Zaki stayed in the village.’ (Fl)

b.	[è	[á	bī-bì]]	pìɛ̀^{n}	[nà	dí]
	[Art	[Inan	small]]	**remain**.Pfv	**[Fut**	**eat.Base]**

‘There’s a little bit left to eat.’ (Fl)

Most textual examples are of the first type, emphasizing continuity of spatial position. In narratives, such phrasings as ‘he/she stayed like that’ describe temporal interludes between focal events, often with an adverbial like bè nī ‘like that, in that situation’, as in (Ji, 2017-1 @ 02:21). Some other examples show the sense ‘be left’, as in (Fl, 2017-03 @ 02:12).

For pìɛ̀^{n}/pɛ̄^{n}/pī^{n} as a compound initial in verb-verb compounds meaning ‘keep VERB-ing’, see §15.1.3.5.

11.2.4.2 ‘Become’ with nominal (“arrive,” “turn,” “be made”)

There are multiple ways to translate ‘become a(n) X’ where X is some category of entity that is expressed as a noun. If the change is a life stage resulting from natural development, the verb dɛ̀^{n}/dà^{n}/dà^{n} ‘arrive, reach, attain’ is used. In other words, the subject ‘arrives at’ the relevant stage (870a). ‘Arrive’ can also mean ‘(grain crop) ripen’ (Ma, 2018-04 @ 00:03).

If a magical or other unnatural transformation is described, the labile verb lē/ló/ló ‘turn, change’ (intransitive ‘X turn into’, transitive ‘turn/transform X into’) is used (870b). Both intransitive and transitive ‘change’ require a clause-final NP (without adposition) denoting the new entity. In the transitive case (870c) this final NP is clearly not the direct object, rather an adjunct or secondary predicate. This interpretation is also indicated for the intransitive case (870b) where the final NP (‘white person’) looks superficially like a direct object, but cannot be replaced in the same meaning with an object pronominal enclitic.

(870)	a.	ɔ̄^{n}	dɛ̌^{n}=	[Ø	yǒ]	
		3AnSg	**arrive**.Pfv	[Art	woman]	

‘She became (=developed into) a woman.’ (Fl)

b.	zàkí	lē	[Ø	kā	ʃɛ̀^{n}-ʃɛ̀^{n}ʔɛ́^{n}]
	Z	**turn**.Pfv	[Art	creature	Rdp-red]

‘Zaki has become (=turned into) a white person.’ (Fl)

c.	nó	lē	zàkī=	[Ø	kā	ʃɛ̀^{n}-ʃɛ̀^{n}ʔɛ́^{n}]
	1Sg	**turn.**Pfv	Z	[Art	creature	Rdp-red]

‘I (e.g. a sorceror) transformed Zaki into a white person.’ (Fl)

Textual examples of ló ‘turn, change’ are in (871).

(871)	a.	ɔ̀^{n}	ló—	bùǒ=	[Ø	bɔ̌]
		3AnSg	**turn**.Base—	3Pl	[Art	elephant]

‘(told) him to transform them (=villagers) into elephant(s).’
(Ji, 2017-09 @ 06:37)

b. kò klá [kò ló [ò mí^{n}ʔá^n]],
Infin return.Base [Infin **turn**.Base [PlRefl Refl]]
‘to be transformed back into themselves (=their original selves)’
(Bi, 2017-09 @ 07:12)

c. fó→ kō à lô= [Ø ná^n-bí]
until Infin Ipfv **turn**.Ipfv [Art person]
‘Eventually she was turning into an (adult) person.’ (Bi, 2017-07 @ 05:17)

Another way to say ‘become X’ is with the invariant verb klè ‘do’ in the mediopassive sense ‘be done, be made, happen’.

(872) a. áywà *comme* ā klɛ̌= [Ø fə̂rìʔì] bè-yá-ró
well as 3Inan **be.done.Pfv** [Art craziness] thus
‘‘Well, it became craziness in that way.’ (Bi, 2017-07 @ 05:03)

b. [ē dùʔù =rɛ̄] klè, [é *garde-corps*]
[Art cliff(s) even] **be.done.Pfv**, [1Pl bodyguard]
‘The cliffs became our protector.’ (Fl, 2017-11 @ 05:39)

c. [bó tòʔó] kō klè, [[è wú^n bíɛ́ʔ], ŋ̀ wú^n-dì^n]
[3AnSg Foc] Infin be.done.Base, [[Art village all], (nasal) chief]]
‘He [focus] has become the chief of the entire village (cluster).’
(Ma, 2018-01 @ 02:12)

11.2.5 Mental and emotional statives

11.2.5.1 Verbs of knowledge

The basic difference between the two ‘know’ verbs is that kù^n/kɔ̄^{n}/kɔ̄^{n} expresses acquisition or knowledge of a fact, while invariant stative or imperfective jī expresses familiarity, somewhat as in Fr *savoir* and *connaître*. There is some competition between them in the middle, namely with bodies of learned knowledge such as magical lore.

11.2.5.1.1 kùɔ̀^{n}/kɔ̄^{n}/kɔ̄^{n} ‘know (a fact), realize’

‘Know/realize (a fact)’ or ‘recognize (someone)’ is a transitive verb kùɔ̀^{n}/kɔ̄^{n}/kɔ̄^{n}. It occurs in perfective frames (positive and negative), and in infinitival kō kɔ̄^{n}. The Ipfv form, also kɔ̄^{n}, is elicitable but rarely used. The perfective literally denotes the event of coming to know (finding out, discovering, learning), but it implies stable knowledge into the present.

Simple elicited examples without a clausal complement are in (873).

(873) a. nó kùɔ̀ⁿ =nì
1Sg **know**.Pfv 3InanObj
‘I know (it).’ (Ji)

b. zàkí kùɔ̀ⁿ =nì
Z **know**.Pfv 3InanObj
‘Zaki knows (it).’ (Ji)

c. ná= á kɔ̄ⁿ =nì =ʔ
1Sg PfvNeg **know**.Base 3InanObj Neg
‘I don’t know (it).’ (Ji)

Textual examples are in (874).

(874) a. [nó kùɔ̀ⁿ-fó [è ná-bí-ó bíɛ́ʔ], kà [Ø lóʔó]
[1Sg **know**.Pfv-pass.Base [Art person-Pl all], with [Art intelligence]
‘I know more than any one about magic.’ (Ji, 2017-01 @ 03:25)

b. nóⁿ kùɔ̀ⁿ jə̀rɔ́ⁿ
1Pl **know**.Pfv Rel
‘what I know of’ (Bi, 2017-09 @ 02:34)

c. jí [ē jī] kùɔ᷆ⁿ= [Ø jī] [à nī]
if [Art someone] **know**.Pfv [Art something] [3Inan Loc]
‘if something (=someone else) has learned something about it’
(Ji, 2017-09 @ 08:47)

The verb can take a nominal complement, often 3Inan object =nì or a simple demonstrative, denoting a fact or a body of knowledge. The object =nì is usually present even when a clausal complement follows, so =nì resumes the complement in the main clause (§17.3.1).

11.2.5.1.2 jī ‘know, be familiar with’

The stative verb jī means ‘be familiar with, know about’ or ‘recognize (someone)’. The form of the verb is invariant. It occurs only in imperfective frames, positive and negative, and in infinitival kō jī. Elicited examples are in (875).

(875) a. ná= à jī [Ø lē]
1Sg Ipfv **know**.Ipfv [Art house]
‘I am familiar with the house.’ (Ji)

b. nó má jī zàkí
1Sg Neg **know**.Ipfv Z
‘I don’t know Zaki.’ (Fl Ji)

A few textual examples (among many) are in (876).

(876) a.	é,	mó	à	jī̀=	[[Ø	blí-kɛ́]	kě]
	ah!,	2Sg	Ipfv	**know**.Ipfv	[[Art	hare]	matter]

‘Ah! You know about hare.’ (Ji, 2017-01 @ 01:05)

b.	bó	à	jī̀=	[Ø	lóʔó],
	LogoSg	Ipfv	**know**.Ipfv	[Art	intelligence],
	k-ā̀	fô=	[Ø	ná-bíó	bíɛ́ʔ]
	Infin-Ipfv	pass.Ipfv	[Art	people	all]

‘(said:) “I know magic more than everyone (else).” ’
(Ji, 2017-01 @ 01:10)

c.	[bó	kə̀rɔ̀^{n}]	má	jī	[à	glō-tɔ̀ʔɔ̀]	=rɛ̄ʔ
	[LogoSg	Top]	IpfvNeg	**know**.Ipfv	[3Inan	exit.Pfv-place]	Emph

‘(said:) “I myself am not familiar with its place of exiting.” ’
(lit. “… don’t know where it came from”) (Fl, 2017-05 @ 01:46)

11.2.5.2 Verbs of desire

11.2.5.2.1 ‘Want’ construction kō … bàʔà or kà-bàʔà

‘X want(s) Y’ with nominal complement is expressed with kō ‘be’ followed by a PP with dative postposition bàʔà (§8.1.1). Elicited examples are in (877). kō is negated as má kō, as in other constructions (877c). The high-frequency combination kō plus third person inanimate à contracts to kà, and kà-bàʔà is rather fused. We transcribe it as a single word (877d). The kà- is L-toned as opposed to the kā we would expect from tone sandhi if it were treated as kō plus 3Inan à before L-toned bàʔà.

(877) a.	mó	kō	[[Ø	ʃīʔɛ́]	bàʔà]
	2Sg	**be**	[[Art	what?]	**Dat**]

‘What do you-Pl want?’ (Ji)

b.	zàkí	kō	[[Ø	ɲū]	bàʔà]
	Z	**be**	[[Art	water]	**Dat**]

‘Zaki wants some water.’ (Ji)

c.	nó	má	kō	[[Ø	kàʔá]	bàʔà]
	1Sg	IpfvNeg	**be**	[[Art	meat]	**Dat**]

‘I don’t want meat.’ (Ji)

d.	zàkí	kà-bàʔà
	Z	**want.it**

‘Zaki wants it.’ (Ji)

One textual example has a nominal complement. The sense is ‘love, be fond of’, referring to a mother’s relationship to her daughters. She loved them, with one exception (878).

(878)	ɔ̀^{n}	má^{n}	gō	[[n	dɛ̀^{n}ʔɛ̀^{n}	dó]	bàʔà]
	3AnSg	IpfvNeg	**be**	[[Sg	one	Poss.Inan]	**Dat**]

‘She didn’t love (=hated) a certain one (of them).’ (Bi, 2017-07 @ 01:49)

kà-bàʔà ‘want(s) it’ occurs in ‘want(s) [to VP]’ and ‘want(s) X [to VP]’ constructions with VP and propositional complements, where the inanimate pronominal resumes the lower clause (§17.4.3.1). Most textual examples of kà-bàʔà are of these constructions.

11.2.5.2.2 ‘Seek, look for’ (fɛ̀/fā/fā)

The transitive verb fɛ̀/fā/fā has the core sense ‘look for, seek’, which entails an active search for the object. This is clearly the correct translation in contexts like ‘looked for termites’, ‘go look for food’, and ‘look for firewood’, all of which occur in the texts. However, ‘look for, seek’ implies desire for the object, and when the object is more abstract a free translation with ‘want’ or ‘wish/hope for’ is sometimes appropriate. Elicited examples (879a-b) are two variants of a common question involving search and desire, where either ‘look for’ or ‘want’ would be appropriate.

(879)	a.	má=	à	fā	[ē	ʃìʔɛ́]
		2Sg	Ipfv	**seek**.Ipfv	[Art	what?]

‘What are you-Sg looking for?’ (i.e. ‘What do you want here?’) (Ji)

b.	má	=à	fā	[Ø	bē-kè]
	2Sg	Ipfv	**seek**.Ipfv	[Art	what?]

[= (a)] (Ji)

Among textual examples, those where fɛ̀/fā/fā has an abstract object are those in (880).

(880)	a.	nó,	kɛ́tɛ̀klú	à	fā	[*commencer*	=nì]	də̀-rɛ̀
		1Sg,	(name)	Ipfv	**seek**.Ipfv	[begin	3InanObj]	now

‘I, Keteklu, want to begin it (a tale) now.’ (Ma, 2017-02 @ 00:02)

b.	[è	yúó	jī]	bùò	má^{n}	fā	[Ø	jī]	=ā
	[Art	people	Indef]	3Pl	IpfvNeg	**seek**.Ipfv	[Art	something]	Q

‘And other people [topic] won’t want anything?’ (Bi, 2017-08 @ 07:54)

c.	ô=	Ø	fā	=ǹ	[Ø	ná-dì-ɔ̀]
	1Pl	Ipfv	**seek**.Ipfv	3InanObj	[Art	old.man-Pl]

‘We want it (from) the old men.’ (Ji, 2017-11 @ 07:19)
(refers to getting help to improve a road)

11.3 Quotative verbs dè/dò/dò 'speak' and dè/dè/dò 'say'

The basic quotative verb is dè/dò/dò in the sense 'speak, say (it)'. It can be intransitive 'speak, talk'. It can also be 'say, tell' with a nominal object as in 'say it, tell it to (sb)' or 'say this/that (to sb)'. When it means 'say' with immediately following quoted matter, the variant dè is not only the Pfv but also the base stem. Specifically, dè occurs in deontics (mâ dè 'don't say!') in some dialects, and it occurs widely in infinitival kō dè '(and then) said "…" ' as opposed to kō dò 'and then spoke' or kō dò =nì 'and then said it'. However, dò occurs in all senses in other inflectional contexts, e.g. PfvNeg á dò 'did not speak/say' and future nà dò 'will speak/say'. In all senses, a dative with postposition bàʔà may be added to specify the addressee.

The situation is complicated by the use of a related but distinct dè as a pre-quotative 'that' particle, either immediately following a 'say' verb or by itself (§17.1.2.1). When only one dè occurs before quoted matter, we parse it as 'say' if it is preceded by an overt subject, otherwise as the quotative particle. For Bi dialect, dè in either function may be fully nasalized to nè (after a nasal syllable) or tapped to rè. In this dialect, yet another dè morpheme is the most common past time marker (preceding any verb).

The textual examples in (881) illustrate dè/dò/dò as intransitive 'speak' or transitive 'say/tell (it/that)', i.e. not including quoted matter. Infinitival kō dò is in (881e).

(881) a. [nó tóʔ=] ā dò =nì [mó bàʔà]
[1Sg Foc] Ipfv **speak**.Ipfv 3InanObj [2Sg Dat]
'I will tell it to you.' (Ji, 2017-11 @ 10:24)

b. bùò nà dò [kằ= [Ø dìé]]
LogoPl Fut **speak**.Base [with [Art 1Pl]]
'(saying/intending) they will speak with all of us.' (Ji, 2017-01 @ 00:19)

c. álɔ̀→ ó nà dò-dò [Ø fɛ́ jə̀rɔ́ⁿ]
then 1Pl Fut Rdp-**speak**.Base [Art word(s) Rel]
'So then, the words that we will speak …' (Ji, 2017-01 @ 00:42)

d. kā= à-dò [Ø fɛ́] [ɔ̄ⁿ bàʔà]
[Infin come.Base-**speak**.Base [Art word(s)] [3AnSg Dat]
'to speak (words) to him' (Ma, 2017-04 @ 03:54)

e. ɔ̀ⁿ gō sərɔ̀
3AnSg Infin proceed.to.Base
[wò glú [à lō]] [wō dò]
[Infin exit(v).Base [with 3Inan]] [Infin **speak**.Base]
'She proceeded to explain that.' (lit. "… to bring it out and speak")
(Bi, 2017-07 @ 07:44)

f. [ó ná-dì-ɔ̀] dĕ̀= [Ø jī]
[1Pl old.man-Pl] **speak**.Pfv [Art something]
'Our old men (=our elders) said something.' (Ji, 2017-09 @ 05:59)

The examples in (882) illustrate ‘say’ followed by quoted matter, with or without an intervening quotative particle dè. Note infinitival kō dè rather than kō dò in (882a). (882c-d) show dialectal variation in the base stem of ‘say’.

(882) a. ō lè, bè kō dè dè …
Infin show.Base, Dem.Def Infin **say**.Base **that** …
‘And (the sign) shows, that (sign) says, …’ (Ji, 2017:11 @ 08:51)

b. ó dè= é à jūʔ= [ā kě]
1Pl **say**.Pfv 1Pl Ipfv hear.Ipfv [3Inan matter]
‘We said that we hear about it.’ (Ji, 2017:11 @ 03:06)

c. mâ dè dè [[Ø úⁿ bíɛ́] nī]
Proh **say**.Base Quot [[Art village all] Loc]
‘Don’t say (=think) that (it’s) in the whole village!’ (Ji, 2017-01 @ 04:31)

d. mâ dò dē [zàkí à-mā]
Proh **say**.Base Quot [Z be.Loc]
‘Don’t say that Zaki is here.’ (Fl)

e. dò dē zàkí à-mā
say.Base Quot [Z be.Loc]
‘Say-2Sg that Zaki is here!’ (Fl)

For extended analysis of quotative clauses, i.e. with ‘say’ and an immediately following quotation, see §17.1.

11.4 Adjectival predicates

11.4.1 Positive stative adjectival verbs

In this construction, the predicate is a verb that is associated semantically with a modifying adjective, though sometimes different in form or even suppletive. To denote states valid for time intervals that include the present, Ipfv particle à followed by the verb. The syntactic context suggests that the verb is in the Ipfv stem.

(883) a. [ē ɲū] ā bɔ̀
[Art water] **Ipfv** be.hot/burned.Ipfv
‘The water is hot.’ (Fl)

b. [ē ɲū] à lɛ́ⁿ
[Art water] **Ipfv** be.cold.Ipfv
‘The water is cold.’ (Ji)

c. zàkí ā dìʔɛ̀
Z **Ipfv** be.long.Ipfv
‘Zaki is tall.’ (Ji)

d. [à lɔ́^{n}] à dá^{n} =nɛ̄ʔ
[3Inan shade] **Ipfv** be.pleasant.Ipfv Emph
‘(said to tree:) “Your shade is really nice!” ’ (Bi, 2017-08 @ 00:49)

Adjectival domains that have such verbs include color (‘white’, ‘black’, ‘red’), measure (‘big/fat’, ‘small’, ‘long’, ‘short’, ‘deep’, ‘wide’), evaluation (‘good’), surface (‘hard’), and temperature (‘hot’, ‘cold’). The phonological relationships between modifying adjectives and adjectival verbs are complex, and some verbs are suppletive (§4.5.3.1-2, §9.4).

As with other stative constructions (‘want’, ‘have’, ‘be somewhere’), these predicates have past-time forms that add the dialectally appropriate past morpheme after the subject. As usual in past imperfectives, the Ipfv morpheme à is either absent (Bi) or phonologically fused with the past morpheme (other dialects). See §13.3.1.9 for examples and analysis.

11.4.2 Predicates with kō ‘be’ of adjectives with classifiers

Not all modifying adjectives have associated verbs. In this section we consider the subset of adjectives that can be preceded by animacy classifiers (§4.5.1-2). Their predicative forms consist of kō ‘be’ followed by the classifier and adjective. Except for the presence of the classifier, this predicative construction is the same as the copula construction for NP predicates, which also has kō ‘be’. This can be taken as evidence that the combination of classifier plus stem is syntactically nominal, although it can also be attached as a modifier to a noun (§4.5.1). The tone of the adjective can differ depending on whether a classifier is present, and if present whether it is inanimate á or animate kā (§4.5.3.1-2).

As an example, consider the adjectival sense ‘big’. As modifier directly following a noun, the form is tù-tùʔù. The forms with animacy classifiers á (inanimate) and kā (animate) can function as NPs (‘a/the big one’). They can also be made predicative with kō (884a-b).

(884) a. [ē wùʔú] kò [á tū-tūʔú]
[Art house] **be** [**Inan** big]
‘The house is big.’ (Fl)

b. [è ná] kō [kā tù-tūʔú]
[Art cow] **be** [**An** big]
‘The cow is big.’ (Fl)

A roughly synonymous alternative is to use the verb gbāʔā ‘be big; be fat’, which belongs to the set of adjectival verbs (see the preceding section).

For kō with expressive adverbials, some of which have adjective-like senses, see §11.4.4 below.

11.4.3 Negative adjectival and stative predicates

The negative counterpart of positive adjectival verbs has IpfvNeg (also stative negative) má (Bi má^{n}) plus the verb, often with final glottal.

(885) a. zàkì má(^{n}) dìʔɛ̀
Z IpfvNeg be.long.Ipfv
‘Zaki isn’t tall.’ (Fl Ji)

b. zàkì má gbāʔā
Z IpfvNeg be.big.Ipfv
‘Zaki isn’t fat.’ (Fl Ji)

c. [ē ɲū] má bɔ̀ =ʔ
[Art water] **IpfvNeg** be.hot/burn.Ipfv Neg
‘The water is not hot.’ (Fl)

d. [[ɔ̀^{n} wí] [yí-ʃîʔì]-ní] má dá^{n} =ʔ
[[3AnSg owner] [get.up]-VblN] **IpfvNeg** be.pleasant.Ipfv Neg
‘The fellow’s recovery isn’t pleasant.’ (Fl, 2017-05 @ 01:55)

As elsewhere, kō ‘be’ is negated as má(^{n}) kō (886).

(886) [ē wùʔù] má kò [á tú-tūʔú]
[Art house] **IpfvNeg** be [Inan big]
‘The house is not big.’ (Fl)

11.4.4 Predicates with kō ‘be’ plus expressive adverbial

Expressive adverbials have adverb-like or adjective-like senses, and often have unusual phonological features (§8.5.8). Especially those with adjective-like senses, i.e. those that denote temporary or permanent qualities of things, are made predicative in the same way that NPs become predicate nominals, viz., with kō ‘be’ or its negation má kō. The EA ‘lukewarm’ exemplifies this in (887).

(887) a. [ē ɲū] kò blā^{n}-blā^{n}
[Art water] **be** lukewarm
‘The water is (luke-)warm.’ (Fl)

b. [ē ɲū] má kò blā^{n}-blā^{n}
[Art water] **IpfvNeg** **be** lukewarm
‘The water is not (luke-)warm.’ (Fl)

11.5 Possessive predicates

11.5.1 ‘X have Y’ constructions

11.5.1.1 ‘X (be) with Y’ (kà)

The first ‘have’ construction contains kà (or variant such as gà, à, or in Bi ŋà) ‘with’. It contracts with a following M-toned article ē as ka᷅= Ø, or as kà= Ø if ē has dropped to è before an H-tone before the contraction. A personality attribute as well as a physical entity can be possessed (888b-c). Like other stative predicates, this construction can be shifted into past time using a post-subject past morpheme (888d).

(888) a. nó ka᷅= [Ø būⁿʔɔ̄ⁿ]
1Sg **with** [Art dog]
‘I have a dog.’ (Ji)

b. ɔ̄ⁿ ka᷅= [Ø lōʔó]
3AnSg **with** [Art sneakiness]
‘He/She is sneaky.’ (said e.g. of a sneak thief) (Fl)

c. ɔ̀ⁿ má ka᷅= [Ø lōʔó]
3AnSg IpfvNeg **with** [Art sneakiness]
‘He/She isn’t sneaky.’ (Fl)

d. ɔ̀ⁿ tâ ka᷅= [Ø lōʔó]
3AnSg Past **with** [Art sneakiness]
‘He/She used to be sneaky.’ (Fl)

Negation is by IpfvNeg má(ⁿ) (889). The alternative construction with bàʔà (see the following section) is preferred in negative contexts.

(889) a. nó má ka᷅= [Ø būⁿʔɔ̄ⁿ]
1Sg Neg **with** [Art dog]
‘I don’t have a dog.’ (Ji)

b. [è súglò-yò] máⁿ [ka᷅= [Ø fɛ̄ʔɛ́]] =ɛ̄
[Art hyena-woman] IpfvNeg [**with** [Art wrap(n)]] Q
‘Hyena woman didn’t have a wrap?’ (Ji, 2017-08 @ 02:32)

The construction with kà plus NP as predicate is unique in the language in lacking a verb or other verb-like predicative word. One might hypothesize that kà in this construction reflects contraction of an original *kō kà ‘be with’.

Another way to make the kà phrase predicative is to add the ‘it is’ enclitic =(y)à to the possessum. An example is (890).

(890) [ē kè bíɛ́] kǎ= [Ø dǎⁿ] =à
[Art thing all] **with** [Art boundary] **it.is**
‘Every thing is with (=has) a limit.’ (Ma/Ji, 2017-04 @ 03:05)

11.5.1.2 ‘Y be of X’ (bàʔà)

This possessive construction consists of an existential predicate plus a PP with possessive postposition bàʔà. Since this postposition also means ‘chez, at the place of’, the construction can be parsed literally as ‘there is (not) an X in the presence/custody/zone of Y’. Negation favors this construction over that with kà (891b-e).

(891) a. [ē púʔɔ̂=] Ø-mà [nó bàʔà]
[Art stick] **be.Loc** [1Sg **Dat**]
‘I have a stick.’ (Ji)

b. [è púʔɔ́] ní-mà [nó bàʔà] =ʔ
[Art stick] **not.be.Loc** [1Sg **Dat**] Neg
‘I don’t have a stick.’ (Ji)

c. [ē klòʔó] ní-mā [é-yùò bàʔà]
[Art road] **not.be.Loc** [1Pl **Dat**]
‘We don’t have a (paved) road.’ (Ma, 2018-08 @ 01:09)

d. [ē wìè-[fɜ̀-rɛ̀]] ní-māⁿ [ō bàʔà]
[Art wear.Pfv-[garment-Pl] **not.be.Loc** [3Pl **Dat**]
‘They had no clothes to wear.’ (Bi, 2017-08 @ 00:11)

e. [ē dàⁿʔàⁿ] ní-māⁿ [mɔ́ⁿ bàʔà]
[Art fire] **not.be.Loc** [2Sg **Dat**]
‘You had no fire (=light).’ (Bi, 2017-10 @ 04:54)

A variation on this is of the type ‘[X’s stick] exists’, where the owner is phrased directly as the possessor of the possessed entity. (892) happens to end in a PP with bàʔà, but this PP has locative rather than possessive sense. “Possession” (using the term loosely) is expressed by the 1Sg possessor on the subject, even though the 1Sg pronoun is topicalized.

(892) [[nó kɔ̀n] nɛ̀ʔɛ̀-ní] à-mā [ō bàʔà]
[[**1Sg** Top] ask-VblN] **be.Loc** [3Pl **Dat**]
‘As for me, I have a request for them.’ (Fl, 2017-11 @ 07:05)

11.5.2 ‘Y belong to X’ predicates (dó or júó)

In this version, the possessum is the subject. The possessor is expressed in the predicate after kō (or variant) ‘be’ or before a clause-final ‘it is’ enclitic. In (893a), dó is the default inanimate possessum (§6.2.4.1), so the construction is literally ‘that is [my thing]’. When the subject is plural, dó remains invariant, suggesting that it is on its way to becoming a genitive postposition (893b,d). Compare noun dó ‘(someone’s) share’, which has a plural də́-ró.

(893) a. [è yá] gò [nóⁿ dó]
[Art Dem.InanSg] **be** [1Sg **Poss.Inan**]
‘That (one) is mine.’ (Bi)

b. íɲə̀rè gò [nóⁿ dó]
Dem.InanPl **be** [1Sg **Poss.Inan**]
‘Those are mine.’ (Bi)

c. [[móⁿ dɔ̀] dó té] =à
[[2Sg man] **Poss.Inan** Foc.Inan] **it.is**
‘And yet it belongs to your husband.’ (Bi, 2017-08 @ 09:39)

d. [wə̀-rú íɲə̀rè bíɛ́] kò [nó dó]
[house-Pl Dem.InanPl all] **be** [1Sg **Poss.Inan**]
‘All these houses belong to me.’ (Fl)

When the possessum is animate, default animate possessum júó (§6.2.4.2) replaces dó.

(894) a. [yǒ kǎⁿ] kò [nó júó]
[woman Dem.AnSg] **be** [1Sg **Poss.An**]
‘That woman is mine.’ (Fl)

b. [bí-ʃīō kɔ̌-rò bíɛ́] kò [nó júó]
[child.Pl Dem.AnPl all] **be** [1Sg **Poss.An**]
‘All those children are mine.’ (Fl)

c. [nɔ́ kɔ̌-rò bíɛ́] kō [zàkì júó]
[cow.Pl Dem.AnPl all] **be** [Z **Poss.An**]
‘All those cows belong to Zaki.’ (Fl)

d. [nǎ kàⁿ] má kò [nó júó]
[cow Dem.AnSg] IpfvNeg **be** [1Sg **Poss.An**]
‘That cow isn’t mine.’ (Fl)

When the possessor is focalized and fronted, the normally clause-final ‘it is’ enclitic =à is optionally followed by a post-focus morpheme glò (895a), here glossed ‘it.is’ in interlinears (§11.2.1.1, §13.1.3.5). The negative counterpart, not requiring focalization, is the regular ‘it is not’ combination máⁿ glò =ʔ (895c-d).

(895) a. [zàkì dó dé] =à glò
[Z **Poss.Inan** however] **it.is** **it.is**
‘It is Zaki’s [focus].’ (Bi)

b. [[zàkí tōʔó] júó] =yà =dɛ̄ʔ
[[Z Foc] **Poss.An**] it.is Emph
‘It (=cow, child) is Zaki’s [focus].’ (Fl)

c. [zàkì dó] máⁿ glò =ʔ
[Z **Poss.Inan**] **IpfvNeg** **it.is** **Neg**
‘It is not Zaki’s.’ (Bi)

d. [zàkì júó] máⁿ glò =ʔ
[Z **Poss.An**] **IpfvNeg** **it.is** **Neg**
‘It (=cow) is not Zaki’s.’ (Fl)

11.6 Numeral predicates

When a numeral without a preceding noun or adjective is the predicate, it follows kō ‘be’. Numerals ‘2’ to ‘9’ take the same plural classifiers as they do for clause-internal subject, object, etc. (§4.6.1.2, §6.4.1). Literal translations are of the type ‘(the) Xs are NUM’. Freer translations are of the type ‘there are NUM Xs’.

Plural classifier ò, like article ē at the beginning of NPs, is usually unpronounced immediately after kō ‘be’, unless there is an interruption. One consequence is that kō drops to kò before an H-tone (896a-b).

(896) a. [ē bə̀-rɔ́ / wə̀-rú] kò [(Ø) sáⁿ]
[Art elephant-Pl / house-Pl] **be** [(Pl) **three**]
‘The elephants/houses are three.’ (Fl Ji)

b. [è bə̀-rɔ́ / wə̀-rú] kò [(Ø) támm]
[Art elephant-Pl / house-Pl] **be** [(Art) **ten**]
‘The elephants are ten.’ (Fl Ji)

c. [ē wə̀-rú] kō [(Ø) kàⁿ]
[Art house-Pl] **be** [(Pl) **five**]
‘The houses are five.’ (Fl Ji)

Human plural classifier yúó ‘people’, as head or following the head as a human classifier, has its usual tonal variants before ‘2’ and ‘3’ (897).

(897) [è bí-ʃīō] kō [yùò sáⁿ]
[Art child.Pl] be [**people** three]
‘The children were three (in number).’ (Bi, 2017-07 @ 01:49)

12 Comparative constructions

12.1 Asymmetrical comparatives

The most important element in asymmetrical comparatives is the verb fīē/fó/fó 'pass, go past' in the sense 'surpass'. In (898) this verb occurs in the sense 'surpass' with the comparandum expressed in a spatial PP.

(898) jǎ→ [è ń jī] fìè [[mó ānàʔà] nī]
lo! [Art person Indef] **pass**.Pfv [[2Sg face] Loc]
'Lo, someone (else) will go ahead of you.' (Ji, 2017-01 @ 03:07)

The grammatically important combinations of this verb in comparatives are those in (899) below.

(899) a. simple transitive main clause

X fīē Y	'X surpassed Y'
X à fó Y	'X surpasses Y'

b. perfective clause plus infinitival VP

X Vb1.Pfv Z [kò fó Y]	'X Vb1-ed Z more than Y'
X Vb1.Pfv-fó Y	'X Vb1-ed more than Y'

c. like (b) but imperfective

X à Vb1.Ipfv Z [k-â fó Y]	'X Vb1's Z more than Y'
X à Vb1.Ipfv-à-fó Y	'X Vb1's more than Y'

(899a) shows simple transitives, with Pfv and Ipfv forms of 'pass' and no overt mention of the domain of comparison. In (899b), there is a perfective verb Vb1.Pfv, followed by a postverbal constituent Z if relevant (e.g. as direct object), then by an infinitival VP as adjunct with kò fó Y 'and (sur)passed Y'. However, if there is no postverbal constituent Z, so that kò fó Y would be adjacent to Vb1, the two are conflated in idiomatic speech into a verb-verb compound. The only audible effect of this conflation is that kō is absent. fó itself has the same form as Vb2 in a compound and as verb following infinitival kō.

The situation is similar in the imperfective. If a postverbal constituent Z is present, an imperfective infinitival VP is added as an adjunct, with k-â fó Y (from /kō à fó …/) 'and surpasses Y'. If there is no postverbal constituent, k-â fó Y is reduced to -à-fó Y, forming a verb-verb compound with Vb1.

If we compare perfective (899b) with imperfective (899c), we can see that the transition from adjunct to verbal compound final is easier in the imperfective. Imperfective infinitival k-â already has lenited variants including Ø-â, which is especially common in Bi dialect. Only an imperceptible phonetic adjustment is needed to reduce this to -à-. In the perfective construction, on the other hand, the full syllable of infinitival kō has to disappear in the conversion. A reasonable guess is that the conflation happened first in the imperfective (for example, with adjectival predicates) and later extended analogically to the perfective.

The conflation into a verb-verb compound occurs regularly in natural speech in our data wherever Vb1 and fó are not separated. However, in careful speech the infinitival morphology can always be restored.

The next two sections illustrate these formulae, first with adjectival predicates and then with ordinary VPs.

12.1.1 Predicative adjective with fó ‘pass’ and comparandum

Many adjectival predicates involve stative verbs like dìʔè (Bi dīʔɛ̄) ‘be long, tall’, gbāʔā ‘be big, fat’, kò ‘be good, pretty’, dá^{n} ‘be sweet, pleasing’ and the like. They occur in imperfective constructions to express qualities. To make these predicates comparative (‘be longer/taller than Y’, ‘be bigger/fatter than Y’), it suffices to add a phrase with fó ‘(sur)pass’. Since adjectival verbs like dìʔè do not require postverbal constituents (such as objects), fó regularly merges with the adjectival verb to form a verb-verb compound. Since the construction is imperfective, -à- is intercalated in the normal fashion for imperfective compounds (900a-c).

(900) a. zàkí ā dìʔ(ɛ̀)-à-fó nó]
Z Ipfv **be.long**.Ipfv-Ipfv-**pass**.Ipfv 1Sg]
‘Zaki is taller than I (am).’ (Fl Ji)

b. zàkì má dìʔ(ɛ̀)-à-fó nó]
Z IpfvNeg **be.long**.Ipfv-Ipfv-**pass**.Ipfv 1Sg]
‘Zaki isn’t taller than I (am).’ (Fl Ji)

c. ŋ̀ bā dè [má= ā kò-à-fó]
2Sg if say.Base [2Sg Ipfv **be.good**.Ipfv-Ipfv-**pass**.Ipfv]
‘if you-Sg say that you-Sg are more beautiful’ (Fl, 2017-05 @ 04:20)

Like other statives, these adjectival predicates require a post-subject past morpheme to displace the states into the past: ‘was/were ADJ’ (§10.3.1.9).

(901) a. zàkí dè dīʔ(ɛ̄)-à-fó nó^{n}
Z **IpfvPast** be.long.Ipfv-Ipfv-pass.Ipfv 1Sg]
‘Zaki was taller/fatter than I (was).’ (Bi)

b. zàkí tá ā dìʔ(ɛ̀)-à-fó nó]
Z **Past** Ipfv be.long.Ipfv-Ipfv-pass.Ipfv 1Sg]
‘Zaki was taller than I (was).’ (Fl Ma)

12.1.2 Verbal predicate plus fó ‘(sur)pass’

A VP of any type and of any TAMP inflectional category can combine with fó ‘(sur)pass’ to constitute a comparative. If there is no postverbal constituent following Vb1, such as a direct object, fó is free to merge with Vb1 to form a verb-verb compound. The examples below are perfective (902a), imperfective (902b-d), imperative (902e), and prohibitive (902f). In textual example (902g), fó is compounded with Vb1, while postverbal constituents follow the compound. In other words, fó has jumped leftward over the postverbal constituents. Compare (902g) with the essentially synonymous (903g) below, which keeps fó away from Vb1.

(902) a.

zàkí	dìè-fó	nó
Z	eat.Pfv-**pass**.Base	1Sg

‘Z ate more than I (did).’ = ‘Zaki out-ate me.’ (Fl Ji)

b.

zàkí	à	dí-à-fó	nó]
Z	Ipfv	eat.Ipfv-Ipfv-**pass**.Ipfv	1Sg]

‘Zaki eats more than I (do).’ (Fl Ji)

c.

zàkì	máⁿ	dí-à-fó	nó
Z	IpfvNeg	eat.Ipfv-Ipfv-**pass**.Ipfv	1Sg

‘Zaki doesn’t eat more than I (do).’ (Ji)

d.

zàkí	à	wō-à-fó	nó
Z	Ipfv	sing.Ipfv-Ipfv-**pass**.Ipfv	1Sg

‘Zaki sings better/more than I do.’ (Ji)

e.

dí-fó	zàkí
eat.Base-**pass**.Base	Z

‘Eat-2Sg more than Zaki!’ (Ji)

f.

ò	mâ	dí-fó	zàkí
Imprt.Pl	Proh	eat.Base-**pass**.Base	Z

‘Don’t-2Pl eat more than Zaki.’ (Ji)

g.

nó	kùɔ̀ⁿ-fó	[è	ná-bíó	bíɛ́ʔ],	kà	[Ø	lóʔó]
1Sg	**know**.Pfv-**pass**.Base	[Art	people	all],	with	[Art	intelligence]

‘I know more than any one about magic’ (Ji, 2017-01 @ 03:25)

The presence of an object or other constituent directly after Vb1 blocks the conflation into a verb-verb compound. An infinitival adjunct is the only output (903). (903h) has the imperfective version.

(903) a.

nó	bɛ̃̄=	[Ø	súmá-klàʔà]	[kò	fó	zàkí]
1Sg	**cultivate**.Pfv	[Art	maize]	[**Infin**	**pass**.Base	Z]

‘I raised more maize than Zaki (did).’ (Fl Ji)

b. ná= á bâ= [Ø súmá-klàʔà] [kò fó zàkí]
1Sg PfvNeg **cultivate**.Base [Art maize] [**Infin** **pass**.Base Z]
'I didn't raise more maize than Zaki (did).' (Fl Ji)

c. nó nà bâ= [Ø súmá-klàʔà] [kò fó zàkí]
1Sg Fut **cultivate**.Base [Art maize] [Infin **pass.Base** Z]
'I will cultivate maize more than Zaki (will).' (Ji)

d. nó bè bɛ̄= [Ø súmá-klàʔà] [kò fó zàkí]
1Sg Fut **cultivate**.Pfv [Art maize] [Infin **pass.Base** Z]
'I will cultivate maize more than Zaki (will).' (Ji)

e. [ē dà^{n}ʔá^{n}] kèʔè [nó dɛ̀] [kò fō= [Ø blōʔō]]
[Art fire] **ruin**.Pfv [1Sg field] [Infin **pass.Base** [Art dust]]
'The fire damaged my field more than the dust (did).' (Ji)

f. kà-gɔ̄rɛ̄^{n} [ē kàʔá] [kò fó nó]
eat.meat.Base-do.well.Base [Art meat] [**Infin** **pass**.Base 1Sg]
'Eat more meat than I (do)!' (Fl Ji)

g. bó à jī= [Ø lóʔó],
Logo Ipfv **know**.Ipfv [Art intelligence],
k-â fô= [Ø ná-bí-ó bíɛ́ʔ]
Infin-Ipfv **pass**.Ipfv [Art person-Pl all]
'(said:) "I know magic more than anyone (else)." '
(Ji, 2017-01 @ 01:10)

Notice the ambiguity in the translation of (904). Either the subject or the indirect object of the main verb 'give' can be the comparandum.

(904) ɔ̄^{n} ʃìʔɛ̀ [Ø bú] [ɔ̀^{n} zàkí] [kò fó nó]
3AnSg **give**.Pfv [Art money] [Dat Z] [**Infin** **pass**.Base 1Sg]
'He/She gave more money to Zaki than to me.'
or: 'He/She gave more money to Zaki than I (did).' (Fl Ji)

12.1.3 'Be better, be more' (plé)

The predicate is invariant plé 'be better', analysable as an Ipfv verb following Ipfv particle à or IpfvNeg má(^{n}). The verb is followed by a locative PP with the comparandum. fó 'pass' is absent. A domain of comparison phrase may be added, also in locative PP form (905c-d).

(905) a. zàkí à plé [nó nī]
Z Ipfv **be.better**.Ipfv [1Sg Loc]
'Zaki is better than I (am).' (Fl Ji)

b. zàkì má(ⁿ) plé [nó nī]
Z Ipfv **be.better**.Ipfv [1Sg Loc]
‘Zaki isn’t better than I (am).’ (Fl Ji)

c. zàkí à plé [nó nī]
Z Ipfv **be.better**.Ipfv [1Sg Loc]
[[ē dərìⁿʔíⁿ-wɛ̀-tɔ̀ʔɔ̀] nī]
[[Art song-sing.Pfv-place] Loc]
‘Zaki is better than I (am) at singing song(s).’ (Bi)

d. zàkí à plḗ= [Ø dərìⁿʔíⁿ-wò-ń] nī]
Z Ipfv **be.better**.Ipfv [Art song-sing.Base-VblN] Loc]
[k-ā fó nó]
[Infin-Ipfv pass.Ipfv 1Sg]
‘Zaki is better than I (am) at singing song(s).’ (Bi)

In the absence of an overt (or contextually understood) comparandum, plé can be interpreted loosely as superlative (906a). It may be focalized, and/or a locative PP in partitive function may be added (906b).

(906) a. zàkí à plé
Z Ipfv **be.better**.Ipfv
‘Zaki is better/the best.’ (Ji)

b. [zàkí tóʔ=] à plé [é-yùo nī]
[Z Foc] Ipfv **be.better**.Ipfv [1Pl Loc]
‘<u>Zaki</u> [focus] is the best among us.’ (Ji)

In the texts, plé occurs as an intransitive ‘be better’ without a comparandum or domain of comparison.

(907) a. [bó [n dɛ̀ⁿʔɛ́ⁿ]] nè plé
[3AnSg [Sg one]] IpfvPast **be.better**.Ipfv
‘By itself it was better.’ (Bi, 2017-09 @ 01:24)

b. [ā sìgɛ́ⁿ] k-ā fìsàyá
[3Inan fatigue] Infin-Ipfv improve.Ipfv,
k-ā plé
Infin-Ipfv **be.better**.Ipfv
‘The fatigue (=hardship) has improved, it is better.’ (Bi, 2017-10 @ 05:20)

The sense ‘X is better (than Y)’ can also be expressed by simple fó ‘surpass’ (Bi, 2017-08 @ 03:15) or by combining fó ‘surpass’ with kò ‘be good’ as in ā kò-à-fó (Bi, 2017-08 @ 03:11).

12.1.4 ‘Be more (abundant)’

In (908), the predicate is the simple locational-existential à-mā ‘be (present)’. This is followed by an imperfective infinitival VP with k-â.

(908) [ē bɔ̀-rɔ̂ =] Ø-mā fā^{n}ʔā^{n}] [k-â fô = [Ø gbɔ́-gbɔ̀-rɔ́]
[Art elephant-Pl **be.Loc** here] [Infin-Ipfv **pass**.Ipfv [Art lion-Pl]
‘Elephants are more numerous than lions here.’ (Ji)
(singular gbá^{n}-gbà^{n}ʔá^{n} ‘lion’, plural gbá^{n}-gbə̀-rá^{n} ~ gbɔ́-gbə̀-rɔ́)

12.1.5 Superlatives

The way to phrase this explicitly is with the construction ‘X’s peer doesn’t exist’, with noun dí^{n} ‘equal (n), peer’. Jula borrowing ɲɔ̀ɣɔ̀ is common in the texts instead of dí^{n}.

(909) a. [ɔ̄^{n} kò-ní dí^{n}] ní-mā = ʔ
[3AnSg be.good-VblN **peer**] **not.be**.Loc Neg
‘She has no peer in beauty.’ (Ji)

b. dè [[bó tóʔó lóʔó] ɲɔ̀ɣɔ̀] ní-mā = ʔ
Quot [[LogoSg Foc] intelligence] **equal(n)**] **not.be**.Loc Neg
‘(Hare said:) ‘I [focus] am the smartest (of the animals).” ’
(Ji, 2017-01 @ 01:02)

c. dè [[bó ɲɔ̀ɣɔ̀] ní-mā = ʔ]
say.Base [[LogoSg **equal(n)**] **not.be**.Loc Neg]
‘said that there was no equal to her beauty.’ (Fl, 2017-05 @ 03:58)

12.2 Symmetrical comparatives

12.2.1 ‘Equal; be as much as’ (dà^{n})

The verb dɛ̀^{n}/dà^{n}/dà^{n} ‘arrive (at), reach’ occurs in comparatives in the sense ‘be/become equal to’ or ‘be/become as much as’ (910a). In positive clauses this produces a symmetrical comparative. Under negation the verb means ‘not be equal to, fall short of, be less than’ (910b), so the construction is asymmetrical.

(910) a. zàkí dìʔɛ̀-ní dɛ̀^{n} nó
Z be.long-VblN **reach**.Pfv 1Sg
‘Zaki is (=has come to be) as tall as I (am).’ (Fl Ji)

b. zàkí dìʔɛ̀-ní á dà^{n} nó = ʔ
Z be.long-VblN PfvNeg **reach**.Base 1Sg =Neg
‘Zaki is not (=has not become) as tall as I (am).’ (Fl Ji)

dɛ̀ⁿ/dàⁿ/dàⁿ can also be added to a main clause in the form of an infinitival imperfective VP k-ā dàⁿ.

(911) [è ń jì] má jī= [Ø lóʔó]
[Art person Indef] IpfvNeg know [Art intelligence]
[k-ā dàⁿ bó]
[**Infin-Ipfv** **arrive**.Ipfv LogoSg]
'(thought:) "Nobody knows magic as much as I (do)." ' (Ji, 2017-01 @ 01:29)

12.2.2 'Match, be equal to' (bɛ̄ⁿ)

When two individuals are asserted to be equal on a scalar quality, either of two constructions involving invariant verb bɛ̄ⁿ 'match, be equal to' may be used. By the way, this verb is distinct from invariant bɛ̀ⁿ '(two or more) get along well', which is also the final in lē-bɛ̀ⁿ/ló-bɛ̀ⁿ/ló-bɛ̀ⁿ '(two or more) go around (a tree, an obstacle) and meet up (on the other side)', as in (Ji, 2017-01 @ 02:13).

As with fó '(sur)pass' and dàⁿ 'arrive, attain', comparative constructions with bɛ̄ⁿ can be divided into those where this is the main verb and those in which it is part of an infinitival imperfective VP. In (912a-b), the domain of comparison is expressed as 'length, height' in the subject NP, and bɛ̄ⁿ is the only verb. The à in à bɛ̄ⁿ is therefore the Ipfv morpheme. In (912c-d), by contrast, -bɛ̄ⁿ … is Vb2 in an imperfective verb-verb compound.

(912) a. [zàkí kà nó] [ó dìʔɛ̀-ná=] à bɛ̄ⁿ
[Z with 1Sg] [1Pl be.long-VlbN] Ipfv **be.equal**.Ipfv
'Zaki and me, our heights are equal.' (< dìʔɛ̀-ní) (Fl Ji)

b. [[nó dìʔɛ̀-ní] [kā [zàkì dó]]] ká à bɛ̄ⁿ
[[1Sg be.long.Base-VblN] [and [Z Poss.Inan]]] Past Ipfv **be.equal**.Ipfv
'My height and Zaki's used to be equal.' (Ji)

c. [zàkí ā dìʔ(ɛ̀)-à-bɛ̄ⁿ [(k)à nó]]
[Z Ipfv be.long.Ipfv-Ipfv-**be.equal**.Ipfv [with 1Sg]]
'Zaki is of the same height as me.' (< kà nó) (Fl Ji)

d. [ná= ā dìʔ(ɛ̀)-à-bɛ̄ⁿ [(k)à júò]]
[1Sg Ipfv be.long.Ipfv-Ipfv-**be.equal**.Ipfv [with 3An]]
'I am of the same height as him/her.' (< kà júò) (Ji)

We have also recorded similar constructions with ò bɛ̄ⁿ after future bɛ̀. The ò is optional, and its morphemic identity is mysterious. It could in theory be reduced from infinitival kō or hortative kò, but neither makes sense in (913a), and no fuller pronunciation with k is possible. The ò is unattested in other future clauses, and (913c) was rejected.

(913) a. ó bē (ò) bɛ̄^{n} =ā^{n}
1Pl Fut (??) be.equal.Pfv Q
'Will we be equal?' (Fl Ji)

b. ó bē (*ò) bà
1Pl Fut (* ??) come.Pfv
'We will come.' (Fl)

Negative counterparts mean e.g. 'X and Y are not equally tall', and are logically equivalent to asymmetrical comparatives with fó.

(914) a. ó má bɛ̄^{n} =ʔ
1Pl IpfvNeg be.equal.Pfv Neg
'We won't be equal.' (Fl Ji)

b. ó má bē ò bɛ̄^{n} =ʔ
1Pl IpfvNeg Fut ?? be.equal Neg
'We will not be equal.' (Fl Ji)

12.2.3 'One' dɛ̀^{n}ʔɛ́^{n} = 'equal'

A locative PP [ē dɛ̀^{n}ʔɛ́^{n}] nī including the numeral 'one' (§4.6.1.1), by extension 'same, identical' or 'equal', is also common in symmetrical comparison.

(915) [zàkí kà nó], ó bē klɛ̌= [[Ø dɛ̀^{n}ʔɛ́^{n}] nī]
[Z and 1Sg], 1Pl Fut be.done.Pfv [[Art **one**] Loc]
'Zaki and I, we will be one (=equal).' (Fl Ji)

In this construction, there is no pre-numeral particle n before dɛ̀^{n}ʔɛ́^{n}, compare [ē yǒ] [n dɛ̀^{n}ʔɛ́^{n}] 'one woman' with singular particle n.

13 Focalization and interrogation

13.1 Focalization

Focalization is the highlighting of a constituent to emphasize the identity of an individual, place, time, reason, or other element, in opposition to other logically possible alternatives in a specific grammatical function. In §13.1 we present focalization constructions in statements. In §13.2 we show that similar analyses also apply to questions, especially content (WH) questions.

13.1.1 Focus particles tóʔó ~ tó, tə́-ró, té

Focus particles follow the focalized element (noun, pronoun, adverb), or just its head (pronoun, noun, noun plus modifiers). The forms are in (916). One might expect inanimate rhotic plural #tə́-ré on the model of e.g. inanimate plural indefinite jə̄-rē, but it does not occur.

(916)			
	animate singular or all-purpose	tóʔó	variants tó, tōʔó, nóʔó, róʔó, ró
	animate plural	tə́-ró	
	inanimate	té	variants tê, ré

Some of our speakers report an archaic pronunciation túgú for the ubiquitous modern tóʔó.

In its full pronunciation with clear glottalic peak, tóʔó undergoes the usual tonal adjustments for Fl (tōʔó) and Ma (tòʔó). However, in natural speech tóʔó can be reduced to tó. Transcriptions of rapid speech by Fl and Ma speakers are therefore approximate.

The o/e alternation in (916) is suggestive of an original noun-class (e.g. animacy) distinction, see §4.1.3 for background. Synchronically however, if té were directly formed from tóʔó by vowel-mutation, glottalized *téʔé would be expected. We have never observed glottalization in any variant of té.

tóʔó is animate singular, strictly speaking, but it can generalize to plurals and to inanimates. A reduced form tó occurs in bè-kà-tó 'that's why/how …' (§8.5.5.2.1). A marked animate plural is tə́-ró, showing the same morphophonemics as the productive rhotic plural of nouns and adjectives.

té can spread to other contexts in the sense 'exactly, precisely'. It occurs in this sense in fàⁿʔàⁿ té 'right here'. In (917) it has this function following a human pronoun.

(917)	dē	[bùò	té]	=ō	[(Ø)	kùɔ̀ⁿ-yùò]
	Quot	[3Pl	**precisely**]	be	[Art	know.Pfv-people]

'(said:) precisely <u>they</u> [focus] are the ones who know (=experts).'
(Bi, 2017-09 @ 07:45)

The form té occurs phrase-medially. It is heard as [tê:] prepausally (e.g. clause-finally) especially in the predicative sense ‘(it) is like that’. In some cases this is segmentable as té =è with a variant of the ‘it is’ enclitic, elsewhere =(y)à. This segmentation is supported by pairing with corresponding negative predicate má glò=ʔ, as in bì-kà té =è ‘it’s like that’ versus bè má glò=ʔ ‘it isn’t (like) that’ (§8.5.5.2). We have also recorded té =yà as a variant pronunciation. té =è with ‘it is’ is paralleled by té =ē with interrogative enclitic (Ma, 2017-01 @ 01:07), which appears to function as the interrogative version of tó in klè kà-tó ‘happened thus’.

Not all cases of [tê:] can plausibly be analysed as containing the ‘it is’ enclitic. Some speakers, including our Ji speaker, appear to use tê→ as a prepausal variant of té. For our Bi speaker, clause-final (or phrase-final) =rê→ is an emphatic that does not necessarily focalize the preceding word (which may even be a verb), see §19.4.4.

13.1.2 Basic morphosyntax of focalization

13.1.2.1 Full independent pronouns obligatory under focus

When a pronoun is focalized, it must take its full independent form. The 1st/2nd person combinations are in (918), disregarding minor and predictable dialectal variants. Reduced proclitics (1Sg ŋ́, 2Sg ŋ̀) and the short 1Pl forms (é, ó) are ungrammatical before focus morphemes.

(918)	category	focused	textual example
	1Sg	nó tóʔó	(Ji, 2017-01 @ 03:23)
	2Sg	mó tóʔó	(Ji, 2017-01 @ 04:19)
	1Pl	é-yùò tə́-ró	(Ji, 2017-04 @ 00:02)
	2Pl	bùò tə́-ró	(Ma, 2017-10 @ 06:45)

Bi dialect has 1Sg nó^n tóʔó and 2Sg mó^n tóʔó, which optionally fully nasalize to nó^n nóʔó and mó^n nóʔó.

Focalized animate third person pronominals take the b-initial nonclitic forms, whether or not they are logophoric (i.e. coindexed with the author of a quotation). Third person proclitics are ungrammatical (symbol #) under focalization (3AnSg #ɔ̀^{n} tóʔó, 3Pl #ò tóʔó or #ò tə́-ró). For inanimates, discourse-definite bè ‘that (same) is required.

(919)		category	focused	textual example
	a.	3AnSg or LogoSg	bó tóʔó	(Ma, 2018-01 @ 02:12), nonlogophoric
				(Fl, 2017-03 @ 00:41), logophoric
				(Bi, 2017-09 @ 01:01), nonlogophoric
			"	(women, 2017-13 @ 02:24), logophoric
	b.	3Pl or LogoPl	bùò tə́-ró	(Ji, 2017-04 @ 06:13), nonlogophoric
			"	(Ji, 2017-04 @ 04:44), logophoric

c. inanimate bè tóʔó more than fifty textual examples
bè té only in: [bè té] já 'that's why …' (§8.1.3)

13.1.2.2 Focus morpheme precedes numerals and demonstratives

In NPs containing both a noun/pronoun as head and a numeral, the focus marker can attach to the pre-numeral string (pronoun, noun, noun plus adjective). Recall that numerals '1' to '9' are preceded by classifiers.

(920) a. [é-yùò tɔ́-ró [ɲūō jɔ̄ⁿ]] klɛ̄-bà
[1Pl **Foc-AnPl** [people **two**]] return.Pfv-come.Base
'It's us [focus] two who have come back.' (Ji, 2017-04 @ 00:02)

b. [bó tóʔó [n dɛ̀ⁿʔɛ́ⁿ]] =à
[3AnSg **Foc** [Sg **one**]] it.is
'It is (=was) the same one.' (Ji/Bi, 2017-09 @ 01:06)

In NPs containing both a noun as head and a demonstrative, the focus marker is attached to the pre-demonstrative string, to judge by the only relevant textual example (921).

(921) [è [blí-kɛ́]-yò tóʔó kǎⁿ] yīʔē
[Art [hare]-woman **Foc** **Dem.AnSg**] go.Pfv
[ō rà-pɔ̄rɛ̄]
[Infin go.Base-dress.up.Base]
'That hare woman [focus] went and dressed up.' (Bi, 2017-08 @ 03:32)

However, a demonstrative without a nominal head is followed by the focus marker, as in kàⁿ nóʔó (< /kǎⁿ tóʔó/) in (Bi, 2017-07 @ 03:30).

In NPs containing both a noun or pronoun as head and the universal quantifier bíɛ́(ʔ), the focus marker again follows the noun or pronoun.

(922) móⁿ nàⁿ sò [bì tóʔó bíɛ́] [kò yíʔí]
2Sg Fut carry.on.head.Base [Dem.Def **Foc** **all**] [Infin go.Base]
'You will carry all that [focus] on your head and go?' (Bi, 2017-08 @ 07:54)

However, a postnominal modifying adjective cannot be separated from the modified noun. In (923), the focus marker follows the adjective.

(923) [ē sò bí-bī tōʔó] bà
[Art horse **small** **Foc**] come.Pfv
'It was the small horse [focus] that came.' (Fl)

13.1.2.3 Focalized constituent remains *in situ*

Since subjects are already clause-initial, the question whether focalized subjects are moved to clause-initial (or preclausal) position is moot. The issue is consequential for otherwise noninitial constituents such as objects. With exceptions involving clefts (see the following section), the general pattern is that the focalized constituent remains in its regular linear position. This is observed in (924), where the focalized constituent follows the verb ‘say’.

(924) [kō tə̄rā^{n}] [kō dò [bè tòʔō =] [[Ø dərà̀ʔá] nī]]
[Infin sit.Base] [Infin say.Base [Dem **Foc**] [[Art courtyard] Loc]]
‘(Then he) sat and said that [focus] in a courtyard!’ (Ma, 2017-03 @ 00:32)

Further examples can be found in the sections below about nonsubject focus.

13.1.2.4 Focalization expressed by cleft constructions

In the simple ‘it is’ construction, the theme is often focalized (925a-b).

(925) a. *donc* [bè tóʔ =] = à
so [Dem.Def **Foc**] **it.is**
‘So that’s it.’ (Ji, 2017-01 @ 04:09)

b. [à tīē-tɔ̀ʔɔ̀ té] = à
[3Inan be.put.down.Pfv-place **Foc.Inan**] **it.is**
‘It (=that) is its place of being put down [focus].’ (Ji, 2017-01 @ 04:45)
(formula at end of a tale)

In a few textual examples, an ‘it is’ phrase with focalized discourse-definite bè looks somewhat like an English cleft construction (*that’s why*...). In (926) the fronted constituent (a manner adverbial) is resumed in the clause proper by kà-tó.

(926) wálà→, [[bè tóʔ =] = à] [ā bè klè kà-tó]
voilà, [[Dem.Def **Foc**] **it.is**] [3Inan Fut be.done.Pfv like.that]
‘Right. That (way) [focus] is how it will be done.’ (Ji, 2017-11 @ 09:19)

Clefting of non-subject constituents such as objects is marginal, though examples can be elicited.

13.1.2.5 Focalization of resumptive demonstrative

Discourse-definite inanimate demonstrative bè resumes referents from preceding discourse. The relevance of this to focalization is that a referent or situation may be presented in a main clause or conditional antecedent, then resumed as focus in a second clause.

(927)

[[ē	fùɔ́]	pɛ́pərɛ̀-pɛ́pərɛ̀-kɔ̀]		
[[Art	fish]	Rdp-flat-Ppl.AnPl]		
í-yùò	rè	dí	[bè	tóʔó]
1Pl	IpfvPast	eat.Ipfv	[Dem.Def	**Foc**]

‘(little) flat fish, <u>that</u> [focus] is what we used to eat.’ (Bi, 2017-10 @ 03:41)

The frequency of this construction means that there are relatively few textual examples of focus markers being added directly to nonpronominal NPs.

13.1.2.6 Focalization disfavored by negation

Negative statements (as opposed to negative questions) are unfavorable to constituent focalization. For example, in (928) the positive identificational ‘it is’ clause focalizes the theme, while the following negative identificational ‘it is not’ clause does not.

(928)

[ē	jə̄-rō]	dè—,	[[bó	tóʔó]	=yà]	
[Art	Indef-AnPl]	Quot—,	[[**3AnSg**	**Foc**]	it.is]	
[ē	jə̄-rō]	dè	[bó	má^{n}	glò	=ʔ]
[Art	Indef-AnPl]	Quot	[**3AnSg**	IpfvNeg	it.is	Neg]

‘Some people said, “it is <u>him</u> (= the same elephant) [focus]!” Some (others) said “it isn’t him!” ’ (Bi, 2017-09 @ 01:01)

There is one textual example of a focalized theme (“subject”) in a negative equational (copular) clause. It is in a polar interrogative of a semi-rhetorical type (i.e. the questioner believes the identification is true). Therefore the context is not truly negative.

(929)

[è	ʃíó-wùʔù	té]	má	kò	yá	=ā
[Art	magician-house	Foc.Inan]	**IpfvNeg**	**be**	Dem.InanSg	Q

‘Isn’t that <u>the magician’s house</u> [focus]?’ (Fl, 2017-05 @ 03:50)

There is a single textual example of a focalized subject of a noninterrogative negative clause (930a). The semantic context is not entirely clear. The elicited example (930b) is clear enough: the negation scopes over the focalization semantically.

(930) a.

dè	[mó	tóʔ=]	á	kɔ̄^{n}	=ʔ
Quot	[2Sg	**Foc**]	**PfvNeg**	know.Base	Neg

‘<u>You</u> [focus] don’t know it.’ (Ji, 2017-11 @ 10:19)

b.

[nó	tóʔ=]	á	gɔ̀	mó
[1Sg	**Foc**]	**PfvNeg**	hit.Base	2Sg

‘It wasn’t <u>I</u> [focus] who hit you-Sg.’ (Ji)

13.1.2.7 Focalization of infinitival subjects

VPs that begin with infinitival kō can either function as subjectless VPs or they can be furnished with a preceding subject NP. Such infinitival clauses and VPs often describe sequenced events that are semantically independent (§15.2). Such sequences are distinct from infinitival VPs and clauses that are subordinated to a matrix verb (§17.4).

In (931) we see that the subject of a kō clause can be focalized when the clause is semantically independent.

(931) [bó tòʔó] kō klè, [[è wúⁿ bíɛ́] wúⁿ-dìⁿ]
[3AnSg **Foc]** **Infin** be.done.Base, [[Art village all] chief]
'He [focus] has become the chief of the entire village (cluster).'
(Ma, 2018-01 @ 02:12, hesitation omitted)

We have no example of a nonsubject constituent in an infinitival VP being focalized.

13.1.2.8 Focalization in conditional antecedents

Conditional antecedent ('if') clauses with bà readily combine with constituent focalization. For example, in text 2017-20 the discussion is about childbirth practices, which depend on the sex of the newborn. Focalization here is expressed by adding glò (§13.1.3.5 below).

(932) a. [ē dǒ] bā =à glò
[Art man] if it.is it.is
'if it's a boy [focus], …' (women, 2017-20 @ 00:20)

b. [ē yǒ] bā =à glò
[Art woman] if it.is it.is
'if it's a girl [focus], …' (women, 2017-20 @ 00:23)

13.1.2.9 Focalization in imperative clauses

The functional equivalent of focalizing the subject/addressee of an imperative, typically in contrastive contexts such as double imperatives with different addressees/subjects, is to phrase the sequence as paired hortatives with two 2Sg subject pronouns (933a), or one 2Sg and one demonstrativee (933b). The difference is that in (933a) the speaker shifts overtly to a different addressee, whereas in (933b) the speaker keep addressing the same individual, at least superficially. Focalizing morphemes are not present.

(933) a. mó kò pɛ̄ⁿ, mó kò yíʔí
2Sg Hort stay.Base, **2Sg** Hort go.Base
'you$_x$ stay, and you$_y$ go!' (Ji)

b. mó kò pɛ̄ⁿ, kǎⁿ kò yíʔí
2Sg Hort stay.Base, **Dem.AnSg** Hort go.Base
'you stay, and that one go(es)!' (Ji)

It is possible to focalize a nonsubject NP in an imperative. In (934a), tê→ is best parsed as inanimate focalizer (prepausal form) rather than as a clause-final emphatic, the latter being pronounced =rê→ by most speakers (§19.4.4)

(934) a. bà [kà [Ø tè tê→]
come.Base [with [Art tea **Foc.Inan**]
'Bring tea [focus]!' (Ji)

b. bà [kà [zàkì tóʔó]]
come.Base [with [Z **Foc**]
'Bring Zaki [focus]!'

13.1.3 Examples of focalization by grammatical function

In the following sections we present examples of focalization of subjects, objects, PPs, possessors, and themes in copular and identificational predicates. Most examples were elicited. See also the sections on various content (WH) interrogatives in the second half of this chapter (§13.2).

13.1.3.1 Subject focalization

In ordinary main clauses, the subject is in initial position. It is focalized by adding a focus particle such as tóʔó (unmarked or AnSg), plural tə́-ró, or inanimate té. Subjects with tóʔó are illustrated in (935).

(935) a. [nó tóʔó] nà mɛ̀ [wùʔ= =á]
[1Sg **Foc**] Fut build.Base [house Dem]
'It's I [focus] who will build this house.' (Ji)

b. [nó tóʔó] bà kǎ= [Ø ɲù fú]
[1Sg **Foc**] come.Pfv with [Art water hot]
'It was I [focus] who brought the tea.' (Ji)
(note: "hot water" = 'tea' here)

c. [mó tōʔó] nà yīʔí
[2Sg **Foc**] Fut go.Base
'It's you-Sg [focus] who will go.' (Fl)

d.	[[[bè	tóʔó]	fiē]	ʃìɲá]	nī^{n}
	[[[Dem.Def	**Foc**]	pass.Pfv]	situation]	Loc

‘once that was over’ (Bi, 2017-09 @ 05:08)

e.	[*Jean-Pierre*	tóʔó]	klɛ̄-bà
	[JP	**Foc**]	return.Pfv-come.Base

‘Jean-Pierre [focus] has come back.’ (Ji, 2017-04 @ 00:02)

f.	[nó	tóʔó]	à-mā
	[1Sg	**Foc**]	be.Loc

‘I [focus] am here.’ (Ji)

Animate plural tə́-ró and inanimate té are illustrated in (936).

(936)	a.	[bùò	tə́-ró]	nà	yīʔí
		[2Pl	**Foc.AnPl**]	Fut	go.Base

‘It’s you-Pl [focus] who will go.’ (Fl)

b.	[ē	ʃì^{n}ʔὲ^{n}-ὲʔὲ	té]	nà	yīʔí
	[Art	run.Pfv-Ppl.Inan	**Foc.Inan**]	Fut	go.Base

‘It’s the vehicle [focus] that will go.’ (Fl)

For (infrequent) focalization of subjects of infinitival VPs, see §13.1.2.7 above.

13.1.3.2 Object focalization

Animate singular focus particle tóʔó occurs in (937). In elicited sentences, the focalized object may remain in its normal position (937a), or it may appear in a fronted cleft construction with =à ‘it is’ (937b). The clefting may be artificial, influenced by French translation cues. In texts, when a heavy NP is fronted it functions as topic, and is resumed later by a pronoun or demonstrative (937c).

(937)	a.	ná=	à	fā	[mó	tóʔó]
		1Sg	Ipfv	seek.Base	[2Sg	**Foc**]

‘It’s you-Sg [focus] that I’m looking for.’ (Ji)

b.	[[mó	tóʔ=]	=à]	ná=	à	fā
	[[2Sg	**Foc**]	**it.is**]	1Sg	Ipfv	seek.Base

[=(a)] (Ji)

c. [è ná-bí ɲə́rámá] mā dè jə̀rɔ́ⁿ,
[Art person very.good] if say.Base Rel,
[è jə́ríⁿ] à ʃīⁿ [bì tóʔó]
[Art djinn] Ipfv work(v).Ipfv [Dem.Def **Foc**]
'Whatever a human said (to do), that [focus] is what the djinn would perform.'
(Ji, 2017-04 @ 00:49)

Animate plural tə́-ró shows the same alternative constructions in elicitation (938a-b).

(938) a. ná= à fā [bùò tə́-ró]
1Sg Ipfv seek.Ipfv [2Sg **Foc.AnPl**]
'It's you-Pl [focus] that I'm looking for.' (Ji)

b. [[bùò tə́-ró] =yà] ná= à fā
[[2Pl **Foc.AnPl**] **it.is**] 1Sg Ipfv seek.Ipfv
[=(a)] (Ji)

Inanimate focus marker té marks the object in (939).

(939) a. [yá té =è] ná= à fā (Ji)
" " =yà] " " " (Fl)
[Dem.InanSg **Foc.Inan** **it.is**] 1Sg Ipfv seek.Ipfv
'That [focus] is what I am looking for.'

b. [ē ʃīⁿʔɛ̀ⁿ-ɛ̀ʔɛ̀ té =è] ná= à fā
[Art vehicle **Foc.Inan** **it.is**] 1Sg Ipfv seek.Ipfv
'It's the car [focus] that I am looking for.' (Ji)
(variant …té =yà…)

c. ná= à fā [ʃīⁿʔɛ̀ⁿ-ɛ̀ʔɛ̀ té]
1Sg Ipfv seek.Ipfv [vehicle **Foc.Inan**]
[=(b)] (Ji)

d. [érè té =è] ná= à fā
[Dem.InanPl **Foc.Inan** **it.is**] 1Sg Ipfv seek.Ipfv
'Those (inanimate) [focus] are what I'm looking for.' (Ji)

e. ná= à fā [bè tōʔó]
1Sg Ipfv seek.Ipfv [Dem.Def Foc]
'That [focus] is what I am looking for.' (Fl)

13.1.3.3 Focalization of PP or other adverb

Semantically it requires very special contexts to distinguish full PP focalization ('it was [next to the house] rather than [inside the granary] that …') from focalization of just the NP complement of the adposition ('it was next to [the house] rather than [next to] [the granary] that …').

When the adposition is a preposition (instrumental-comitative, ditransitive dative) and is not fronted, no overt distinction between PP and complement focalization is possible, since in either case the focus marker follows the complement. Therefore in (940a) it is indeterminate whether té has narrow scope over yá or broader scope over the PP kà yá. Alternatively, the PP as a whole can be fronted and clefted (940b).

(940) a. ná= à bé [kà yá tê→]
1Sg Ipfv cultivate.Ipfv [with Dem.InanSg **Foc.Inan**]
'I cultivate with that [focus].' (Ji)

b. [kà yá té]
[**with** Dem.InanSg **Foc.Inan**]
ná= à bé [(k)à lō]
1Sg Ipfv cultivate.Ipfv [with 3Inan]
'It's with that [focus] that I cultivate.' (Ji)

When the adposition is a postposition, the focus marker can directly follow the NP complement (941a-b).

(941) a. [[ē wùʔú tê→] tɔ̄ⁿ] é-yùò nà dí
[[Art house **Foc.Inan**] **under**] 1Pl Fut eat.Base
'It's in the house [focus] that we will eat.' (Ji)

b. ò kō [[Ø kī-sùⁿʔɔ̀ⁿ té] ǹ] dɔ́rɔ́ⁿ
3Pl be [[Art work(n) **Foc.Inan**] **Loc**] only
'They were at work [focus] only!' (Ji, 2017-04 @ 03:30)

Alternatively, the focus marker can follow the postposition (942), with little or no change in meaning. These elicited examples show that the scope distinction can be made.

(942) a. [[ē wùʔú] tɔ̀ⁿ té =è] é-yùò nà dí
[[Art house] **under** **Foc.Inan** **it.is**] 1Pl Fut eat.Base
'It's in the house [focus] that we will eat.' (Ji)

b. [[[ē wùʔú] līⁿ] nì té =è] ó nà dí
[[[Art house] inside] **Loc** **Foc.Inan** it.is] 1Pl Fut eat.Base
'It's inside the house [focus] that we will eat.' (Fl)

Example (943) illustrates an alternative construction involving the focalized complement of kà 'with'. The preposition is absent in the initial focalized NP, which seems to also be topicalized. The preposition appears after the main verb with a resumptive third animate pronoun (943a) or 3Pl demonstrative (943b).

(943) a. [bó tóʔó] ná= à yíʔí [kà júò]
[3AnSg **Foc**] 1Sg Ipfv go.Ipfv [**with** 3An]
‘It’s he/she [focus] that I am going with.’ (Ji)

b. [bùò tə́-ró] ná= à yíʔí [kà kɔ̄-yùò]
[3Pl **Foc-AnPl**] 1Sg Ipfv go.Ipfv [with Dem.AnPl]
‘It’s them [focus] that I am going with.’ (Ji)

Simple spatiotemporal adverbs like (è) kúⁿʔúⁿ ‘today’ are nouns morphosyntactically and can be focalized like other NPs. Temporal adverbs can occur clause-initially to establish a temporal setting (944a), while spatial adverbs are normally postverbal (944b), but either can combine with a focalizing particle.

(944) a. [ē cɔ̀ⁿ té =è] ó nà yíʔí
[Art tomorrow **Foc.Inan** it.is] 1Pl Fut go.Base
‘It’s tomorrow [focus] that we’ll go.’ (Fl Ji)

b. ó nà dí [fâⁿʔàⁿ tê→]
1Pl Fut eat.Base [here **Foc.Inan**]
‘We’ll eat here [focus].’ (Ji)

13.1.3.4 Focalization of possessor

In (945), the possessor of a NP is focalized.

(945) a. [[mó tóʔó] būⁿʔɔ̄ⁿ] jùɔ̀ⁿ nó
[[2Sg **Foc**] dog] bite.Pfv 1Sg
‘It was your [focus] dog that bit me.’ (Ji)

b. [[bó tóʔó] náⁿ-bí dá=] =à glò
[[3AnSg **Foc**] child however] it.is it.is
‘And yet it was her own child [focus].’ (Bi, 2017-07 @ 00:30)

c. [[bè tōʔō=] ɲɔ̀ɣɔ̀] ní-mā =ʔ
[[Dem.Def **Foc**] equal(n)] not.be.Loc Neg
That [focus] (i.e. getting married early) has no match (=it’s the best practice).’
(Fl, 2017-05 @ 04:37)

This is distinct from focalization of the entire possessed NP including the possessum (946).

(946) [[mó bùⁿʔɔ̀ⁿ tóʔó] jùɔ̀ⁿ nó
[[2Sg dog **Foc**] bite.Pfv 1Sg
‘It was your dog [focus] that bit me.’ (Ji)

13.1.3.5 Focalization of theme in ‘it is’ construction (=à glò)

The ‘it is X’ construction has the form X =(y)à or variant in the absence of focalization (§11.2.1.1). If X is focalized, as in ‘X is what it is’, the focalized constituent is followed by a focus marker such as tóʔó (animate) or by dó ~ dé ‘however, contrary to expectation’. The focus construction usually ends with glò after the enclitic =à. The morpheme glò is also obligatorily present in conditional antecedent X bā =à glò ‘if it’s X’ (§11.2.1.1) and in negative X má(ⁿ) glò=ʔ ‘it is not X’ (§11.2.1.2). An infinitival (k)ō glò without =à is also attested after a past marker (947d).

(947) a.

[ē	sɛ̄ⁿ-wùʔù	té]	=à	glò
[Art	lie.down.Pfv-house	**Foc.Inan**]	**it.is**	**it.is**

‘A sleeping house [focus] is what it is.’ (Ji, 2017-11 @ 05:23)

b.

[ɔ̄ⁿ	dɔ̀	tóʔó	dá=]	=à	glò
[3AnSg	man	Foc	however]	**it.is**	**it.is**

‘Although (in fact) her husband [focus] was what he was.’
(women, 2017-12 @ 02:21)

Past time versions are in (948).

(948) a.

[bè	tóʔó]	râ	wò	glò
[Dem.Def	Foc]	**Past**	**it.is**	**it.is**

‘That [focus] is what it was.’ (Bi, 2017-10 @ 05:03)

b.

[bè	tóʔó]	tá	à	glò
[Dem.Def	Foc]	**Past**	**it.is**	**it.is**

‘That [focus] is what it was.’ (Ji)

13.1.4 No focalization of verb or VP

There is no VP-focalization construction. The question (949a) effectively asks for a VP, having specified the subject. However, a response to this question like (949b) shows no overt focalization of the VP.

(949) a.

má=	ā	klɛ̆=	[Ø	kè]
2Sg	Ipfv	do.Ipfv	[Art	what?]

‘What are you doing?’ (Fl)

b.

ná=	ā	ʃìⁿʔìⁿ
1Sg	Ipfv	run.Ipfv

‘I am running.’ (Fl)

We have likewise found no morphosyntactic construction for focusing specifically on a verb, as in ‘I didn’t sell a sheep, (rather) I bought a sheep.’

The closest thing to clause-level focalization is the use of emphatic particles at the end of clauses, especially =dɛ̄ʔ (§19.4.1).

13.2 Interrogatives

13.2.1 Clause-final interrogative enclitics and particles

Other than content interrogative words (‘who?’, ‘where?’, etc.), the interrogative markers are clause-final (950).

(950) a. clause-final enclitic
=ā

b. clause-final particle
tē

=ā and tē can occur in both polar (yes-no) and content (WH) questions, with some restrictions. In polar questions, they are the only interrogative elements.

General comments about =ā and tē are given immediately below (§13.2.1.1-2). Polar interrogatives with them are presented in §13.2.2.1-3. A few additional examples of =ā and tē occur scattered through the sections on content interrogatives in §13.2.3.

13.2.1.1 Clause-final interrogative enclitic =ā

The common interrogative marker in everyday conversation is a vocalic extension whose basic form is an enclitic =ā. Its combination with a preceding vowel is subject to optional vv-Contraction by which a preceding nonlow vowel quality {i e ɛ ɔ o u} can be extended into the enclitic. The enclitic is also nasalized after a nasal syllable.

The enclitic =ā is pronounced at a lower-mid pitch level that can be held (prolonged) briefly. The pitch is lower than modal M and higher than L, so there is always some pitch shift up or down when =ā is added. For example, it combines with mā ‘there’ as mā=ā, with a small downward pitch shift at the boundary. We do not represent these pitch nuances in our regular transcription, but one could do so with a downstep notation: mā=ꜜā.

=ā added to a statement turns it into a polar question (§13.2.2.1). =ā can also be added redundantly to some content interrogatives.

13.2.1.2 Clause-final interrogative particle tē

tē can occur redundantly at the end of content interrogative clauses (‘who?’, ‘where?’, etc.). Less often, it can convert a statement into a polar question (§13.2.2.2). Its form and usage may be influenced by Jula ò tɛ́ yà.

A review of textual examples shows that tē occurs almost exclusively in quoted questions, especially in tales with human-like protagonists who interact with others. For example, approximately twenty examples of tē questions occur in the long tale in text

2017-08, all in the form of quoted questions. By contrast, in the conversational text 2017-09, of nearly the same duration and involving the same two speakers, there is not a single example of tē.

In the whole textual corpus, only three occurrences of tē are in questions directed by the current speaker to the current addressee, as opposed to quotations. On closer inspection, all of these apparent outliers have features in common with quoted interrogatives. The first asks the addressee to put himself in the shoes of a protagonist in the tale. It is almost as if the narrator had entered into the narrative and was speaking directly to the protagonist.

(951)	[[mó^{n}	nī^{n}]	nè	ʃì	mó^{n}]	[gò	wé	mó^{n}]
	[[2Sg	mother]	IpfvPast	give.birthIpfv	2Sg]	[Infin	abandon.Base	2Sg]

	[mó	nà	yíʔí	[sɔ̌^{n}	bàʔà]	tē
	[2Sg	Fut	go.Base	[who?	chez]	**Q**

‘If your mother had given birth to you and then abandoned you, whose place would you go to?’ (Bi, 2017-07 @ 00:38)

The second is a self-quotation, complete with quotative particle dè.

(952)	[nó	bí-ní]	à-mā,	mó	bàʔà,
	[1Sg	ask-VblN]	be.Loc,	2Sg	Dat,

	dè	*est-ce que*	[Ø	dùʔù-tə̀-rɛ̀	yá]
	Quot	Q	[Art	cliff-hole-Pl	Dem.InanSg]

	[á	kòʔó]	ō	[Ø	kè]	[ó	bàʔà]	tē
	[Inan	good]	be	[Art	what?]	[1Pl	Dat]	**Q**

‘My question is (this), to you, those grottos, what good are they for us?’
(Fl, 2017-11 @ 00:26)

In the third example (‘If they slaughtered (the chickens) on the fetish, why is that?’), see (982d) below, the reason for using tē is that ‘why?’ elicits the justification expressed by long-dead elders, not the addressee’s interpretation.

So tē is basically a quotative interrogative particle. It does not, however, invariably replace the enclitic =ā in quotations. In the quoted passage (953), first =ā and then tē occur in a two-part, disjunctive polar question. The two parts are also separated by tà^{n} ‘or’ (§7.2.2).

(953)	dè	*bon*,	[è	ná-klù^{n}ʔù^{n}	bó]	mlɔ̄^{n}
	Quot	well,	[Art	cheek	Top]	swell.up.Pfv

	ŋ́	sɔ́ʔɔ́-lɔ̀	=ǹ	[Ø	gbɛ̄]	=ā	tà^{n}
	1Sg	jab.Base-rip.Base	3InanObj	[Art	outside]	**Q**	**or**

	[ŋ́	sɔ́ʔɔ́	=ǹ	[[Ø	nī^{n}]	n̄]	tē
	[1Sg	jab.Base	3InanObj	[[Art	interior]	Loc]	**Q**

‘(Hare) said, “well, the cheek [topic] is swollen. Should I jab (=pierce) it from the outside, or should I jab it from the inside?” ’ (Bi, 2017-08 @ 05:11)

Likewise, the quoted passage (954) has two closely juxtaposed questions, the first with =ā and the second with tē. Here =ā (in the assimilated vocalic form =ō) is prolonged somewhat to lead into the second clause with no prosodic break. tē by contrast is limited to the end of prosodic units.

(954) é! dè sɔ̀ⁿ-mó nà sūʔɔ̄ bè [ɔ̀ⁿ bó] =ō→,
oh! Quot **who?** Fut give.Base Dem.Def [Dat LogoSg] **Q**,
nóⁿ nàⁿ klè [áⁿ bè] [gā= à-bú bè] tē
1Sg Fut do.Base [**how?** Top.Inan] [Infin come.Base-get.Base Dem.Def] **Q**
'(Hare:) "Oh, who will give that to me? What will (=must) I do to (come and) get that?" ' (Bi, 2017-08 @ 01:38)

13.2.2 Polar (yes/no) interrogatives

Most polar interrogatives consist of a single question that can be answered yes or no. However, such questions always imply a disjunction of two questions, one overtly or covertly the negation of the other. See the final example in the preceding section for an overt disjunction.

In copular sentences ('X is Y'), a content interrogative ('who?', 'what?', 'which X?') may occur in second position, after kō (or variant) 'be'. For example, (955) is phrased as 'you are who?' rather than English-style as 'who are you?'

(955) mó wō [sɔ̀ⁿ-wí bó] tē
2Sg be [**who?-owner** **Top**] Q
'(said:) "who exactly are you-Sg?" ' (Bi, 2017-07 @ 07:36)

13.2.2.1 Polar interrogatives with clause-final =ā

The usual way to make polar questions in conversation is to add =ā to a clause in statement form, except that the optional clause-final negative =ʔ is omitted. For the distinction between =ā and tē see §13.2.1 above. Some elicited examples are in (956).

(956) a. mó nà bǎ= [Ø cɔ̄ⁿ] =āⁿ
2Sg Fut come.Base [Art tomorrow] **Q**
'Will you-Sg come tomorrow?' (Ji)

b. mó nà yí(ʔí) kúⁿʔá= āⁿ,
2Sg Fut go.Base today **Q**,
tà mó nà pɛ̄ⁿ =ɛ̄ⁿ
or 2Sg Fut remain.Base **Q**
'Will you-Sg leave today, or will you-Sg stay?' (< kúⁿʔúⁿ) (Ji)
(variant pronunciation pɛ̄ⁿ=āⁿ)

c. mó nà bà / glú =ā
2Sg Fut come.Base/exit(v).Base **Q**
'Will you-Sg come/go out?' (Ji)

d.	mó	dìè-só	=ā
	2Sg	fall.Pfv	**Q**

‘Did you-Sg fall? (Fl Ji)

e.	mó	dī=	=ā→
	2Sg	eat.Pfv	**Q**

‘Have you-Sg eaten?’ (< dīē) (Ji)

A single word or constituent may also be interrogated without the rest of the relevant clause: nó =ō ‘me?’ or more often focalized [nó tóʔó] =ō ‘me [focus]?’ (both Ji).

Interrogative =ā is pronounced with a steady pitch level between modal clause-internal M and modal L. This pitch level distinguishes interrogative =ā from the L-toned identificational ‘it is’ enclitic =à (§11.2.1.1) which has lower pitch. The intermediate M/L pitch level of interrogative =ā is shared by the ‘whether’ particle =ō (and variants) that occurs after both clauses in willy-nilly conditional antecedents (§16.3).

Interrogative =ā can follow the ‘it is’ enclitic =(y)à. The combination =(y)à =ā shows a pitch rise at the end. The theme of ‘it is’ is often but not always focalized (957b). The interrogative enclitic can also be added to the past-time ‘it is’ construction (957c).

(957)	a.	nó	=yà	=ā
		1Sg	**it.is**	**Q**

‘Is it me?’ or ‘It’s me?’ (Ji)

b.	[nó	tóʔó]	=yà	=ā
	[1Sg	**Foc**]	**it.is**	**Q**

‘Is it me [focus]?’ (Ji)

c.	[nó	tóʔo]	tá	à	glò	=ā
	[1Sg	Foc]	**Past**	**it.is**	**it.is**	**Q**

‘Was it me [focus]?’ (Ji)

Interrogative enclitic =ā is especially common in light or pro forma questions, where a specific answer is elicited (and sometimes omitted by the interlocutor). For example, the enclitic occurs in routine ‘how are you?’ greetings (958).

(958)	[è	bí-sīō]	kò	é-glé	=ē→
	[Art	child.Pl]	be	Rdp-in.good.health	**Q**

‘Are the children in good health?’ (Ji, 2017-01 @ 00:11)

The enclitic occurs in simple confirmation requests from listeners during narrative performances. Questions like (959) sometimes function as routine backchannel support to the narrator. In other textual passages the backchannel takes declarative rather than question form. It can be difficult to determine in a given case whether the interrogative enclitic is present.

(959) à kō klè kà-té =ē
3Inan Infin be.done thus-Foc.Inan Q
'Did it happen thus?' (Ma, 2017-01 @ 01:07), cf. (Ji, 2017-04 @ 01:47)

In backchannel or confirming function, the narrator's full clause may be truncated by the listener (960).

(960) narrator: kō dò [bè tōʔō=] [[Ø nā-dɛ̀ dígɔ̀ʔɔ̀] bàʔà]
Infin say.Base [Dem.Def Foc] [[Art old.man other] Dat]
listener: [è ná-dɛ̀ dígɔ̀ʔɔ̀] bàʔ= =ā
[Art old.man other] Dat **Q**
narrator: '(And he) said that [focus] to another (=a different) old man.'
listener: 'To another old man?' (Fl and Ma, 2017-03 @ 00:34 and 00:35)

The interrogative enclitic is not limited to polar (yes-no) questions. It also occurs at the end of questions containing certain content interrogative (WH) words. It is especially common with 'where?' (§13.2.3.3), 'how' and 'how many?' (§13.2.3.5.1-2), and 'which?' (§13.2.3.6.1). Since 'which?' interrogatives are homophonous with relative markers, the presence of the final interrogative enclitic has disambiguating function.

13.2.2.2 Clause-final quotative interrogative particle tē

In texts, this particle is effectively limited to quoted questions, especially in narratives, as explained in §13.2.1.2 above. In addition, most of the textual examples are of content interrogatives. However, there are also a few polar interrogatives. Two of them, (961) and (962), are polite requests in negative interrogative ('won't you…?') form.

(961) ò kò fɛ́ =ò, d= ɔ̀ⁿ má sābārī
3Pl Infin greet.Base 3AnSgObj, say.Pfv 3AnSg IpfvNeg forgive.Base
[kō kùʔɔ̄= [Ø sə̀ròʔò-dɔ̄ⁿʔɔ̄ⁿ jī]
[Infin strip.Base [Art baobab-sticky.sauce Indef]
[kō sūʔ= [ɔ̀ⁿ bùò] tē]
[Infin give.Base [Dat LogoPl] **Q**]
'They greeted him and asked "please won't you-Sg forgive (us) and strip off some (leaves for) sticky baobab sauce and give (it) to us?" '
(Fl, 2017-05 @ 01:17)

(962) é! d= ò máⁿ sūʔɔ̄ [Ø jī] [ɔ̀ⁿ bó]
oh! Quot 3Pl IpfvNeg give.Base [Art something] [Dat LogoSg]
[wò kɔ́ⁿ] tē
[Infin chew.Base] **Q**
'(said:) "Won't you-Pl give me some (of the sorghum) to munch on?" '
(Bi, 2017-07 @ 05:54)

Another set of examples, all of the same form with one plant-part term changed, are invitations to the protagonist (hare) by a rather intelligent baobab tree to taste the baobab's edible parts one by one. After hare has finished with the leaves, it's time for the next offering (963).

(963)	é!	d=	ɔ̀ⁿ	pìɛ̀-ɲɔ́ⁿ	[bó	bíó	bè]	tē
	oh!	Quot	3AnSg	taste.Pfv	[LogoSg	fruits	Top.Inan]	**Q**

‘(said:) “Have you-Sg tasted my fruits?” ’ (Bi, 2017-08 @ 01:04)

Finally, there is a poignant scene where a long-lost daughter finds her mother.

(964)	é!	[nóⁿ	nīⁿ],	[móⁿ	tóʔó]	wō	kǎⁿ	tē
	ah!	[1Sg	mother],	[2Sg	Foc]	be	Dem.AnSg	**Q**

‘(said:) “Oh! My mother, is that really you?” ’ (Bi, 2017-07 @ 08:44)

Interrogatives with tē may be direct or indirect quotations, i.e., they may keep the pronouns from the original utterance, or they may be converted or updated (§17.1.4). (964) preserves an original 2Sg pronoun, but (961-3) show the conversion of original 2Sg to 3AnSg that signals indirect quotation.

13.2.2.3 Polar interrogative as challenge or reproof

A polar interrogative whose content is an event that has already taken place and that is known to speaker and addressee can function as a challenge, in effect demanding an explanation. An example is (965).

(965)	[kɔ̀-kɔ̀	sú→]	máⁿ=	àⁿ	fó	mɔ̂→,	
	[Rdp-day	all]	2Sg	Ipfv	pass.Ipfv	concerning,	
	kúⁿʔúⁿ	móⁿ	ŋ=	à-rè	[nóⁿ	fó]	tē
	today	2Sg	Infin	come.Base-say.Base	[1Sg	pass.Base]	**Q**

‘Every day you go (=have been going) ahead, (but) today you (come and) tell me to go ahead?’ (Bi, 2017-08 @ 02:42)

13.2.2.4 French *est-ce que* in polar interrogatives

As in the other languages of the zone, *est-ce que* in one variant or another converts a following statement into a polar interrogative. Examples are (Ji, 2017-04 @ 05:14) and (Bi, 2017-09 @ 02:12).

13.2.2.5 Rhetorical questions

Rhetorical questions have the form of polar interrogatives but sollicit at most a nod of the head or similarly pro forma confirmation from the addressee. Such questions may end in the

=ā enclitic described above. In particular, negative questions often have rhetorical function, as in (966).

(966) mó ɲɔ̄= [Ø tɔ̀ʔɔ̀], [[ē pōʔō] lǐⁿ],
2Sg look.at.Base [Art place], [[Art the.bush] guts],
mó má ɲɛ̌= [Ø tə̀-rɛ́ jə̄-rē] =ē
2Sg IpfvNeg see.Ipfv [Art hole-Pl Indef-InanPl] **Q**
'(If) you look at the place, out in the bush, do you not see some pits?'
(Ji, 2017-04 @ 02:11)

13.2.3 Content (WH) questions

In general the content interrogative words ('who?', 'what?', 'where?', 'how?', and so forth) are not fronted. They remain in their regular position in the clause. As we would expect from *in situ* interrogatives, more than one of them may occur in the same clause.

(967) sɔ̀ⁿ-wá= à lúⁿ sɔ̌ⁿ tàʔà-kó
who? Ipfv look.Ipfv **who?** again
'Who looks at who else any more?' (Bi, 2017-10 @ 05:25)

Various grammatical morphemes tend to be glommed on to the primary WH words, resulting in a wide range of dialectal variants. wí 'owner' is part of some forms of 'who?'. Postposed topic markers are tend to fuse to interrogatives: animate singular bó for 'who?' and inanimate bè with 'what?', 'where?', 'when?', and 'how?'. Both topic markers can follow 'which?' depending on animacy. Preposed bè, which is elsewhere inanimate discourse-definite rather than topicalizing, occurs fused with 'what?' in some forms.

13.2.3.1 'Who?' (sɔ̌ⁿ ~ sǒ and extended forms)

'Who?' (human) is dialectally sɔ̌ⁿ or sǒ or some extension of these. Elicited forms are in (968). There is no ē article, which avoids any confusion with the noun ē sǒ 'pig'. The Fl variant sǒⁿ is unusual in having nasalized oⁿ that does not shift toward ɔⁿ. It is evidently a recent contraction from another variant sò-mó.

(968)

form	dialect
sǒ	Ji
sɔ̌ⁿ	Bi Ji
sò-wí	Ma
sɔ̀ⁿ-wí-bó	Bi
sò-bó	Ji
sò-bó-wí	Ji
sɔ̀ⁿ-wí	Bi Ji
sɔ̀ⁿ-bó ~ sɔ̀ⁿ-mó	Bi

sò-mó	Fl
sǒ^{n}	Fl

Forms attested in the texts are in (969). The Bi speaker was the most prolific in using 'who?' questions.

(969)	form	dialect	reference
a.	sǒ	Ji	2017-04 @ 06:03
		Ma	2017-10 @ 01:20
b.	sò-wí	Ma	2017-10 @ 02:24
c.	sɔ̌^{n}	Bi	2017-07 @ 00:38
			2017-08 @ 06:37
			2017-10 @ 05:25
d.	sɔ̀^{n}-bó ~ sɔ̀^{n}-mó	Bi	2017-08 @ 00:59
			2017-08 @ 01:38
			2017-08 @ 04:45
			2017-08 @ 06:48
e.	sɔ̀^{n}-wí	Bi	2017-08 @ 01:11
			2017-10 @ 05:25
f.	sɔ̀^{n}-wí-bó	Bi	2017-07 @ 07:36
			2017-10 @ 06:20

wí 'owner' occurs as a possessed noun in human reference-tracking expressions like ɔ̀^{n} wí 'the fellow' (§18.5.1.2), as well as being the final in many 'owner of X' compounds (§5.1.9). bó is a topic marker (§19.1.2.1) and this is the likely source of spreading into 'who?', though bó is also the third animate singular independent ('he/she/it') and logophoric pronoun. For Bi dialect we interpret mó in sɔ̌^{n}-mó as the fully nasalized form of bó (§3.4.4.3). This is also the likely source of Fl sò^{n}-mó.

Elicited example sentences with 'who?' are in (970).

(970) a. sɔ̀^{n}-wí =yà
who?-owner it.is
'Who is it?' (Ji)
[variant: sò-wá=à (Ji)]

b. sɔ̌^{n} gbà mó
who? hit.Pfv 2Sg
'Who hit you-Sg?' (Ji)
[variant: sǒ gbà mó (Ji)]

c. [wùʔù yá] kō [sɔ̀^{n} dɔ́=] =à
[house Dem] be [**who?** Poss.Inan] it.is
‘This house is whose?’ (< dɔ́) (Ji)

d. bùò gō sɔ̌^{n} =ɔ̄^{n}
2Pl be **who?** Q
‘Who are you-Pl?’ (Ji)

e. [mó gà sɔ̌^{n}] bɛ̄ [Ø dɛ̀] =ɛ̄
[2Sg with **who?**] cultivate.Pfv [Art field] Q
‘You-Sg and who (else) cultivated the field?’ (Ji)

f. sǒ à-mā
who? be.Loc
‘Who’s there?’ (Ji)

g. mó ʃìʔɛ̀ [ɔ̀^{n} sò-mó]
2Sg give.Pfv [Dat **who?**]
‘You-Sg gave (it) to whom?’ (Fl)

Some textual examples of ‘who?’ have been presented above: (951), (954) (955). Further textual examples are in (971).

(971) a. mó wō [sɔ̀^{n}-wí bó] tē
2Sg be [**who?-owner** **Top**] Q
‘(said:) “who exactly are you-Sg?” ’ (Bi, 2017-07 @ 07:36)

b. á dè á [sɔ̌^{n} à sūʔū bè [ɔ̀^{n} mó^{n}] tē
ah! Quot ah! [**who?** Ipfv give.Ipfv Dem.Def [Dat 2Sg] Q]
‘(said:) “Ah, who will give that to you?” ’ (Bi, 2017-08 @ 06:37)

It is possible to double ‘who?’ in the same clause, with different referents. The “who? …who? …” in (972) corresponds to *who?…anyone else…* in idiomatic English. Compare the double relatives in (1016a-b) below.

(972) à [bè tóʔó] klè [Ø bí-ʃìò jə́rí-kɔ̀],
ah! [Dem.Def Foc] do.Pfv [Art child.Pl small-AnPl]
é sɔ̀^{n}-wá= à lú^{n} sɔ̌^{n} tàʔà-kó
oh! [**who?** Ipfv look.Ipfv **who?** again
That [focus] is what made small children (be such that), who looks at who else any more?’ (Bi, 2017-10 @ 05:25)

13.2.3.2 ‘What?’, ‘with what?’, and ‘why?’

13.2.3.2.1 ‘What? (kè, bē-kè, kɛ̀ʔɛ́, ʃìʔɛ́, etc.)

The attested forms for ‘what?’ are in (973). ē is the article.

(973)	form	dialect	comment
a.	(ē) kè	Fl Ji	cf. (ē) kě ‘matter, issue, thing (abstract)’
b.	combinations containing bè		
	(ē) bē-kè	Ji	
	(ē) bē-gè	Bi	
	(ē) kè-bè	Fl	
c.	(ē) ɛ̀ʔɛ́	Bi Ma	“thing”
d.	possible frozen combinations containing *ɛ̀ʔɛ́ ‘thing’		
	(ē) kɛ̀ʔɛ́	Ma	
	(ē) gɛ̀ʔɛ́	Bi (women)	
	(ē) ʃìʔɛ́	Ji	
	(ē) dɛ̀ʔɛ́	Bi (women)	

The form (ē) kè (973a) is likely derived from (ē) kě ‘matter, issue, affair’, i.e. ‘abstract thing’. The forms in (973b) are combinations of kè or variant with a preceding or following bè. Prenominal bè is elsewhere discourse-definite inanimate; postnominal bè is elsewhere inanimate topic (§19.1.2.1). Elicited examples are in (974).

(974) a. má= ā klɛ̌= [Ø kè]
2Sg Ipfv do.Ipfv [Art **what?**]
‘What are you-Sg doing?’ (Ji)
(variant with final kɛ̀ =ɛ̀ including question particle

b. má= à fā [Ø bē-kè]
2Sg Ipfv seek.Ipfv [Art **what?**]
‘What are you-Sg looking for?’ (Ji)

c. yá wō [Ø bē-gè]
Dem.InanSg be [Art **what?**]
‘What is that?’ (Bi)

d. [ē bē-gè] gò [mó nī]
[Art **what?**] be [2Sg Loc]
‘What is in you?’ (= ‘What happened to you?’) (Bi)

e. [ē kè-bè] klè
[Art **what?**] be.done.Pfv
‘What happened?’ (Fl)

f. [ē kè] nà klè
[Art **what?**] Fut happen.Base
‘What will happen?’ (Fl)

There is one textual example (975).

(975) dè *est-ce que* [Ø dùʔù-tə̀-rɛ̀ yá]
Quot Q [Art cliff-hole-Pl Dem.InanSg]
[á kòʔó] ō [Ø kè] [ó bàʔà] tē,
[Inan good] be [**Art** **what?**] [1Pl Dat] Q
‘(said:) “those grottos, what good are they for us?” ’ (Fl, 2017-11 @ 00:26)

Example (973c) above is just the noun ‘thing, object’, like Italian *cosa*. As interrogative ‘what?’ it is often expanded as kɛ̀ʔɛ́, dɛ̀ʔɛ́, or ʃìʔɛ́. It is possible that ʃīʔɛ́ is a frozen contraction of a ‘which?’ element also preserved in ‘when?’ interrogatives (§13.2.3.4) plus noun ɛ̀ʔɛ́ ‘thing’. Elicited examples are in (976).

(976) a. yá wō [Ø ɛ̀ʔɛ́]
Dem.InanSg be [Art **what?**]
‘What is that?’ (Bi)

b. [ē ɛ̀ʔɛ́] gò [mó nī]
[Art **what?**] be [2Sg Loc]
‘What is in you?’ (= ‘What happened to you?’) (Bi)

c. [ē ʃìʔɛ́] =yà
[Art **what?**] it.is
‘What is that?’ (Ji)
[contracted variant ē ʃìʔá=à (Ji)]

d. [è ʃìʔɛ́] bùò mó
[Art **what?**] get.Pfv 2Sg
‘What got you-2Sg?’ (i.e. ‘What happened to you?’) (Ji)

e. má= à fā [Ø ʃìʔɛ́]
2Sg Ipfv seek.Ipfv [Art **what?**]
‘What are you-Sg looking for?’ (Ji)

f. [è yá] kō [Ø kɛ̀ʔɛ́] =ɛ̄
" " " " ɛ̀ʔɛ́ "
[Art Dem.InanSg] be [Art **what?**] Q
‘That is what?’ (Ma)

g.	yá	kō	[Ø	ʃìʔɛ́]	=ɛ̄
	Dem.InanSg	be	[Art	**what?**]	Q

‘That is what?’ (Ji)

h.	[ē	ʃìʔɛ́]	klɛ̀
	[Art	**what?**]	be.done.Pfv

‘What happened?’ (Ji)

There is one textual example with (ē) ɛ̀ʔɛ́ (977a) and one with (ē) dɛ̀ʔɛ́ (977b).

(977)	a.	dè	é!,	dè	bùò	ā	klɛ̌=	[Ø	ɛ̀ʔɛ́]	tē
		Quot	oh!,	Quot	3Pl	Ipfv	do.Ipfv	**[Art**	**what?**]	Q

‘(said:) “oh! What are you-Pl doing?” ’ (Bi, 2017-07 @ 05:47)

b.	dè	ɔ̄^{n}	ɲǎ=	[Ø	dɛ̀ʔɛ́]	tē
	Quot	3AnSg	see.Pfv	[**Art**	**what**?]	Q

‘(said:) “So what did you see?” ’ (women, 2017-13 @ 00:46)

13.2.3.2.2 ‘With what?’

Instrumental ‘with (= by means of) what?’ was elicited as (978). kà is the instrumental (and comitative) preposition (§8.2).

(978) form	dialect
kǎ= [Ø kè]	Fl Ji
kǎ= [Ø kɛ̀ʔɛ́]	Ma

An elicited example is (979).

(979)	bùò	à	mlī^{n}	[Ø	wùʔú]	[kǎ=	[Ø	kè]]
	2Pl	Ipfv	build.Ipfv	[Art	house]	[**with**	**[Art**	**what?**]]

‘With what do you-Pl construct a house?’ (Ji)

13.2.3.2.3 Various ‘why?’ constructions

There are several ways to translate English ‘why?’ questions. The first is biclausal, phrased along the lines of ‘what cause(d) …?’ with invariant verb klɛ̀ ‘do, make’. The complement is an infinitival clause, which can take imperfective form when the underlying event is protracted or habitual (980b). This construction expresses causation by external or impersonal forces (980d). For the causative syntax see §17.4.2.5.1.

(980) a. [ē ʃìʔɛ́] klè [mó kō bà]
[**Art** **what?**] **do**.Pfv [2Sg Infin come.Base
‘What brings you-Sg here?’ (= ‘Why did you-Sg come?’) (Ji)

b. [ē kɛ̀ʔɛ́] klè [mó k-â kó] =ō
[**Art** **what?**] **do**.Pfv [2Sg Infin-Ipfv weep.Ipfv] Q
‘What makes you-Sg weep?’ (=‘Why are you weeping?’) (Ma)

c. [ē kè] klè [mó k-â kó] =ō
[Art **what?**] **do**.Pfv [2Sg Infin-Ipfv weep.Ipfv] Q
‘What makes you-Sg weep?’ (=‘Why are you weeping?’) (Fl)

d. [ē kè] klĕ= [[Ø wùʔú] kō dì-só] =ō
[Art **what?**] **do**.Pfv [[Art house] Infin fall.Base] Q
‘What made the house collapse?’ (Fl)

Instead of klè ‘do’, the higher verb can be já ‘leave, let’, a milder causative with the same syntax (§17.4.2.5.4).

(981) [ē kè] já [ò k-â bē]
[Art **what?**] **let.Pfv** [3Pl Infin-Ipfv come.Ipfv]
‘For what (reason) do they come?’ (Fl, 2017-11 @ 01:08)

If ‘why?’ seeks to smoke out the subject’s thoughts or intentions, it can be expressed in a quotative adjunct with quotative particle dè. Here ‘how?’ competes with ‘what?’ as the content interrogative, as it does with ‘say’ (‘say how?’ = ‘say what?’).

(982) a. má= à kó [dĕ= [Ø kè]]
2Sg Ipfv weep.Ipfv [**Quot** [Art **what?**]]
‘Why are you weeping?’ (Fl)

b. mó bà [dè mlɛ̌ⁿ] =ɛ̀ⁿ
2Sg come.Pfv [**Quot** **how?**] Q
‘Why did you come?’ (Fl)

c. d= ɔ̀ⁿ= Ø kó [dĕ= [Ø gɛ̀ʔɛ́]] tē
Quot 3AnSg Ipfv weep.Ipfv [**Quot** [Art **what?**]] Q
‘(said:) “Why are you weeping?” ’ (women, 2017-18 @ 00:21)
(hesitations edited out)

d. ò bā kŏ= [Ø jɔ̌] =nì]],
3Pl if kill.Base [[Art fetish] Loc]],
dē bè-kɛ̀ʔɛ́ tē
Quot **what?** Q
‘If they slaughtered (the chickens) on the fetish, why is that?’
(Bo, 2019-10 @ 05:03)

There is also a clause-final 'why?' interrogative ŋùʔù [ŋṵ̀ʔṵ̀], attested once for Ji dialect but not recognized by others, so its status is uncertain. It was added as an adverb to a single clause (983).

(983)

mó	bà	ŋùʔù
2Sg	come.Pfv	**why?**

'Why did you-Sg come?' (Ji)

Bi dialect also makes use of a PP 'in what?'.

(984)

móⁿ	bà	[ɛ̀ʔɛ́	nī]
2Sg	come.Pfv	[**what?**	**Loc**]

'Why did you-Sg come?' (Bi)

See also under 'how?' in §13.2.3.5 below.

13.2.3.3 'Where?' (ē sē)

Interrogative 'where?' focally inquites about spatial location, either of a stationary entity or as one of the endpoints of a trajectory. It can also mean 'how?' in the abstract sense 'in what circumstances', as in 'how can this happen?'

The form is ē sē (Bi Ji) including the article, which appears clearly in clause-initial (postpausal) position and is elsewhere often unpronounced. (For sè-kúⁿʔɔ̀ⁿ see the end of this section.) When clause-final, sē takes the form sē =ē, where the interrogative enclitic =ā assimilates vocalic quality but is pronounced at a pitch slightly lower than mid-tone. In a closer transcription one could write sē =ꜜē with downstep. Both à-mā 'be (somewhere)' and copula kō 'be' can combine with sē.

(985) a.

mó	à-mā	[Ø	sè]	kúⁿʔûⁿ
2Sg	be.Loc	[Art	**where?**]	today.Q

'Where are you-Sg today?' (< kúⁿʔúⁿ) (Ji)

b.

mó	kō	[Ø	sē]	=ē
2Sg	be	[Art	**where?**]	Q

'Where are you-Sg?' (Ji)

c.

[ē	kàʔá]	kō	[Ø	sē]	=ē
[Art	meat]	be	[Art	**where?**]	Q

'Where is the meat?' (Ji)

d.

mó	à	yíʔī=	[Ø	sē]	=ē
2Sg	Ipfv	go.Ipfv	[Art	**where?**]	Q

'Where are you-Sg going?' (Ji)

e. [ē sē] =ē
[Art **where?**] Q
‘Where (is it)?’ (Ji)

f. mó à-mā [Ø sē] =ē
2Sg be.Loc [Art **where?**] Q
‘Where are you-Sg?’ (Fl)

Two textual examples of (ē) sē also involve a discourse-definite demonstrative bè immediately before tē (986a-b). This bè has no specific referent and functions as an abstract adverb ‘thus’ resuming the general situation. It can also indicate slight exasperation. In the free translations we try to capture this with initial ‘So’. bè is separated from sē by another constituent in (986a), but the two are adjacent in (986b), as well as in the elicited example (986c). bè has a tendency to fuse to the ‘what?’ interrogative, see (973b) above.

(986) a. dè [Ø bí-ʃìò] fīē [Ø sè] kúⁿʔúⁿ bè tē
Quot [Art child-Pl] pass.Pfv [Art **where?**] today **Dem.Def** Q
‘(thought:) “So where have the children gone today?” ’
(Bi, 2017-07 @ 04:26)

b. móⁿ ŋ-ā glú [ā [bè pərɛ̀-ń]]
2Sg Infin-Ipfv exit(v).Ipfv [with [Dem.Def dress.up-VblN]]
[Ø sē] bè tē
[Art **where?**] **Dem.Def** Q
‘(So) where (=how) is it that you are coming out and dressing up?’
(Bi, 2017-08 @ 03:44)

c. mó à-mā [Ø sē] bè
2Sg be.Loc [Art **where?**] **Dem.Def**
‘So where (the hell) are you-Sg?’ (Fl)

Some other textual occurrences of (ē) sē ‘where?’ are in (987). ‘Where?’ in (987b) means abstract ‘how (on earth)?’. It is asked rhetorically, and it is immediately answered by the same speaker as ‘Nothing was given!’ (987c) expresses the perspective of a protagonist who was trying to flee.

(987) a. dè móⁿ glō [ā bě=] [Ø sē] tē
Quot 2Sg exit.Prv [with Dem.Def] [**Art** **where?** Q
‘(said:) “Where did you bring that from?” ’
(Bi, 2017-08 @ 04:09)

b. é→ ā ʃîʔɛ̌= [Ø sē] =ē
oh, 3Inan be.given.Pfv [**Art** **where?**] Q
‘Oh! Where was it given?’

c. [ē yīʔē-tɔ̀ʔɔ̀] Ø-mā [Ø sē] =ē
[Art go.Pfv-place] be.Loc [**Art** **where?**] Q
'Where is (=was) the way out?' (Bi, 2017-09 @ 02:50)

An embellishment sè-kú^{n}ʔɔ̀^{n} (Ji) or sè-kú^{n}ʔɔ́^{n} (Fl) is used in rhetorical and exasperated questions. Compare English interrogative *wherever did…?* and *where (the hell/in the world) did…?*. There are two textual examples from our Ji speaker.

(988) a. [mó ɔ̀ʔɔ́ bè] kō [Ø [sè-kú^{n}ʔɔ̀^{n}]-dí^{n}] =ī^{n}
[2Sg arm Top.Inan] be [Art [**wherever?**]-equal(n)] Q
'Your arm is equal to where (=extends how far)?'
(Ji, 2017-01 @ 02:11)

b. ɔ̀= Ø glú [kǎ= [Ø ɲū]] sè-kú^{n}ʔɔ̀^{n} bè-kā
3Pl Ipfv exit(v).Ipfv [with [Art water]] **wherever?** like.that
'Where the hell did they come out with (=get) water like that?'
(Ji, 2017-04 @ 06:08)

An occasional alternative to (ē) sē is ké jərɔ́^{n} (Fl) or kí jərɔ́^{n} (Ji), literally 'which side?'. The sense is 'whereabouts?', i.e. less pinpointed than sē.

(989) mó à-mā [ké jərɔ́^{n}] =ɔ̄^{n}
2Sg be.Loc [**side** **which?**] Q
'Whereabouts are you-Sg?' (Fl)

13.2.3.4 'When?' (ʃì^{n} dáʔá, ʃì^{n}-gɔ̄)

The temporal adverbial interrogative is phrased as ʃì^{n} dáʔá 'which time?' (Bi Ji). It is based on the noun (è) dáʔá 'moment, (point in) time'. The 'which?' element here is ʃì^{n}, which occurs only in 'when?' combinations ('what time', etc.). The context may be clock time or seasonal. More specific combinations like '(in) which year?' are also possible (990c). '(On) which day?' is ʃì^{n}-gɔ̄ (Bi) or fully nasalized form ʃì^{n}-ŋɔ̄ (Fl Ji) (990d-e), cf. kɔ̄ 'day'. bè is optionally appended as in 'what?' and 'where?' questions (990d). There are no textual examples.

(990) a. má= à dû= [Ø súmá-klàʔà] [ʃì^{n} dáʔá]
2Sg Ipfv sow.Ipfv [Art maize] [**which?** **time**]
'When do you-Sg plant the maize?' (Ji)

b. é-yùò nà yíʔí [ʃì^{n} dáʔá]
1Pl Fut go.Base [**which?** **time**]
'What time will we leave tomorrow?' (Ji)

c.	mó	bà	[ʃìⁿ	yǎ]	=ā
	2Sg	come.Pfv	[**which?**	**year**]	Q

‘(In) which year did you come?’ (Ji)

d.	[ē	ʃìⁿ-ŋɔ̄	(bè)]	ŋ̀	nà	bà
	[Art	**which?-day**	(Top.Inan)]	2Sg	Fut	come.Bast

‘On what day will you-Sg come?’ (Fl)

e.	[ē	ʃìⁿ-ŋɔ̀]	má	kò	=ʔ
	[Art	**which?-day**]	IpfvNeg	be.good.Ipfv	Neg

‘Which day is not good?’ (Fl)

An alternative is dáʔá jərɔ̂ⁿ ‘which time?’ (Fl Ji).

(991)	bùò	à	jû=	[Ø	súmá-klàʔà]	[dāʔá	jərɔ̂ⁿ]
	2Pl	Ipfv	sow.Ipfv	[Art	maize]	[**time**	**which?**]

‘At what time (=season) do you plant maize?’ (Fl)

13.2.3.5 ‘How?’ and ‘how many/much?’

13.2.3.5.1 ‘How?’ (mlɛ̌ⁿ, mè-kā, áⁿ)

‘How?’ (manner adverbial interrogative) is expressed by any of the dialectal variants in (992). mlɛ̌ⁿ is often flattened to mlɛ̄ⁿ. ‘How?’ interrogatives are common in texts because ‘do what?’ and ‘say what?’ can be expressed as ‘do/say how?’ (cf. local French *comment faire?*).

(992)	form	dialect	textual reference (if any)
a.	mlɛ̌ⁿ	Fl Ji	
b.	mlɛ̀ⁿ-kā	Fl Ji	(Ji, 2017-08 @ 06:17)
	mè-kā	Ji	
	mì-kā	Bo	(Bo, 2019-10 @ 00:06)
	mè-ŋā	Bo	(Bo, 2019-01 @ 00:33)
	mè-kà-díⁿ	Ji	(Ji, 2017-01 @ 02:13)
	mè-ŋà-díⁿ	Bo	(Bo, 2019-03 @ 03:32)
c.	áⁿ	Bi	(Bi, 2017-07 @ 08:51) (Bi, 2017-08 @ 01:22, 01:38, 04:51)
d.	mè-yá	Bi	(Bi, 2017-09 @ 02:24)
e.	mlɛ̀ⁿ-áⁿ	Bi	(Bi, 2017-07 @ 08:02) (Bi, 2017-08 @ 01:22, 03:35, 09:48, 10:39)

mlɛ̌ⁿ in (992a) is related to noninterrogative manner adverb mlɛ̌ⁿ ‘like this/that’ (§8.5.5.1). kā is a noun meaning ‘manner’. díⁿ is a noun elsewhere meaning ‘equal (n), peer; breed’. We know of no other morpheme that is related to áⁿ. It may be a reduction of mlɛ̀ⁿ-áⁿ (992e), which however is itself nontransparent. áⁿ occurs in mlɛ̀ⁿ-áⁿ =āⁿ (993c), which may simply be how /mlɛ̌ⁿ =à/ is pronounced in Bi dialect.

Prepausal mlɛ̌ⁿ combines with the interrogative enclitic as mlɛ̌ⁿ =ɛ̄ⁿ, sometimes pronounced mlɛ̄ⁿ =ɛ̄ⁿ (Fl, Ji). Some elicited examples of mlɛ̌ⁿ and mlɛ̀ⁿ-áⁿ are in (993)

(993) a. mó   nà   klè   mlɛ̌ⁿ   =ɛ̄ⁿ
2Sg   Fut   do.Base   **how?**   Q
‘What (“how?”) will you-Sg do?’ (Ji)

b. à   kō   mlɛ̌ⁿ   =ɛ̄ⁿ
3Inan   be   **how?**   Q
‘How is it?’ (Ji)

c. à   gō   mlɛ̀ⁿ-áⁿ   =āⁿ
3Inan   be   **how?**   **Q**
‘How is it?’ (Bi)

A textual example of mè-kà-díⁿ is (994). The context is a climb up a tree where it would be difficult for one’s arms to meet on the other side of the trunk.

(994) mó   nà   ló-báʔá   mó   nà   ló-bɛ̌ⁿ=
2Sg   Fut   surround.Base   2Sg   Fut   turn.Base-meet.Base
[Ø   ʃìⁿʔíⁿ]   mè-kà-díⁿ   =ìⁿ   hé
[Art   tree]   **how?-manner-equal(n)**   Q   huh?
‘How will (=can) you go around the tree and meet up?’ (Ji, 2017-01 @ 02:13)

The five textual examples of simple áⁿ are all from the Bi speaker, all immediately follow the verb klè ‘do’, and some (but not all) are followed by inanimate topic bè. Two examples are in (995).

(995) a. é!   bó   nàⁿ   klè   [áⁿ   bè]
oh!   LogoSg   Fut   **do**.Base   [**how?**   **Top**.Inan]
‘(He said:) “Oh! What will (=can/must) I do, in order to get that?” ’
(Bi, 2017-08 @ 01:22)

b. ɲánɔ̀   [mó   dá=]   ā   klè   [áⁿ   bè]   tē
friend   [2Sg   however]   Ipfv   **do**.Ipfv   [**how?**   **Top**.Inan]   Q
‘Friend, but what have you done?’ (Bi, 2017-08 @ 04:51)

The manner interrogative is also part of a ‘why?’ construction, which is phrased as ‘how did it happen that …?’

(996)	ā	klè	mè-(k)à	[mó	ō	bà]
	3Inan	be.done.Pfv	**how?**	[2Sg	Infin	come.Base]

‘Why did you-Sg come?’ (Ji)

Our Bi assistant has mlɛ̀^{n}-yá (=ā) ‘how?’ in this construction.

Inanimate topic marker bè is less common in ‘how?’ questions that in some other nonhuman content interrogatives. However, mlɛ̌^{n}-á^{n} bè occurs in (Bi, 2017-08 @ 09:48).

13.2.3.5.2 ‘How many/much?’ (mlɛ̌^{n}, bí-mlɛ̀^{n})

mlɛ̌^{n} ~ mlɛ̄^{n} ‘how?’ is also the interrogative of quantity, ‘how much?’ or ‘how many?’ In this function it has morphosyntactic affinities to numerals. It follows plural ò or human plural yúó, as do numerals ‘2’ to ‘9’ (§6.4.1). Plural ò is used even for mass nouns like ‘sugar’.

(997)	a.	mó	kà	[Ø	bɔ́	[ò	mlɛ̄^{n}]]	=ɛ̄^{n}
		2Sg	with	[Art	sheep.Pl	[Pl	**how?**]]	Q

‘How many sheep do you-Sg have?’ (Ji)

	b.	mó	wìè	[Ø	súkár=	[ò	mlɛ̄^{n}]]	=ɛ̄^{n}
		2Sg	put.in.Pfv	[Art	sugar	[Pl	**how?**]]	Q

‘How much sugar did Zaki put in the tea?’ (Ji)

	c.	[mó	nɔ̂=	[Ø	mlɛ̄^{n}]]	wūō	=ō
		[2Sg	cow.Pl	[Pl	**how?**]]	die.Pfv	Q

‘How many of your cows died?’ (Ji)

	d.	é-yùò	kò	[yúó	mlɛ̌^{n}]	=ɛ̄^{n}
		1Pl	be	[people	**how?**]	Q

‘We are how many people?’ (Fl Ji)

	e.	[ò	mlɛ̄^{n}]	dìè-só	=ō
		[Pl	**how?**]	fall.Pfv	Q

‘How many (things) fell?’ (Fl)

‘How many times’ is nī mlɛ̌^{n}.

When ‘how much?’ refers to money, a compound-like form (è) bí-mlɛ̌^{n} is used. The initial functions as a numeral classifier for currency. It is related to bú ‘money’, and more specifically to the first element of bí-kló ‘cowry’ (cowries were formerly used as currency), cf. also bú fià^{n}ʔà^{n} ‘silver (metal)’.

(998)	é-yùò	nà	sūʔɔ̄=	[Ø	bí-mlɛ̀^{n}]	[ɔ̀^{n}	bùò]
	1Pl	Fut	give.Base	[Art	how.much.money]	[Dat	2Pl]

‘How much money shall we give you-Pl?’ (Ji, 2017-04 @ 05:14)

The distributive iteration mlɛ̌ⁿ-mlɛ̌ⁿ means ‘how many/much each?’ This is common in connection with unit prices in markets and stores. It is often heard as mlɛ̄ⁿ-mlɛ̀ⁿ. For currency, the distributive is bí-mlɛ̌ⁿ-mlɛ̌ⁿ.

(999) a. [móⁿ   gbīⁿʔīⁿ]   kō   [Ø   mlɛ̄ⁿ-mlɛ̄ⁿ]   =ɛ̄ⁿ
[2Sg   peanut]   be   [Art   **how?-how?]**   Q
‘How much (each) are your-Sg (bunches of) peanuts?’ (Ji)

b. à   kò   bí-mlɛ̄ⁿ-mlɛ̀ⁿ   kūⁿʔúⁿ
3Inan   be   **money-how?-how?**   today
‘How much (each) are they today?’ (Fl)

The sense ‘how many-eth’ (Fr *quantième*), for example specifying a student’s rank in a class, is expressed as a human ordinal (§4.6.2.3).

(1000) mó   kò   [(Ø)   yúó   mlɛ̄ⁿ-nɔ̀]
2Sg   be   [Art   person   **how.many?**-Ord.Hum]
‘You are how-many-eth (=what rank)?’ (Ji)

13.2.3.6 ‘Which?’

In addition to the well-attested ‘which?’ forms in the subsections below, there is a single attested of ɛ̀gɛ̀ è díⁿ mó ‘what kind?’ (Bo, 2019-11 @ 01:20). It contains díⁿ ‘breed, kind’, mó nasalized from topic-marking bó, and ɛ̀gɛ̀ which is probably related to forms of ‘what?’ Compare ʃīⁿ-kà-bō and ʃīⁿ-kà-bò-díⁿ ‘what kind?’ in §13.2.3.6.2 below.

13.2.3.6.1 jə̀rɔ́ⁿ and its plurals ‘which?’

The forms in (1001) can function as ‘which?’ interrogative adjectives.

(1001) jə̀rɔ́ⁿ	singular
jə̀ró	animate plural
jə̀ré	inanimate plural

These forms are identical to relative markers (§14.1.1), but they occur in clauses that end in interrogative enclitic =ā (which can contract with the preceding vowel). A third paradigm, that of indefinite markers, has plural but not singular forms that are segmentally identical, but they are level M-toned: singular jī, animate plural jə̄-rō, and inanimate plural jə̄-rē (§4.4.2.3).

Examples of interrogative function are in (1002). Our Bi speaker likes to use topic markers (bó, bùò, bè) followed by díⁿ (elsewhere ‘peer; breed’) after ‘which?’ (1002h-j). Compare for Ma dialect, with the order reversed, ʃīⁿ-ɲə̀ró díⁿ bùò (1005) below.

(1002) a.

[ē	wùʔú	jə̀rɔ́ⁿ]	=ɔ̄ⁿ
[Art	house	**which?**]	Q

‘Which house (is it)?’ (Ji)

b.

má=	à	fâ=	[Ø	máⁿgə̀rō	jə̀rɔ́ⁿ]	=ɔ̄ⁿ
2Sg	Ipfv	seek.Ipfv	[Art	mango	**which?**]	Q

‘Which mango do you want?’ (Ji)

c.

[è	bí-sīō	jə̀ró]	nà	bá	=ā
[Art	child.Pl	**which?**.AnPl]	Fut	cultivate.Base	Q

‘Which children (=sons) will do the farming?’ (Ji)

d.

mó	bà	[yǎ	jə̀rɔ́ⁿ]	=ɔ̄ⁿ
2Sg	come.Pfv	[year	**which?**]	Q

‘Which year did you-Sg come?’ (Fl)

e.

má	à	sɛ́ⁿ	[[wùʔú	jə̀rɔ́ⁿ]	nī]	=ī
2Sg	Ipfv	lie.down.Ipfv	[[house	**which?**]	Loc]	Q

‘In which house do you lie down (=live)?’ (Fl)

f.

[wə̀-rú	jə̀ré]	=ē
[house-Pl	**which?**.InanPl]	Q

‘which houses?’ (Fl)

g.

[wùʔú	jə̀rɔ́ⁿ]	dìè-só	=ō
[house	**which?**]	fall.Pfv	Q

‘Which house collapsed?’ (Fl)

h.

[wùʔú	jə̀rɔ́ⁿ	bè	díⁿ]	dìè-só	=ō
[house	**which?**	**Top.Inan**	**breed**]	fall.Pfv	Q

‘Which house collapsed?’ (Bi)

i.

móⁿ	də̀rɔ̀	[wùʔú	jə̀rɔ́ⁿ	bè	díⁿ]	=īⁿ
2Sg	buy.Pfv	[house	**which?**	**Top.Inan**	**breed**]	Q

‘Which house did you-Sg buy?’ (Bi)

j.

[ē	dè-fɛ̀	jə̀rɔ̀ⁿ	mó	díⁿ]	à-māⁿ	[mó	bàʔà]]
[Art	talk(n)	**which?**	**Top**	**breed**]	be.Loc	[3AnSg	Dat]]

‘What (right to) talk did she have?’ (Bi, 2017-07 @ 00:35)

In textual example (1003) the question is sarcastic and rhetorical, effectively ‘how (the hell) could they (=hare and hyena) wear women’s loincloths, having no buttocks?’

(1003) [ē wə̀rɛ́ bè] nà yíé
[Art loincloth Top.Inan] Fut loincloth.be.worn.Base
[[pɛ̀tɛ̀-ɲùʔɔ̀ jə̀rɔ́^{n} bè] nī]
[[buttock **which?** Top.Inan] Loc]
‘That women’s loincloth would be worn on which buttocks?’
(Ji, 2017-08 @ 00:25)

13.2.3.6.2 ʃìʔɛ́ ‘which?’ and related forms

The form (ē) ʃìʔɛ́ occurs occasionally in the sense ‘what?’ (§13.2.3.2.1). It means ‘which?’ when preposed to another noun. It occurs in the textual passage (1004). The speaker first uses the Jula borrowing bə́rá ‘work (n)’, then rephrases with the native Tiefo-N term kē-sù^{n}ʔɔ̀^{n}.

(1004) dē [kɛ̀^{n} yá bó =rɛ̄]
Quot [fellow Dem.InanSg Top even]
kō [[(Ø) ʃìʔɛ́-bə́rá] nī] [[tɔ̀ʔ= á] nī],
be [[Art **which?**-work(n)] Loc] [[place Dem.InanSg] Loc],
[ē ʃìʔɛ́-[kē-sù^{n}ʔɔ̀^{n}]] nī
[Art **which?**-work(n)] Loc
‘(thought:) “This fellow [topic] is engaged in what (sort of) activity here?” ’
(Ji, 2017-01 @ 02:43)

A form ʃì^n- occurs in ‘which time (day, etc.)’ temporal interrogatives (§13.2.3.4 above). It is also attested in the unusual compound-like combination in (1005). It is preceded by a list of human categories (chief, fetishists, ordinary citizens). ʃì^n-ɲə̀rò-dí^n contains animate plural jə̀ró ‘which?’ (or relative), and dí^n ‘peer; breed’. The latter is elsewhere a compound final in kà-dí^n ‘manner’.

(1005) ʃì^n-ɲə̀rò dí^n bùò,
which?.Pl **peer** Top.AnPl,
sò ká ā gàʔ-à-sɛ́^{n} =ɛ̄^{n}
who? Past Ipfv be.first.Ipfv-Ipfv-lie.down.Ipfv Q
‘Which of you-Pl? Who used to lie down first?’ (Ma, 2017-10 @ 01:20)

Another nontransparent combination is ʃì-kā-bō ‘what kind?’ (Fl Ji) or ʃì-à-bó (Bi). It can occur alone, or be compounded to a following dí^n ‘equal, peer’ (in the sense ‘race, breed, species’) and/or a noun denoting the general class. One can discern (ē) kā ‘manner’ in the middle, leaving ʃì- as a somewhat opaque interrogative initial. -kā-bō is rather fused and is treated as a single form in tone sandhi (1006e). Fl Ji -bō resembles the animate singular topic marker bó, but ʃì-kā-bō works with inanimate as well as animate nouns. For Bi the identification of topic bó is clearer. On the other hand ʃì-à- in the Bi form is somewhat opaque due to the loss of *k.

(1006) a. [dḕ= [Ø ʃì-kā-bō jɥ̀ɛ̀ʔɛ́] tē
[say.Pfv [Art **what.kind?** God] Q
'(said:) "What kind of God?" ' (Fl, 2017-03 @ 00:39)

b. [ē ʃì-kā-bō] =ō
[Art **what.kind?**] Q
'what kind?' (Fl)

c. [ē ʃì-kā-bō] =yà
[Art **what.kind?**] it.is
'What kind is it?' (Fl)

d. [ē [ʃì-kā-bō]-[bù^{n}ʔɔ̄^{n}-dí^{n}]] =yà
[Art [**what.kind?**]-[dog-equal]] it.is
'What kind of dog is it?' (Fl)

e. [ē [ʃì-kà-bò]-dí^{n}] =yà
[Art [**what.kind?**]-equal] it.is
'What kind (breed) is it?' (Fl)

f. ē ʃì-à-bó kàʔá =à
Art what.kind> mean it.is
'What kind of meat is it?' (Bi)

13.2.4 Embedded interrogatives

13.2.4.1 Embedded polar interrogatives

For polar interrogatives embedded under '(not) know', as in 'I don't know whether …', see §17.3.1.3-4.

13.2.4.2 Embedded content interrogatives

Cross-linguistically, a content interrogative embedded under a verb like '(not) know' can either retain the basic interrogative morphosyntax ('I don't know [who will go]') or may replace the content (WH) interrogatives with corresponding light nouns ('I don't know [the person who will go]').

Direct elicitation using French cues might bias the answers. The few relevant textual examples point to the light-noun construction (1007a-b). However, (1007c) preposes the complement as a headless relative clause.

(1007) a.	[[yúó	jə̀rɔ́^{n}]	bē	sùtərá	mó^{n}]	[má^{n}=	á^{n}	kɔ̄^{n}	=ʔ]
	[[**person**	Rel]	Fut	bury.Pfv	2Sg]	[2Sg	PfvNeg	know.Base	Neg]

‘You don’t know who (=which of your children) will bury you.’
(Bi, 2017-07 @ 09:51)

b.	[bó	kə̀rɔ̀^{n}]	má	jī	[à	glō-tɔ̀ʔɔ̀]	=rɛ̄ʔ
	[LogoSg	Top]	IpfvNeg	know.Ipfv	[3Inan	exit.Pfv-**place**]	Emph

‘(said:) “I myself am not familiar with its place of exiting.” ’
(i.e. ‘I don’t know the place where it came out’) (Fl, 2017-05 @ 01:46)

c.	[ó	bē	klè	jə̀rɔ́^{n}]	ɔ́=	á	kɔ̄^{n}	=ʔ
	[1Pl	Fut	do.Pfv	**Rel**]	1Pl	PfvNeg	know.Base	Neg

‘What to do, we don’t know.’ (Bo, 2019-03 @ 03:02)

In (1008), the complement of ‘don’t know’ is a manner adverbial with sìɲá nī (§15.3.2).

(1008) a.	ɔ̌^{n}=	Ø	kɔ̀^{n}	[[[bó	nà	klè]	sìɲá]	nī]
	3AnSg	PfvNeg	know.Base	[[[LogoSg	Fut	do.Base]	**situation**]	**Loc**]

‘He didn’t know how (=what) to do next.’ (Ji, 2017-01 @ 02:35)

b.	ó	má	jì	[[[ó	nà	klè]	sìɲá]	nī]	tàʔà-kó
	1Pl	IpfvNeg	know.Ipfv	[[[1Pl	Fut	do.Base]	**situation**]	Loc]	again

‘We don’t know what to do any more.’ (Bo, 2019-03 @ 02:55)

14 Relativization

14.1 Basics of relative clauses

Eliciting examples using French translation cues can confuse speakers, since French relative clauses resemble French focalizing cleft constructions. We therefore typically phrase translation cues with a following ‘where is he/she?’ or ‘where are they?’, which exclude the cleft reading. These ‘where?’ phrases may then be disregarded. As always, textual examples are most reliable.

14.1.1 Relative markers

The relative markers are those in (1009). Animacy is distinguished in the plural only. The forms are identical to those of interrogative ‘which?’ (§13.2.3.6.1). The latter occur in clauses that end in interrogative =ā, which is encliticized to the final word, which is sometimes ‘which?’ itself, as shown below. The relative markers are distinct from indefinite markers (§4.4.2.3). However, in some contexts the “relative” markers have indefinite interpretations (as in conditional antecedents). In addition, both relative markers and indefinites drop to L-tone before an H-tone by tone sandhi, in which case the plural relative markers and plural indefinite markers are homophonous. The j can be fully nasalized to ɲ after a nasal syllable, chiefly in Bi dialect as in (1010c) below.

(1009) Rel	category	‘which?’	indefinite
jə̀rɔ́ⁿ	singular (generalizing)	jə̀rɔ́ⁿ =ɔ̀ⁿ	jī
jə̀ró	animate plural	jə̀ró =ò	jə̄-rō
jə̀ré	inanimate plural	jə̀ré =è	jə̄-rē
—	inanimate (Sg = Pl)		

Morphological plural marking for inanimate nouns is less systematic than for animates. Inanimate plural jə̀ré is attested after “singular” as well as morphologically plural inanimate nouns, but only when the reference is plural (1010b). There are other textual passages where an inanimate plural noun is followed by simple jə̀rɔ́ⁿ (1010c), which shows signs of generalizing to inanimates in the same fashion as animate singular focalizer tóʔó. Therefore we gloss jə̀rɔ́ⁿ simply as “Rel.”

(1010) a.	[è	ɲáʔá-ʃìɛ̀ⁿʔɛ̀ⁿ	mhm	jə̀ré]	mɛ̀-mɛ̀
	[Art	termitary	uh.huh	**Rel.InanPl**]	Rdp-be.built.Pfv

‘Termitaries, uh-huh, that have been built all over.’ (Ji, 2017-04 @ 06:00)

b. [ē kā-wə̀-rù jə̀rɔ́ⁿ] ɔ̀ⁿ nâ sūʔ= ɔ̄ⁿ
[Art bone-Pl **Rel**] 3AnSg Past give.Base Dat.3AnSg
'the bones that he (=hyena) had given to her' (Bi, 2017-08 @ 10:07)

c. [mó dó] ɲà [á kə̀-rɛ̀ⁿ-ʔɛ́ⁿ ɲə̀rɔ̀ⁿ bíɛ́]
[2Sg however] see.Pfv [Inan many **Rel** all]
'the many (things) that you have seen' (Bi, 2017-08 @ 07:54)

14.1.2 Position of head NP in the relative construction

The head NP usually remains in its clause-internal position. In elicitation we have recorded some examples with fronted heads, perhaps influenced by French translation cues. The distinction is moot in subject relatives since subjects are already clause-initial. The internal position of head NPs is best seen with object, possessor, and adpositional complement relatives.

14.1.3 Compatibility with nominal article

The prenominal article ē is optional with head NPs that contain a relative marker. This is similar to the situation with postnominal demonstratives. The presence or absence of the article is most reliably determined in subject relative heads, which occur clause-initially.

Many of the simple elicited subject relatives in §14.2.1, provided by our Ji speaker, lack the article. The article is present before head nouns in some subject relatives in the texts. This is also the case in headless relatives, where ē is optional before jə̀rɔ́ⁿ.

14.1.4 Position of relative marker within the head NP

The relative marker occurs at or near the end of the head NP. The relative marker follows modifying adjectives (1011a), numerals (1011b), and demonstratives (1011c), but it precedes 'all' (1011d) and logical particles like 'also, too' (1011e).

(1011) a. [ē sə̀-ríⁿ tù-tə̀-rù jə̀-ré] dìè-só
[Art tree-Pl **big**-Pl **Rel**-InanPl] fall.Pfv
'the big trees that fell' (Ji)

b. [ē sə̀-ríⁿ [ò sáⁿ] jə̀-ré] dìè-só
[Art tree-Pl [Pl **three**] **Rel**-InanPl] fall.Pfv
'the three trees that fell' (Ji)

c. bùò lè [tɔ̀ʔ= á jə̀rɔ́ⁿ]
LogoPl show.Pfv [place **Dem**.InanSg **Rel**]
'(said:) "that place which we showed (you)" ' (Ji, 2017-11 @ 04:27)

d. bùò lè [tɔ̀ʔɔ̀ jə̀rè bíɛ́ʔ]
LogoPl show.Pfv [place **Rel**.InanPl **all**]
‘(said:) “all the places which they showed (us)” ’ (Ji)

e. [bɛ̀ⁿ-kɔ̀ jə̀rò fə́râⁿ=] Ø-mā
[animal.Pl **Rel**.AnPl **too**] be.Loc
‘the wild animals that are there too’ (Ji, 2017-11 @ 01:37)

14.1.5 Demonstrative and pronoun heads

Deictic demonstratives (1012a-b) and personal pronouns (1012c) may function as heads.

(1012) a. [yá jə̀rɔ́ⁿ] klè
[**Dem.InanSg** **Rel**] be.done.Pfv
‘that which has happened’ (Ji, 2017-04 @ 04:35)

b. [kǎⁿ jə̀rɔ́ⁿ] gɛ̀ʔɛ̀ [kō ɲīⁿ =ò]
[**Dem.AnSg** **Rel**] be.first.Pfv [Infin see.Pfv 3AnSgObj]
‘that one who had seen it (=hawk) first’ (Bi, 2017-06 @ 01:15)

c. móⁿ nâ wé [nóⁿ ɲə̀rɔ́ⁿ] cɔ́,
2Sg Past abandon.Base [**1Sg** **Rel**] exactly,
[nóⁿ nóʔó] ō kǎⁿ
[1Sg Foc] be Dem.AnSg
‘Precisely me whom you-Sg had abandoned, this is me!’
(Bi, 2017-07 @ 08:12)

In (1013), however, the plural pronoun is a “possessor” in partitive function, denoting the set out of which the singular referent is picked out.

(1013) [ò jə̀rɔ́ⁿ] wō klè [tā= [Ø wùò-bí]]
[**3Pl** **Rel**] Infin be.done.Base [like [Art orphan]]
‘the one (of them) who was like an orphan’ (Bi, 2017-07 @ 02:14)

14.1.6 Headless relatives

An understood or nonspecific head may be covert, leaving the relative marker as the apparent head. When the relative appears after a pause, the article ē is optional; it is absent in (1014a) but present in (1014b). In some passages the headless relative means ‘whatever’, ‘whoever’, or the like and is then resumed by a discourse-definite demonstrative in a following main clause (1014a).

(1014) a.	[jə̀rɔ̀^{n}	ká	à-mā]	[[bì	tòʔó]	kò	yá]
	[**Rel**	Past	be.Loc]	[[Dem.Def	Foc]	be	Dem.InanSg]

‘What(-ever) was there (in the tale), <u>this</u> [focus] is how it was.’
(Ma, 2017-02 @ 01:49)

b.	áywà,	[ē	jə̀rɔ́^{n}]	mà	wō	sùtə́rá-kàʔà
	well,	[**Art**	**Rel**]	if	be	bury-Ppl.An

‘well, if (there is) one who is the (=your) burier, …’ (Bi, 2017-07 @ 09:55)

Universalizing examples can include the universal quantifier: jə̀rò bíɛ́ ‘everyone/anyone who …’, cf. (1011d) above for inanimate jə̀rè bíɛ́.

14.1.7 Conditional ‘if’ in relative clauses

The combination of ‘if’ with a relative clause doesn’t work for English, unless the relativized NP is framed inside an existential clause, e.g. ‘if there is [someone who…]’. Tiefo-D does allow clause-initial jí ‘if’ or post-subject bà (or variant) ‘if/when’ to occur within a relative clause. (1015a) is a headless relative that could be glossed ‘whatever a human said’ or ‘if a human said something’ with no meaningful semantic difference. (1015b) likewise implies an existential.

(1015) a.	[è	ná-bí	ɲə́rámá]	mā	dè	jə̀rɔ́^{n}.
	[Art	person	very.good]	**if**	say.Base	**Rel**,
	[è	jə́rí^{n}]	à	ʃī^{n}	[bì	tóʔó]
	[Art	djinn]	Ipfv	work(v).Ipfv	[Dem.Def	Foc]

‘Whatever a human said (to do), <u>that</u> [focus] is what the djinn would perform.’
(Ji, 2017-04 @ 00:49)

b.	jí	[jə̀rɔ́^{n}	jù]	á	wùɔ̀ʔɔ́	=ʔ,
	if	[**Rel**	eye(s)]	PfvNeg	be.open.Base	Neg,
	[ō	tɔ̀	bíɛ́]	nà	ɲī	bùò
	[3Pl	other	all]	Fut	see.Base	2Pl

‘If (there is/you are) one whose eye has not opened (=is blind), all the others will see you-Pl.’ (Ma, 2017-04 @ 02:05)

The combination of ‘if’ with relative markers can lead to ambiguity as to whether the marker is truly relative, or is a specific indefinite (‘someone’, ‘something’, ‘some place’).

14.1.8 Clearly indefinite functions of relative markers

We have noted just above that relative markers may occur in conditional antecedent clauses in ways that make free translation difficult: relative (‘the X who/that’), or specific indefinite (‘some X, a certain X’).

Unmistakable cases of specific indefinite function of relative markers occur when two such markers co-occur with distinct constituents in the same clause. The two constituents cannot both be relative heads in the normal sense. In (1016a), only the tones distinguish relative jə̀ró from indefinite animate plural jə̄-rō. In (1016b), singular jə̀rɔ́ⁿ cannot be mistaken for indefinite jī.

(1016) a.

jə̀ró	dìʔɛ̀	[jə̀ró	ʃīɛ̄]
Rel.AnPl	follow.Pfv	[**Rel.AnPl**	behind]

‘Some followed after others.’ (Bi, 2017-10 @ 01:06)

b.

[wí	jə̀rɔ́ⁿ]	bà	já-sūʔɔ̄	[kɛ̌	jə̀rɔ́ⁿ]	mā
[owner	**Rel**]	if	leave.Base-give.Base	[thing	**Rel**]	there.Def

‘if a fellow (=someone) has abandoned something there, …’
(Bi, 2017-10 @ 06:35)

This double-relative construction resembles a double ‘who?’ construction, see (972) above.

14.1.9 ‘You who’ as generic ‘someone’

The combination mɔ́ jə̀rɔ́ⁿ ‘you who’ can function as a generic human expression, like English unstressed *you* in *You can’t win!* and similar expressions. Variant pronunciations include mɔ́ⁿ ɲə̀rɔ́ⁿ (Bi), and ŋ̀ ɲə̀rɔ́ⁿ (Bi) with proclitic 2Sg ŋ̀. Whatever the pronunciation, mɔ́ jə̀rɔ́ⁿ or variant may occur in conditional antecedent clauses, making literal translation (“if you who …”) awkward.

An example is (1017).

(1017)

ò	bà	dīē	[[[mɔ́ⁿ	ɲə̀rɔ́ⁿ]	dɛ̀]	nīⁿ],	éʔē→
3Pl	if	enter.Base	[[[**2Sg**	**Rel**]	field]	Loc],	oh.no!

‘You-Sg in whose field they may enter, oh no!’ (Bi, 2017-09 @ 01:52)

See also (Ji, 2017-07 @ 10:12), (Ji, 2017-11 @ 10:16), and (Bi, 2017-09 @ 04:48).

14.1.10Correlative construction

Though not typical of Tiefo-D relatives, we have one textual example of a correlative structure involving parallel occurrences of expressions with wí ‘owner’ (§18.5.1.2) denoting a nonspecific indefinite referent.

(1018)

[[wí	jə̀rɔ́ⁿ]	bà	[[[Ø	*constat*	klè]	tɔ̀ʔɔ̀]	nīⁿ]]
[[**owner**	**Rel**]	come.Pfv	[[[Art	report	do.Pfv]	place]	Loc]]

[bò-wí	būō	[ɔ̄ⁿ	*transport*]	kɔ̀kɔ̀]
[**fellow**	get.Pfv	[3AnSgRefl	fare]	anyway]

‘Whoever came in order to make the report, the fellow at least got his transportation (cost).’ (Bi, 2017-09 @ 05:19)

A correlative without overt relative marking is (1019).

(1019) ò má já [bè ɛ̀ʔɛ́],
3Pl IpfvNeg leave.Ipfv [Dem.Def thing],
[bè ɛ̀ʔɛ̀] ní-mā
[Dem.Def thing] not.be.Loc
'That thing (which) they don't leave alone, that thing does not exist.' (i.e., 'they leave nothing alone') (Ji, 2017-09 @ 08:13)

14.2 Relative clauses organized by head NP function

14.2.1 Subject relative clause

The subject remains in clause-initial position. Elicited examples are in (1020).

(1020) a. [[ná-bí jərɔ́ⁿ] dìè-só] [ɔ̀ⁿ kō [Ø sē] =ē]
[[person **Rel.Sg**] fall.Pfv] [3AnSg be [Art where?] Q]
'The person who fell, where is he/she?' (Ji)

b. [[ná-bí-ó jə̀ró] dìè-só] [ò kō [Ø sē] =ē]
[[person.Pl **Rel.AnPl**] fall.Pfv] [3Pl be [Art where?] Q]
'The people who fell, where are they?' (Ji)

c. [[būⁿʔɔ̄ⁿ jərɔ́ⁿ] jùɔ̀ⁿ mó] [ɔ̀ⁿ kō [Ø sē] =ē]
[[dog **Rel**] bite.Pfv 2Sg] [3AnSg be [Art where?] Q]
'The dog that bit you-Sg, where is it?' (Ji)

d. [[ʃìⁿʔíⁿ jərɔ́ⁿ] dìè-só] [à Ø-mā [Ø sē] =ē]
[[tree **Rel**] fall.Pfv] [3Inan be.Loc [Art where?] Q]
'The tree that fell, where is it?' (Ji)

e. [ē sə̀-ríⁿ sɔ̀ⁿ-sə̀-rɔ̀ⁿ] jə̀ré dìè-só
[Art tree-Pl long-Pl] **Rel.InanPl** fall.Pfv
'the tall trees that fell' (Ji)

f. [ē sə̀-ríⁿ [ò jɔ̄ⁿ] jə̀ré dìè-só
[Art tree-Pl [Pl two] **Rel.InanPl** fall.Pfv
'the two trees that fell' (Fl)

A textual example is (1021).

(1021) [yúó jərɔ́ⁿ] bè sùtə́rá móⁿ
[person **Rel**] Fut bury.Pfv 2Sg
'the person who will bury you-Sg' (Bi, 2017-07 @ 09:51)

14.2.2 Object relative clause

The relative head may remain in its regular position (1022a-b), or it may be fronted (1022c). These examples were elicited.

(1022) a.

[zàkí	dərɔ̀	[ná	jərɔ́ⁿ]]	[ɔ̄ⁿ	Ø-mā	[Ø	sē]]
[Z	buy.Pfv	[cow.Sg	**Rel**]]	[3AnSg	be.Loc	[Art	where?]]

‘The cow that Zaki bought, where is it?’ (Ji)

b.

[zàkí	dərɔ̀	[nɔ́	jəró]]	[ò	Ø-mā	[Ø	sē]]
[Z	buy.Pfv	[cow.Pl	**Rel.AnPl**]]	[3Pl	be.Loc	[Art	where?]]

‘The cows that Zaki bought, where are they?’ (Ji)

c.

[[ʃìⁿʔíⁿ	jərɔ́ⁿ]	mó	gbà-kú]	[à	Ø-mā	[Ø	sē]]
[[tree	**Rel**]	2Sg	chop.down.Pfv]	[3Inan	be.Loc	[Art	where?]]

‘The tree that you chopped down, where is it?’ (Ji)

d.

[ó	dīē	jərɔ́ⁿ]	[[ē	kàʔà]	má	glò	=ʔ]
[1Pl	eat.Pfv	**Rel**]	[[Art	meat]	IpfvNeg	it.is	Neg]

‘What we ate was not meat.’ (Ji)

Textual examples are in (1023). (1023a) shows the usual pattern with postverbal object. (1023b) has a fronted head NP, but shows signs of being prosodically (and perhaps syntactically) broken.

(1023) a.

álɔ̀→	ó	nà	dò-dò	[Ø	fɛ́	jərɔ́ⁿ],
then	1Pl	Fut	Rdp-speak.Base	[Art	word	**Rel**],

ná=	à	gbɛ̄	[Ø	dəràʔá	jərɔ́ⁿ]
1Sg	Fut	pick.up.Base	[Art	tale	**Rel**]

‘So then, the words that we will speak, the tale that I will pick up (=begin).’ (Ji, 2017-01 @ 00:42)

b.

[è	gó-wùⁿ	jəré],	[è	flí-kɔ̀]	mɛ̀-mɛ̀
[Art	termite-head	**Rel-InanPl**],	[Art	termite-Pl]	Rdp-build.Pfv

‘termite mound(s) that the termites have built all over.’
(Ji, 2017-04 @ 05:56) (hesitation omitted)

14.2.3 Possessor relative clause

The relative marker may be included in the possessor NP, preceding the possessum. There is no resumptive pronominal. An elicited example is (1024).

(1024)

[[yǒ	jərɔ́ⁿ]	wùʔú	dìè-só]	[ɔ̄ⁿ	kō	[Ø	sē]	=ē]
[[woman	**Rel**]	house	fall.Pfv]	[3AnSg	be	[Art	where?]	Q]

‘Where is the woman whose house fell?’ (Ji)

Textual examples are in (1025). Both are headless.

(1025) a. fɔ́→ [jə̀rɔ́ⁿ jū→] wùɔ̀ʔɔ́
must [**Rel** eye] be.open.Base
‘it must be one whose eyes are open’ (Ma, 2017-04 @ 02:02)

b. [jə̀rɔ́ⁿ kè] máⁿ dáⁿ ẁⁿ =ʔ
[**Rel** matter] IpfvNeg be.pleasant.Ipfv Dat.3AnSg Neg
‘the one (=girl) whom she didn’t like’ (Bi, 2017-07 @ 04:29, edited)

14.2.4 Relativization on the complement of an adposition

The complement of prepositions kà (or variant) ‘with’ and dative ɔ̀ⁿ can be relativized on. In (1026a), ‘ax’ is the complement of kà and is followed by the relative marker. In (1026b), the relative marker functions as head of an otherwise headless relative. (1026c) features dative ɔ̀ⁿ.

(1026) a. [má= ā gù-à-cɥ́ī= [Ø ʃìⁿʔíⁿ] [kà [ɲàʔá jə̀rɔ́ⁿ]]],
[2Sg Ipfv chop.Ipfv [Art tree] [**with** [ax **Rel**]]],
à kō [Ø sē] =ē
3Inan be [Art where?] Q
‘The ax that you-Sg chop trees down with, where is it?’ (Ji)

b. [í-yùò kə́rú] fī= [à jə̀rɔ́ⁿ],
[1Pl generation] pass.Pfv [**with** **Rel**],
[bè tóʔó] gò yá
[Dem.Def Foc] be Dem.InanSg
‘What our generation went with in the past, that [focus] is what it was.’
(Bi, 2017-10 @ 06:40)

c. nó ʃìʔɛ̀ [Ø bú] [ɔ̀ⁿ [yúó jə̀rɔ́ⁿ]]
1Sg give.Pfv [Art money] [**Dat** [person **Rel**]]
‘the person to whom I gave the money.’ (Fl)

The nominal complement of the locative postposition nī is relativized on in (1027a). (1027b) is a bit more complex semantically.

(1027) a. mó [dìè-só]-dīē [[tìʔɛ́ jə̀rɔ́ⁿ] nī],
2Sg [fall.Pfv]-enter.Base [[hole **Rel**]] **Loc**],
à kō [Ø sē] =ē
3Inan be [Art where?] Q
‘The pit that you-Sg fell into, where is it?’ (Ji)

b. [ē sáwú] gbɛ̀ʔɛ̀ [jərɔ́ⁿ nīⁿ]
[Art shed] be.piled.up.Pfv [**Rel** **Loc**]
'something in (=for) which a storage shed has been put together …'
(Bi, 2017-10 @ 07:02)

Postposition bàʔà is featured in (1028). It can be dative with 'say', or mean 'at the place of, chez'.

(1028) a. ná= à cīⁿ [[kɛ̌ⁿ jərɔ́ⁿ] bàʔà]
1Sg Ipfv spend.night.Ipfv [[fellow **Rel**] **chez**]
'the man at whose place I spend the night (=lodge).' (Ji)

b. nó dè =nì [[yǒ jərɔ́ⁿ] bàʔà]
1Sg say.Pfv 3InanObj [[woman **Rel**] **Dat**]
'the woman to whom I said it' (Ji)

Textual examples with locative postposition nī, involving temporal and manner adverbial relatives, are in (1030-1031) below.

14.2.5 Adverbial relatives ('place', 'time', 'manner')

The noun tɔ̀ʔɔ̀ 'place' often functions as head. (1029a) equates a 'place' relative with a 'place' compound. When such relatives function adverbially, as in (1029b-c) and several other textual examples, a locative postposition is understood and can be overt, but in most textual examples it is covert. See also §15.3.3.

(1029) a. ā gblɛ̀ [tɔ̀ʔɔ̀ jərɔ́ⁿ],
3Inan be.picked.up.Pfv [**place** **Rel**],
[à tīē-tɔ̀ʔɔ̀ té] =à
[3Inan be.put.down.Pfv-place Foc.Inan] it.is
'The place where it was picked up, it (=that) is its place of being put down [focus].' (formula for ending a tale) (Ji, 2017-01 @ 04:45)

b. ɔ̄ⁿ glō [kò lɛ́ⁿ [tɔ̀ʔɔ̀ jərɔ̀ⁿ]] dərɔ́ⁿ,
3AnSg exit(v).Pfv [Infin stop.Base [**place** **Rel**]] immediately,
[ē būɔ̄ⁿʔɔ̄ⁿ] kò cərúⁿ-[yíʔí-ʃīʔì]
[Art dog] Infin run.hard.Base-[get.up.Base]
'At the spot where he (=monkey) had just come out (from the foliage) and stopped, the dog suddenly leapt up.' (Ma, 2017-02 @ 01:36)

c. bó gblɛ̀ [ɔ̄ⁿ fīʔé] [tɔ̀ʔɔ̀ jərɔ́ⁿ]
LogoSg take.Pfv [3AnSgRefl daba] [**place** **Rel**]
'(said:) "where I picked up my daba" ' (Fl, 2017-03 @ 02:37)

Temporal nouns, especially (è) dáʔá ‘(point in) time, moment’, are also common as head. A locative postposition is overt (1030a) or absent but implied (1030b).

(1030)	a.	[ē	dè]	sē-dīē	[[dāʔá	jə̀rɔ́ⁿ]	nī]
		[Art	sun]	set.Pfv-enter.Base	[[**time**	**Rel**]	**Loc**]

‘when the sun had set and gone under, …’ (Fl, 2017-03 @ 01:54)

b.	ɔ̄ⁿ	[sɛ̀ⁿ-glō]-kɔ̄	[dáʔá	jə̀rɔ́ⁿ]
	3AnSg	[take.off.Pfv]-finish.Base	[**time**	**Rel**]

‘when she (=hare) had finished picking (them) out, …’ (Bi, 2017-08 @ 02:02)

Manner nouns such as (ē) kā ‘manner, way’ may also serve as heads. (1031) has a locative postposition. See also §15.3.1.1.

(1031)	[ē	də̀ràʔá],	à	būō-būō	[[kā	jə̀rɔ́ⁿ]	nī]
	[Art	tale],	3Inan	Rdp-be.gotten.Pfv	[[**manner**	**Rel**]	**Loc**]

‘the tale, in the (same) way it was (originally) gotten (=learned), …’
(Fl, 2017-05 @ 00:14)

14.2.6 Relativization from subordinated clause

Since the head of the relative remains in place, “island” constraints relevant to languages with external heads do not apply.

(1032)	è	nɔ́-fíʔé,	ò	kâ	bà	[ā̀=	[Ø	jùsúⁿ]],
	Art	cow.Pl-daba,	1Pl	Past	come.Base	[with	[Art	cotton]],

k-ā̀	sùʔū̀=	[Ø	ɛ̀ʔɛ́	jə̀rɔ́ⁿ]	[g-ā̀	bé]
Infin-Ipfv	give.Ipfv	[Art	thing	**Rel**]	[Infin-Ipfv	cultivate.Ipfv]

‘The ox-drawn plow, the thing$_x$ that they had brought cotton to give (it$_x$) (to farm with).’ (Bo, 2019-06 @ 00:45)

15 Verbal compounds, infinitives, and adverbial clauses

There are two major ways that two verbs can be combined into a multi-verb construction. The first is simple compounding: Vb1-Vb2, where the two verbs are adjacent (except for intercalated -à- in the Ipfv form). In such compounds the two verbs typically describe different aspects (co-events) of a single event, such as primary action and motion, or action and duration. Compounds are the subject matter of §15.1.

In the second construction, Vb1 is the main verb, and Vb2 along with its complements and adjuncts is adjoined in the form of an infinitival clause or VP. Infinitival phrases are the subject of §15.2.

Adverbial clauses, including temporal ('when…') and spatial ('where…') are discussed in §15.3.

15.1 Verb-verb compounding

Verb compounds normally denote single events, which may be analysed into two (or more) co-events each represented by a verb stem. This is the case with the verb pairs in (1033). The direct object in (1033a-b), shared logically by the two transitive verbs, follows the compound.

(1033) a.	nó	mɛ́-kò	[Ø	gbá^n-gbà^{n}ʔá^n]
	1Sg	shoot.Pfv-kill.Base	[Art	lion]

'I shot and killed a lion.' (Ma)

b.	nó	gbà-kɔ̌=	[Ø	būɔ̄^{n}ʔɔ̄^{n}]
	1Sg	hit.Pfv-kill.Base	[Art	dog]

'I beat the dog to death.' (Fl)

c.	mó	dɛ̀-tə̄rā^n
	2Sg	sleep.Pfv-sit.Base

'You dozed off (sitting).' (Ji)

Verb compounds occasionally extend to rapid turnarounds conceptualized as a single complex event, where one motion subevent is immediately followed by another that reverses it (1034a-c). However, in such sequences, the second event can also be expressed by an adjoined infinitival VP.

(1034) a.	ɔ̀^{n}	[dìè-só]-[yíʔí-ʃìʔì]
	3AnSg	[fall.Pfv]-[get.up.Base]

'He/She fell down and got right up.' (Ji)

b. ɔ̀^{n} yìʔè-klá
3AnSg go.Pfv-return.Base
‘He/She went (away) and returned (came right back).’ (Fl Ji)

c. à wìʔɛ̀-[wáʔá-tɔ̀^{n}]
3Inan open.Pfv-[shut.Base]
‘It opened and shut.’ (Ji)

The morphology of verb-verb compounds (Vb1-Vb2) was sketched in §10.1.6. The key points are that Vb1 can take any of its three regular stems (Pfv, base, Ipfv) as though it were uncompounded; Vb2 can only occur in its base and Ipfv stems; and Ipfv particle à occurs both before the compound and as an intercalated copy between the two verbs.

(1035) shows the results of applying these rules.

(1035) composite category		formulae		
Pfv		Vb1.**Pfv**	-	Vb2.**Base**
base		Vb1.**Base**	-	Vb2.**Base**
Ipfv	à	Vb1.**Ipfv**	- **à** -	Vb2.**Ipfv**

Compounding is recursive. Most triple compounds can be bracketed as [Vb1-Vb2]-Vb3 or as Vb1-[Vb2-Vb3], but bracketing has no effect on forms. A quadruple compound occurs in a text (1036).

(1036) kō [sò-[klá-bà]]-té
Infin [carry.on.head.Base-[return.Base-come.Base]]-put.down.Base
‘(Then they) bring back (the boys) and put (them) down.’
(Bi, 2017-10 @ 06:58)

From the top down, ‘carry (them) back on the head’ is compounded to ‘put down’. The first element is analysable into sò ‘carry on head’ and the compound klá-bà ‘come back’.

Verb-verb compounds form the verbal noun by adding the usual suffix -ní to the final verb. The verb-verb compound used in the verbal noun is the base, meaning specifically that the initial as well as the final are morphologically base. The verbal noun suffix -ní induces dropping of the final from M to L by regular tone sandhi (§3.6.2.2), leaving the initial verb unaffected (1037a). Some M-M base stems, especially those with Cv̄- or Cərv̄- initials, drop the entire compound to L-tone before -ní (1037b). However, the distinction between M-L-ní and L-L-ní is subtle, especially in elicitation where our speakers tend to undo tone sandhi. (1037c) is a triple compound.

(1037)	compound (base)	gloss	verbal noun	dialect/reference
a.	blá-glō	‘sweep away’	blá-glò-ní	Bi, 2017-10 @ 05:29
	gɔ̀-tɔ̄^{n}	‘block (path)’	gɔ̀-tɔ̀^{n}-ní	(various)
	kā^{n}ʔā^{n}-sō	‘reply’	kā^{n}ʔā^{n}-sò-ní	(various)
	kɔ́ʔɔ́-tɔ̄^{n}	‘hang head’	kɔ́ʔɔ́-tɔ̀^{n}-ní	(various)

	kō-sō	‘dispossess’	kō-sò-ní	(Fl)
	mɛ́ⁿ-tɔ̄ⁿ ~ mí-tɔ̀ⁿ	‘throw, shoot’	mí-tɔ̀ⁿ-ní	(Ji)
	sāⁿ-gbɛ̄	‘gather up’	sāⁿ-gbɛ̀-ní	(Fl)
	tì-tɔ̄ⁿ	‘spill’	tì-tɔ̀ⁿ-ní	(various)
	wáʔá-tɔ̀ⁿ	‘shut’	wáʔá-tɔ̀ⁿ-ní	(various)
	wē-tàʔà	‘help (v)’	wē-tàʔà-ní	Ma, 2018-05 @ 00:42
b.	dī-glō	‘take out’	dì-glò-ní	(various)
	tə̄rāⁿ-wō	‘rest (v)’	tə̀ràⁿ-wò-ní	Ji, 2017-04 @ 01:13
	yī-dīē	‘dive in’	yì-dìè-ní	(Fl)
c.	gàʔà-tī-tɔ̄ⁿ	‘kneel’	gàʔà-tī-tɔ̀ⁿ-ní	(various)

The remainder of section §15.1 is organized around the semantic relationships between the two co-events, as previewed in (1038).

(1038)	§15.1.1	overlapping non-motion actions
	§15.1.2	action and extent (amplification, diminution)
	$15.1.3	action and temporal pattern (e.g. repetition)
	$15.1.4	action and temporal location
	§15.1.5	action and motion
	§15.1.6	action and NP roles
	§15.1.7	ability and failure
	§15.1.8	opaque compounds

15.1.1 Overlapping non-motion actions

15.1.1.1 Simple transitive-transitive (tr-tr) examples

In (1039), two transitive verbs denote co-events that can be conceptualized as chronologically sequential (although overlapping in part), or as action plus result. Only base forms are shown here, and dialectal pronunciation variants are omitted.

(1039)	compound	gloss	Vb1 gloss	Vb2 gloss
	bɔ́-súʔú	‘grip; lean hand on’	‘get’	‘catch’
	də̄rā-lɔ̀	‘strip and rip off’	‘strip (v)’	‘rip’
	fɛ̄ⁿ-pāⁿ	‘hold down’	‘press’	‘join, link (v)’
	gɔ̀-kò	‘beat to death’	‘hit’	‘kill’
	gbɛ̀-dɔ́	‘divide and share’	‘pick up, take’	‘divide’
	gbɛ̀-yíʔé	‘raise up’	‘pick up, take’	‘turn over (earth)’
	gɔ̀-kú	‘chop (wood)’	‘hit’	‘cut’
	gɔ̀-kèʔè	‘wreck (v)’	‘hit’	‘ruin’
	gɔ̀-ɲɛ̀ʔɛ̀	‘awaken (sb) by nudging’	‘hit’	‘awaken’
	lí-súʔú	‘shape into balls in hand’	‘shape into balls’	‘grab’

lò-gbɛ̄	‘gather (things)’	‘gather’	‘pick up, take’
mɛ́-kò	‘shoot dead’	‘shoot’	‘kill’
sɔ́-cùʔɔ̀	‘burn up’	‘ignite’	‘char’
sɔ́ʔɔ́-pló	‘pierce, make hole in’	‘jab’	‘pound (grain); dig pit’

15.1.1.2 Simple intransitive-intransitive (intr-intr) examples

Intransitive-intransitive compounds are presented here. “Intransitive” may include mediopassive functions of ambi-valent (labile) verbs. In (1040a), the first verb denotes a durative state during which the event denoted by the second verb occurs. In (1040b), Vb1 denotes an action while Vb2 is abstract. (1040c) has various combinations including ‘sleep’. (1040d) is a somewhat atypical combination of two verbs that denote successive, though coordinated, events.

(1040)	compound	gloss	Vb1 gloss	Vb2 gloss
a.	cà^{n}-lɛ́^{n}	‘stretch out’	‘separate’	‘stand’
	fò-gbòʔò	‘explode’	‘pop (v)’	‘be shattered’
	dɔ̄-glù^{n} (Fl)	‘snore’	‘sleep (v)’	‘rumble, growl’
b.	jàʔà-bló	‘lose one’s way’	‘be spread’	‘make a mistake’
c.	dɔ̄-tə̄rā^{n}	‘doze off’	‘sleep’	‘sit’
	dɔ̄-dò	‘talk in sleep’	‘sleep’	‘speak’
	yé-dɔ̄	‘sleepwalk’	‘walk’	‘sleep’
d.	[dì-só]-[yíʔí-ʃìʔì]	‘fall and get up’	‘fall’	‘get up’

15.1.1.3 Simple intransitive-transitive (intr-tr) examples

In (1041), Vb1 is intransitive, and Vb2 (and the compound as a whole) is transitive.

(1041) compound	gloss	Vb1 gloss	Vb2 gloss
sɔ̀^{n}-kɔ̄^{n}	‘remember (sth)’	‘think’	‘know (sth)’

15.1.1.4 Simple transitive-intransitive (tr-intr) examples

Some verbs are prototypically transitive as uncompounded verbs, but shift to a more abstract function as initials in verb-verb compounds. If the second verb is intransitive, so is the compound. The cases we are interested in here preserve the agentive quality of the transitive, as opposed to mediopassive sense.

kplè/klɔ̀/klɔ̀ most often means ‘bump, knock, butt (with head), kick’ as an uncompounded verb. A specialized intransitive collocation is ‘(heart) beat’. As a compound initial with motion verbs, this verb adds the notion of approaching the destination. See §15.1.5.6 for examples.

gbà/gɔ̀/gɔ̀ ~ gù most often means ‘hit, tap’ as an uncompounded verb. Other transitive senses are ‘dig (by hacking with a tool)’, ‘narrate (a tale)’, and ‘emit (a shout)’. A specialized intransitive sense is ‘(wind) blow’. The compound gɔ̀-dərá ‘keep going’ is intransitive.

15.1.1.5 Compounds with verbs of putting

The main verbs of putting are in (1042).

(1042)	Pfv	base	Ipfv	dialect	gloss
a.	tīē	té	té	(all)	‘put down; be put down’
b.	wìè	wē	wī	Bi Ji	‘put in or on’
	yɥ̀è	"	"	Fl	"
	vìè	"	"	Ma	"
c.	jɥ̀ɛ̀ʔɛ̀	jùɔ̀ʔɔ̀	jùʔù	Fl Ma	‘put (pot, kettle) up (on fire)’
	dìʔɛ̀	jùʔɔ̀	"	Ji	
	jìʔɛ̀	"	"	Bi	

jùʔɔ̀ ‘put up on’ is homophonous with another verb, ‘follow’, except in the Pfv for Fl dialect (§3.4.2.5). For compounds ending in ‘follow’, and others ending in -jūʔɔ̄ ‘help’, see §15.1.1.6 below.

There are four known compounds ending in -wē ‘put in’ (1043).

(1043) compound	gloss	Vb1 gloss
fɛ́ⁿ-wē	‘stir in (ingredients)’	‘stir with stick’
gbɛ́-wē	‘button up’	‘split, spread’
kɔ́ʔɔ́-wē	‘hold down (one’s head)’	‘bend over’
pàʔà-wē	‘push in (firewood, into fire)’	‘push’

By contrast, té ‘put down’ is fairly common in compounds, as Vb1 and especially as Vb2 (1044). As Vb2, the tone is usually -té in semantically transparent compounds of the type ‘Vb1 and put down’, but there are a number of more lexicalized compounds with -tē. In klè-tē ‘fail’ there is no obvious semantic connection to ‘put down’.

(1044)	compound	gloss	Vb1 gloss	Vb2 gloss
a. té- as Vb1				
	té-sà^{n}ʔà^{n}	‘line up, align’	‘put down’	?
	té-sūʔɔ̄	‘leave behind’	"	‘give’
	té-ló	‘put down and turn’	"	‘turn’
b. -té-/-tē as Vb2 (see also -tē ‘fail to Vb1’ §15.1.7.2)				
transparent compounds with -té				
	gbɛ̀-té	‘take and put down’	‘pick up’	‘put down’
	máʔá-té	‘roll and put down’	‘roll’	"
lexicalized compounds with -tē				
	cə́ró-tē	‘hang up’	‘hang’	‘put down’
	dɔ́-tē	‘divide and share’	‘divide’	"
	kɔ́ʔɔ́-tē	‘hold down (head)’	‘lower (head)’	"
	klè-tē	‘fail’	‘do’	" (?)
	sà^{n}ʔà-tē	‘line up, align’	?	"

For ‘listen’ (1045a) and ‘prop up, stabilize’ (1045b), Vb1 is té ‘put down’ for Bi, but tó ‘assemble, do together’ for the other dialects. This also accounts for the distinctive Pfv forms tē- and tīē-. For ‘listen’, Vb2 is ‘hear’, though the Bi speaker provided a variant -jūʔū for the usual Ipfv form -jūʔɔ̄. For -tó as Vb2 in compounds in the sense ‘together’, see §15.1.6.1.

(1045)	compound	gloss	Vb2 gloss	dialect
a.	tē-jūʔɔ̄/tó-jūʔɔ̄/tó-à-jūʔɔ̄	‘listen’	‘hear’	Ji
	tē-jūɔ̄ʔɔ̄/tó-jūɔ̄ʔɔ̄/tó-à-jūɔ̄ʔɔ̄	"	"	Fl
	tīē-jūʔɔ̄/té-jūʔɔ̄/té-à-jūʔū	"	"	Bi
b.	tē-sō/tó-sō/tó-à-ʃī	‘prop up’	§15.1.1.9	Fl Ji Ma
	tīē-sō/té-sō/té-à-ʃī	"	"	Bi

15.1.1.6 Compounds with -jùʔɔ̀ ‘follow’ and -jūʔɔ̄ ‘help’ as Vb2

The verb ‘follow’ has the forms in (1046). In its basic sense it is intransitive, but requires a PP with postposition ʃīē ‘after’. Minor phonetic variants are omitted. Except fot the initial consonant in the Pfv in Fl dialect (§3.4.2.5), this verb is homophonous with ‘put (pot, kettle) up’ (1042c).

(1046) Pfv	base	Ipfv	dialect
dìʔɛ̀	jùʔɔ̀	jùʔù	Fl Ji
jìʔɛ̀	"	"	Bi
jɥ̀ʔɛ̀	"	"	Ma

This verb occurs as Vb2 in compound (1047). Like simple ‘follow’, these compounds require a PP with ʃīɛ̄ ‘after’.

(1047) compound	gloss	Vb1 gloss
cə́rú^n-jùʔɔ̀	‘run hard after’	‘run hard, sprint’
ʃì^{n}ʔì^n-jùʔɔ̀	‘run after’	‘run’
yī-jùʔɔ̀	‘fly after’	‘fly (v)’

This L-toned compound final is distinct from M-toned compound final -jūʔɔ̄. The latter is related to tɛ̀^{n}-jūʔɔ̄/tà^n-jūʔɔ̄/tà^n-à^n-jūʔū, the default ‘help’ verb. These verbs take simple direct objects, not PPs.

(1048) compound	gloss	Vb1 gloss
ʃì^{n}ʔì^n-jùʔɔ̀	‘help (sb) to run’	‘run’
dí-jūʔɔ̄	‘help (sb) to eat’	‘eat (meal)’
tə̄rā^n-jūʔɔ̄	‘help (sb) to sit’	‘sit’

yé ‘walk’ combines readily with both finals: yé-jùʔɔ̀ ‘walk after (sb)’, yé-jūʔɔ̄ ‘help (sb) walk’.

The phonologically similar verbs jùʔɔ̀ ‘put (kettle, pot) up (on fire)’ and M-toned jūʔɔ̄ ‘hear’ do not commonly occur as Vb2 in lexicalized compounds.

15.1.1.7 Compounds with ló ‘turn’ as Vb1 or Vb2

lē/ló/ló ‘turn, change’ (intransitive and transitive) is an important verb that occurs in several compounds.

(1049) compound	gloss	Vb1 gloss	Vb2/Vb3 gloss
a. as Vb1			
ló-dá^n	‘change direction, turn’		?
ló-fó	‘detour and continue’		‘pass, go past’
ló-ɲīʔɛ̄	‘roll up’		‘bend, fold’
ló-ɲɔ́	‘turn and look’		‘look (at)’
ló-bāʔā	‘go around; surround’		‘misuse, ruin’
ló-càʔà	‘lie on one’s back’		‘set out to dry’
ló-gàʔà	‘fold’		‘snap, break’
ló-kà^{n}ʔà^n	‘encounter by chance’		(kà^{n}ʔà^n-sō ‘reply’)
b. as final verb (Vb2 or Vb3)			
dú^{n}ʔú^n-ló	‘stir up (and flip)’	‘stir’	
kpè-ló	‘turn, roll over’	‘roll’	
kpɛ̀^{n}ʔɛ̀^{n}-ló	‘slip, slide’	‘twist, bend’	

má-ló	'change direction, turn'	(má-ʃíé 'muddy water clear up')
sù^{n}ʔù^n-ló	'organize (baggage)'	?
yáʔá-ló	'fence in'	'disrupt'

c. as medial verb in triple compound

sɛ́^{n}-ló-càʔà	'lie down on one's back'	'lie down'	'set out to dry'
sɛ́^{n}-ló-wòʔò	'lie down on one's belly'	'lie down'	?

15.1.1.8 mí- 'strew' and mɛ́- 'throw' as Vb1

Two semantically and phonologically similar transitive verbs are in (1050). For Bi dialect all vowels are phonemically nasalized (mɛ́^{n}, etc.).

(1050)	Pfv	base	Ipfv	dialect
	a. 'shoot; throw; toss (cowries)'			
	mlɛ̄^{n}	mɛ́	mlí^n	Bi Fl Ji
	mɛ̄	"	mí	Ma
	b. 'scatter, strew (grains); spray, sprinkle (liquid)'			
	mīɛ̄	mí	mí	Bi Fl Ji

Not surprisingly, the compounds in (1051) show hybridization, with mlɛ̄^{n} (Pfv) and mí (base).

(1051)	Pfv	base	dialect
	a. 'disperse (intr)'		
	mlɛ̄^{n}-jāʔā	mí-jāʔā	(various)
	b. 'throw, shoot; release'		
	mlɛ̄^{n}-tɔ̄^{n}	mí-tɔ̄^{n}	Fl Ji

15.1.1.9 Compounds with -so and -ʃi as Vb2

Three verbs (1052a-c)have segmental so in the base but different tones. One of them shares an Ipfv ʃī with a fourth verb (1052c-d).

(1052)	Pfv	base	Ipfv	gloss
a.	sē/sūō	só	só	'(bird) land; collapse; (sun) set'
b.	sè	sò	sò	'carry on head'
c.	sùò/ʃùò	sō	ʃī	'take, receive; take (a breath)'
d.	ʃìè	ʃī	ʃī	'give birth'

Of the four, only (1052c) ‘take, receive’ occurs commonly as Vb2 in lexicalized compounds. All compounds in (1053) have a Vb2 that is compatible segmentally and semantically with (1052c). In several cases the semantic connection is also reasonable.

(1053)	Pfv	base	Ipfv	gloss	Vb1 gloss
	gbà-sō	gɔ̀-sō	gò-à-ʃī	‘reach agreement’	‘tap, bump’
	klì^{n}-sō	klì^{n}-sō	klì^{n}-à^{n}-ʃī	‘borrow’	‘borrow’
	kùò-sō	kò-sō	cɥ̀ì-à-ʃī	‘take (sth away from’	‘hit’
	lɛ̀^{n}-sō	lɛ̄^{n}-sō	lɛ̄^{n}-ɛ̀-ʃī	‘take (sth) away from’	‘drive away’
	nɛ̀ʔɛ̀-sō	nɛ̀ʔɛ̀-sō	nɛ̀ʔ-à-ʃī	‘get by asking’	‘ask for’
	ɲūɔ̄-sō	ɲɔ́-sō	ɲú-à-ʃī	‘envy (v), emulate’	‘look at’
	tīɛ̄^{n}-sō	tí^{n}-sō	tí^{n}-à^{n}-ʃī	‘take by force’	‘pull’

klì^{n}-sō and simple klì^{n} ‘borrow (sth, from sb)’ have antonym klì^{n}-sūʔɔ̄ ‘lend (sth, to sb)’, with ‘give’ as Vb2.

Three additional compounds (1054) have a Vb2 that is compatible segmentally with ‘take, receive’ (1052c), but the meanings are difficult to reconcile. The tones are correct in (1054a) but not (1054b). The identity of Vb1 in each case is also problematic.

(1054)	Pfv	base	Ipfv	gloss	Vb1 gloss
a.	kɛ̀^{n}ʔɛ̀^{n}-sō	kā^{n}ʔā^{n}-sō	kā^{n}ʔ-à^{n}-ʃī	‘reply; help to lift’	‘encounter’
	tē-sō	tó-sō	tó-à-ʃī	‘prop up’	§15.1.1.5 (1045b)
	tē-sō	té-sō	té-à-ʃī (Bi)	"	
b.	dìè-só	dì-só	dī-à-ʃí	‘fall’ (Fl Ji Ma)	?
	"	dí-só	dí-à-ʃí	" (Bi)	

The final in the compound (1055) is phonologically compatible with ‘give birth’ (1052d) above, but this would make no sense semantically here.

(1055) Pfv	base	Ipfv	gloss	Vb1 gloss
lɛ̄^{n}-ʃī	lɛ́^{n}-ʃī	lɛ́^{n}-à-ʃī	‘wait for (sb)’	‘stand’

The only known lexicalized compound whose Vb1 is any of the verbs mentioned above is (1056). The initial is related to ‘take, receive’ (1052c) but the final is obscure.

(1056) Pfv	base	Ipfv	gloss	Vb2 gloss
sùò-bɔ́^{n}	sò-bɔ́^{n}	ʃì-à-bɔ́^{n}	‘rescue, save (sb)’	?

15.1.1.10 Compounds with yī- as Vb1

The verb yìè/yī/yī 'fly; jump' occurs as Vb1 in (1057a-b). Some dialectal variants are omitted (e.g. Ma Pfv ʒìè). The semantic relationship of (1057b) with 'fly; jump' is unclear. The initial in (1057c) is yīʔē/yíʔí/yíʔí 'go', clearly so in careful pronunciation.

(1057)	Pfv	base	Ipfv	gloss	Vb2 gloss
a.	yìè-dà^{n}	yī-dà^{n}	yī-ā-dà^{n}	'jump over; cross' (Ji)	'arrive'
	yìè-dā	yī-dā	yī-à-dā	" (Bi Fl Ma)	?
	yìè-dīē	yī-dīē	yī-à-dīē	'dive in, plunge'	'enter'
b.	yìè-fló	yì-fló	yì-à-fló	'fill'	'untie' (?)
c.	yīʔē-ʃìʔì	yíʔí-ʃìʔì	yíʔ-ā-ʃìʔì	'get up'	?

'Fly, jump' can be added to 'get up' as Vb1 in a triple compound: yì-[yíʔí-ʃìʔì] 'fly up, take flight'.

15.1.1.11 Compounds with -ɲɔ́(^{n}) 'look at' as Vb2

The two main verbs of vision are ɲà/ɲī/ɲɛ̀ 'see' and ɲūɔ̄/ɲɔ́/ɲú 'look (at)'. Bi dialect has Ipfv lú^{n} instead of ɲú. 'See' does not occur as Vb2 in lexicalized compounds. Lexicalized compounds with 'look (at)' as Vb2 are presented here; for the experiential perfect construction of the same form see §15.1.4.3.

The compounds in (1058) involve vision from unusual angles.

(1058)	Pfv	base	Ipfv	gloss	dialects
a.	cɛ̀-ɲɔ́	cà-ɲɔ́	cà-à-ɲú	'look up at'	Fl Ji
	cɛ̀-ɲɔ́^{n}	cà-ɲɔ́^{n}	cà-à-lú^{n}	"	Bi
b.	jɥ̀ɛ̀^{n}-ɲɔ́	jùà^{n}-ɲɔ́	jù^{n}-à^{n}-ɲú	'look down at'	Fl Ji
	jɥ̀ɛ̀^{n}-ɲɔ́^{n}	jùà^{n}-ɲɔ́^{n}	jù^{n}-à^{n}-lú^{n}	"	Bi
c.	flè-ɲɔ́	flè-ɲɔ́	flè-à-ɲú	'peek (to the side)'	Fl Ji
	flè-ɲɔ́^{n}	flè-ɲɔ́^{n}	flè-à-lú^{n}	"	Bi
d.	klɛ̀^{n}-ɲɔ́	kɛ̀^{n}-ɲɔ́	klī^{n}-à^{n}-ɲú	'turn head to look at'	Fl Ji
	klɛ̀^{n}-ɲɔ́^{n}	kɛ̀^{n}-ɲɔ́^{n}	klī^{n}-à^{n}-lú^{n}	"	Bi
e.	lè-ɲɔ́	ló-ɲɔ́	ló-à-ɲú	'turn around and look'	Fl Ji
	lè-ɲɔ́^{n}	ló-ɲɔ́^{n}	ló-à-lú^{n}	"	Bi

The compounds in (1059) extend beyond vision, but retain the more abstract sense ‘attempt to perceive’ that is associated with ‘look at’.

(1059)	Pfv	base	Ipfv	gloss	Vb1 gloss	dialects
a.	klè-ɲɔ́	klè-ɲɔ́	klè-à-ɲú	‘try (to do)’	‘do’	Fl Ji
	klè-ɲɔ́ⁿ	klè-ɲɔ́ⁿ	klè-à-lúⁿ	"	"	Bi
b.	pɛ̀ⁿ-ɲɔ́	páⁿ-ɲɔ́	páⁿ-à-ɲú	‘taste (v)’	‘touch’	Fl Ji
	pìɛ̀ⁿ-ɲɔ́ⁿ	páⁿ-ɲɔ́ⁿ	páⁿ-à-lúⁿ	"	"	Bi

15.1.1.12 Compounds with bló- ~ blú- ‘do by mistake’ as Vb1

The verb blē/bló/bló (Ji), blē/blú/blú (Fl Ma), or blō/blú/blú (Bi) ‘err, make a mistake’ can be Vb1 to a wide range of intransitive and transitive verbs in the sense ‘(do) by mistake’.

(1060) compound	gloss	Vb2 gloss	dialect
bló-dīē	‘enter by mistake’	‘enter’	Ji
bló-mɛ́	‘shoot by mistake’	‘shoot’	Ji

See also jàʔà-bló ‘lose one’s way’ (§15.1.1.2), where this verb is Vb2.

15.1.2 Action and extent

Under this rubric we consider verb-verb compounds in which one of the verbs (always Vb2 in our data) specifies amplification (‘do a lot’, ‘do very much’) or diminution (‘do a little’).

15.1.2.1 Amplification

The three verbs in (1061) can function as Vb2 in compounds that amplify the extent of the eventuality described by Vb1. (1061c) is itself a compound (§15.1.1.10 above). gə̄rɛ̄ⁿ as uncompounded verb means ‘fix; make, manufacture’. The already compounded yī-dā and yī-dàⁿ mean ‘cross over, jump over, overflow’ without further compounding. The glosses in (1061) apply when these forms function as Vb2 in compounds with an open-ended set of Vb1’s.

(1061) a.	-gə̄rɛ̄ⁿ (Bi Fl Ji)	‘do a lot’ (also qualitative ‘do well’, §8.5.4.1)
b.	-dɔ́rá	‘do a lot, do too much’
c.	-yī-dā (Bi Fl Ma) -yī-dàⁿ (Ji)	‘do too much’

The order in (1061) reflects increasing degree of emphasis, with -yī-dà ~ yī-dà^{n} strongest.

(1062) nó na̋ bē-gə̄rɛ̄^{n} ‘I will get fairly/rather tired.’
bè-dә́rá ‘I will get very tired.’
bē-[yī-dā] ‘I will get exhausted.’
1Sg Fut get.tired.Base-…

In amplification function, -gə̄rɛ̄^{n} and -də́rá occur only as compound Vb2. By contrast, yī-dā ~ yī-dā can appear either as a compound Vb2 or as an adjoined infinitival clause kō yī-dā ‘excessively’.

The combination -gə̀rɛ̀^{n}-də́rá is attested, forming triple compounds. Since -gə̀rɛ̀^{n} can have evaluative sense ‘VP well’, the sense of -gə̀rɛ̀^{n}-də́rá could in theory be a mix of quality and amplification: ‘VP really well’ or ‘really VP well’. However, in some examples the combination just seems to be a slightly stronger form of ‘(be/do) very much’ (1063a), compare Eng *well and truly (tired, defeated, etc.)*. In the triple combination (1063b), ‘overflow’ is added as an attached infinitivalVP.

(1063) a. nó nà bē-gə̀rɛ̀^{n}-də́rá
1Sg Ipfv get.tired.Base-**do.well**.Base-**do.a.lot**.Base
‘I will get really tired.’ (Ji)

b. nó nà bē-gə̀rɛ̀^{n}-də́rá
1Sg Ipfv get.tired.Base-**do.well**.Base-**do.a.lot**.Base
[kō yī-dà^{n}]
[Infin **overflow**.Base]
‘I will get genuinely exhausted.’ (Ji)

These verbs can be compounded to a transitive as well as to an intransitive Vb1. In the transitive case, the entire compound precedes the object. Examples are in the following subsections.

15.1.2.1.1 gə̄rɛ̄^{n} ‘(do) well’ or ‘(do) quite’ as Vb2

gə̄rɛ̄^{n} (Bi) as an uncompounded transitive verb means ‘manufacture’ or ‘fix, repair’. As mediopassive intransitive it means ‘be manufactured, be fixed’. The emphasis is on quality: ‘make (sth) well, properly’. As Vb2 in compounds it means ‘VP well’ or ‘VP a lot’, cf. Fr *bien*. In free translations, adverb ‘really’ is sometimes appropriate. Some elicited examples are in (1064).

(1064)

compound	gloss	Vb1 gloss	dialect
ʃì^{n}ʔì^{n}-gə̄rɛ̄^{n}	‘run well; really run’	‘run’	Ji
gɔ̀-gə̄rɛ̄^{n}	‘give a good beating to’	‘hit’	Ji
bē-gə̄rɛ̄^{n}	‘get rather tired’	‘get tired’	Fl

This Vb2 can be used with adjectival predicates in the sense ‘quite, rather’.

(1065)	[ē	dīɔ̄ⁿʔ=]	=ɔ̀ⁿ	kāʔ-à-gə̄rɛ̄ⁿ
	[Art	firewood]	Ipfv	be.hard.Ipfv-Ipfv-**do.well**.Ipfv

‘The firewood is quite hard.’ (Fl)

There are two textual occurrences. The context in (1066a) is stewardship of the local grotto with its prehistoric engravings. (1066b) is from a recording about making shea butter.

(1066) a.	ŋ̀	káⁿ	[gò	súʔú-gə̄rɛ̄ⁿ	=nì]
	2Sg	must	[Infin	catch.Base-**do.well**.Base	3InanObj]

‘You must take good care of it.’
(Fl & Ji, 2017-11 @ 10:45, cf. @ 04:53, @ 10:48)

b.	ó	bà	sə̄rē-gə̄rɛ̄ⁿ	=nì,	
	1Pl	if	skim.Base-**do.well**.Base	3InanObj,	
	ó	gò—	té-sūʔɔ̄	=nì	mā
	1Pl	Infin—	put.down.Base-give.Base	3InanObj	there.Def

‘When we have skimmed it off well, we set it down there.’
(women, 2017-16 @ 01:04, edited)

15.1.2.1.2 -dərá ‘(be/do) very much/too much’ as Vb2

-də́rá occurs as second element in a verb-verb compound. Its verbal noun is -də́rá-ní. It is more common than other augmentative Vb2’s. It is generally more emphatic than -gə̄rɛ̄ⁿ in augmentative contexts. In some examples it indicates multiplicity. -də́rá is invariant in form except for low-level tone sandhi. Elicited examples are in (1067).

(1067) compound	gloss	Vb1 gloss	dialect
ʃìⁿʔìⁿ-də́rá	‘run a lot’	‘run’	Ji
gɔ̀-də́rá	‘hit a lot’	‘hit’	Ji
bè-də́rá	‘get very tired’	‘get tired’	Fl

gɔ̀-də́rá ‘hit a lot’ can also mean ‘keep going, continue on one’s way’ (Fl, 2017-03 @ 01:28).

Like -gə̄rɛ̄ⁿ, -də́rá can function as Vb2 with adjectival predicates.

(1068)	[ē	dīɔ̄ⁿʔ=]	=ɔ̀ⁿ	kāʔ-à-də́rá
	[Art	firewood]	Ipfv	be.hard.Ipfv-Ipfv-**do.a.lot**.Ipfv

‘The firewood is very/too hard.’ (Fl)

Textual examples are in (1069).

(1069) a. [è jə́ríⁿ-ní] kō— à cɔ̄ʔ-à-də́rá
[Art djinn-Pl] Infin— Ipfv fear.Ipfv-**do.a.lot**.Ipfv
[è ná-bí ɲə́rámá]
[Art person very.good]
‘The djinns were—, very afraid of a human.’ (Ji, 2017-04 @ 00:57)

b. bó ɲàⁿ-də́rā = [Ø ə̀-rɛ́]
3AnSg see.Pfv-**do.a.lot**.Base [Art thing-Pl]
‘He (=hyena) saw lots of things.’ (Bi, 2017-08 @ 06:55)

c. wálà→, kō [yī-dà]-də́rá
right, Infin [cross.over.Base]-**do.a.lot**.Base
‘Right, (and must not) overstep too far’ (Bi, 2017-08 @ 10:51)

d. [kō sò-də́r = [é bàʔà] bè-yá-ró
[Infin take.Base-**do.a.lot**.Base [1Pl Dat] thus
‘and invaded our country.’ (Bi, 2017-09 @ 01:47)

e. jí bó ɲàⁿ-də́rá→, [ē blāʔā] yìè-fló
if 3AnSg see.Pfv-**do.a.lot**.Base, [Art pond] be.full.Pfv
‘when she saw (that) the pond was full (of elephants)’
(Bi, 2017-09 @ 02:45)

f. [wō [tì-tɔ̀ⁿ]-də́rá [bó nīⁿ] bè-yá-ró
[Infin [pour.Base]-**do.a.lot**.Base [3AnSg Loc] thus
‘It (=elephant) then poured (=dropped heavily) on her.’
(Bi, 2017-09 @ 03:12)

g. kō bà [Ø = à-ɲìⁿ-də́rá = ò]
Infin come.Base [Infin come.Base-see.Base-**do.a.lo**t.Base 3AnSgObj]
pə̀rɛ̀kɛ̀tɛ̀ bè-yá-ró
wrecked thus
‘(Then) they came and had a good look at her in bad shape.’
(Bi, 2017-09 @ 03:47)

h. ò kánà kèʔè-kɔ̀-də́rā = [Ø mìé]
3Pl Proh ruin(v).Base-finish.Base-**do.a.lot**.Base [Art 1Pl]
‘May they (=elephants) not completely ruin (all of) us!’
(Ji, 2017-09 @ 08:10)

i. gō ɲìⁿ-də́râ = [Ø blí-kɛ́] bè-yá-ró
Infin see.Base-**do.a.lot**.Base [Art hare] thus
‘(Then they) managed to see (=get) hares in that way.’
(Bi, 2017-10 @ 04:47)

j. Ø mà [wáʔá-tɔ̀^{n}]-də́rá =nì
2Sg if [shut.Base]-**do.a.lot**.Base 3InanObj
‘if (you) close it quite off’ (Ji, 2017-11 @ 02:44)

-də́rá may be obscurely related to the verb dərē/də́ró/də́ró ‘abound, become numerous’ although the vocalism does not match. The two can combine into a quasi-iterative compound in the sense ‘abound, become numerous or a lot’, with the final dropping to M-toned: Pfv dərē-dərā ‘abounded, became great’ (Bi, 2017-09 @ 05:40), base də́ró-dərā (Ji, 2017-09 @ 07:38), Ipfv à də́ró-à-dərā ‘become abundant’ (Ji, 2017-09 @ 07:35).

15.1.2.1.3 Vb2 -yī-dā ~ -yī-dà^{n} ‘overflow’ as ‘do excessively’

The already compound verb yìè-dā/yī-dā/yī-à-dā (Bi Fl) or, with a different final, yìè-dà^{n}/yī-dà^{n}/yī-ā-dà^{n} (Ji) means ‘jump over; cross; overflow; overstep; transgress (boundary)’ if no further verb is added as Vb1. The final -dā (Bi Fl) is not otherwise known. The dialectal alternative -dà^{n} (Ji) is the verb ‘arrive’.

yī-dā or yī-dà^{n} may be added to a preceding Vb1 in the sense ‘VP extremely, excessively, too much’. We will gloss it literally as ‘overflow’ in such examples.

(1070) a. nó blè-[yī-dā]
1Sg get.tired.Pfv-[**overflow**.Base]
‘I got extremely tired (=exhausted).’ (Fl)

b. ná= à blī-à-[yī-à-dā]
1Sg Ipfv get.tired.Ipfv-Ipfv-[**overflow**.Ipfv]
‘I (often) get extremely tired.’ (Fl)

Alternatively, the infinitival VP kō yī-dā or kō yī-dà^{n} can be added to a clause containing the other verb. Examples are (1071) below and (1063b) above.

(1071) ɔ̀^{n} má ká^{n} [wō dò] [kō ʒī-dā]
3AnSg IpfvNeg ought [Infin say.Base] [Infin **overflow**.Base]
‘He (=chief) musn’t say too much.’ (Ma, 2018-02 @ 01:15)

15.1.2.2 -dɔ̄/-dō ‘be/do a little’ as Vb2

For ‘VP a little’ or ‘VP somewhat’ in a scalar context, the stem —/dɔ̄/dō (Fl) ‘be/do a little’ is added as compound final to another verb. -dɔ̄ is the base and can combine with an initial Pfv or base verb. -dō is the Ipfv. Elicited examples are in (1072). There are no textual examples.

(1072) a. nó blè-dɔ̄
1Sg get.tired.Pfv-**do.a.little**
‘I am (=have become) slightly tired.’ (Fl)

b.	nō	nà	bē-dɔ̄
	1Sg	Fut	get.tired.Base-**do.a.little**.Base

‘I will get a little tired.’ (Fl)

c.	ná	=à	blī-á-dō
	1Sg	Ipfv	get.tired.Ipfv-Ipfv-**do.a.little.Ipfv**

‘I am (=have become) slightly tired.’ (Fl)

Like some of the amplifying Vb2’s, this verb (in Ipfv form -dō) can be added to adjectival predicates.

(1073)	[ē	dīɔ̄ⁿʔ=]	=ɔ̀ⁿ	kāʔ-à-dō
	[Art	firewood]	Ipfv	be.hard-**do.a.little.Ipfv**

‘The firewood is a bit hard.’ (Fl)

The forms of —/dɔ̄/dō are phonologically compatible with those of the pandialectal verb dərɔ̀/dɔ̄/dō ~ dū ‘buy’, but there is no obvious semantic link.

A more promising connection is with the morphologically unusual compound ‘be lacking, missing’. The base is dɔ́-dɔ̄ but the Pfv in particular is variable across dialects. See §10.1.6.3 for details.

For adverbs and adjectives that diminish scalar quantities, see §8.5.2.2.

Reduplicative dɛ̀mɛ̀-dɛ̀mɛ̀ ‘do a little’, from Jula, is attested (Bi, 2017-09 @ 03:50).

15.1.2.3 Satiety with -dɛ́ as Vb2

The general verb ‘be sated, full (after consumption)’ is dərɛ̄/dɛ́/dé ~ dí. It combines with preceding verbs of consumption and some others.

(1074)	cpd	gloss	Vb1 gloss	comment
a. with -dɛ́ (base stem)				
	dì-dɛ́ (Fl Ji)	‘be full after eating’	‘eat (meal)’	variant dí-dɛ́ (Bi)
	kà-dɛ́	‘be full (of meat)’	‘eat (meat)’	
	ɲɔ̀-dɛ́	‘quench one’s thirst’	‘drink’	
	sò-dɛ́	‘overload’	‘carry (on head)’	
	wè-dɛ́	‘(boy) be ready (to marry)’	‘be put’	(Ma, 2017-10 @ 00:24)
b. with -dé (base stem)				
	wò-dé	‘be well-bathed (cleansed)’	‘bathe’	(Bo, 2017-13 @ 04;03)

‘Be well-bathed’ (1074b), attested for Bi (including Bo) dialect, has the stem paradigm wè-dé/wò-dé/lū-à-dé, presumably with irregular ATR harmony. This expression is culturally important since it can mean ‘(girl) be cleansed (by excision)’, traditionally a rite de passage preparing adolescent girls for marriage. It occurs in the women’s marriage songs in Bo text 2019-13 beginning @ 04:03. Compare láⁿ ‘wash’ in the context of male circumcision (Bi, 2017-10 @ 00:08). The semantically unrelated verb jɔ̀ ‘swallow’ can mean ‘excise (girl)’ (Bo text 2019-10 @ 00:30) or ‘circumcise (boy)’.

15.1.3 Action and temporal pattern

In the verb-verb compounds described in the subsections below, either Vb1 or Vb2 modifies the internal temporal structure of the eventuality described by the other verb. These modifications include repetition, frequency, prolongation, and completion.

15.1.3.1 klá- ‘return, repeat’

The verb klɛ̄/klá/klá ‘return, go back’ can combine with a following Vb2 in the sense ‘repeat, do again’. Attested compounds of klá- are in (1075). In all cases the meaning of the compound includes motion (1075a) or some other change of state (1075b). The most common combination is klá-bà ‘come back’.

(1075)	compound	gloss	Vb2 gloss	reference
a. motion				
	klá-bà	‘come back’	‘come’	(Ma, 2017-01 @ 01:05)
	klá-yíʔí	‘go back’	‘go’	(women, 2017-14 @ 00:29)
	klá-sərú^{n}	‘go/climb back up’	‘ascend’	(Ji, 2017-01@ 03:57)
b. non-motion change of state				
	klá-dɔ̄	‘go back to sleep’	‘sleep (v)’	
	klá-pɛ̄^{n}	‘remain, be left’	‘stay’	(Ji, 2017-09 @ 07:26)
	klá-wē	‘change clothes’	‘put on’	(women, 2017-13 @ 02:53)
c. triple compound				
	klá-ʃì^{n}ʔì^{n}-bà	‘come running back’	‘run’+‘come’	(Fl, 2017-05 @ 03:21)

See also the quadruple compound [sò-[klá-bà]]-té in (1036) above.

Any of the forms of klɛ̄/klá/klá can be used as a main verb, followed by an infinitival VP expressing the repeated action (§15.2.3.1). This alternative periphrasis is likely responsible for the paucity of attested lexicalized compounds.

15.1.3.2 ká- ‘do again’

Another Vb1 in compounds that can mean ‘repeat’ or ‘renew’ is ká-. Its historical relationship to klá- is unclear. ká- is said by some speakers to be a Jula borrowing, but Jula kà (L-toned) is an infinitival or VP-conjoining particle similar to Tiefo-D kō.

As usual in compounds, the Vb2 following ká- is in base form (except in Ipfv compounds). Unlike klá-, which usually requires either motion or (for non-motion verbs) some similar transition, ká- implies re-doing it (correctly). The distinction is brought out in (1076).

(1076) a. ká-tə̄rāⁿ ‘sit again (in a different way or position)’ (Ma, 2017-04 @ 00:14)
b. klá-tə̄rāⁿ ‘go back and sit’ or ‘sit back down (after rising)’

An example of fluctuation between ká- and klá- was observed at (Fl, 2017-05 @ 03:21). The recording has ká-ʃīⁿʔìⁿ-bà ‘come running again’, which the original speaker later corrected to klá-ʃīⁿʔìⁿ-bà ‘come running back’ since it involved a return to the starting point.

A difficulty in identifying textual occurrences of ká- ‘do again’ is distinguishing it from subjunctive ká (§10.4.2.3.2, §17.6.2.6). Subjunctive ká occurs mainly in the hortative combination kò ká followed by the base stem of the following verb (Vb2). Subjunctive clauses can function as wishes, weak obligationals (‘ought to, should’), or purposive-like clauses. This hortative combination is indistinguishable in form from (non-imperfective) infinitival kò ká-Vb2.Base with ká- ‘do again’.

An example where a subjunctive reading is excluded is (1077). súʔú ‘catch.Ipfv’ in the preceding material is repeated as ká-súʔú. The latter is in a conditional antecedent (not a favorable context for a subjunctive).

(1077)

[ɔ̀ⁿ	mā	à	súʔű =	[Ø	kě]]	
[3AnSg	if	Ipfv	**catch**.Ipfv	[Art	thing]]	
[ē	tùpɛ̀ⁿʔɛ́ⁿ]	g-ā	gǎⁿ =	[[Ø	ʃìⁿʔíⁿ]	nī],
[Art	gourd]	Infin-Ipfv	get.stuck.Ipfv	[[Art	tree]	Loc],
[ɔ̀ⁿ	mà	ká-súʔú	= nì]			
[3AnSg	if	**do.again.Base-catch**.Base	3InanObj]			
[à	kō	gǎⁿ =	[[Ø	ʃìⁿʔíⁿ]	nī]]	
[3Inan	Infin	get.stuck.Base	[[Art	tree]	Loc]]	

‘Whenever he puts his arms around the thing (=trunk), the gourd will catch (=get stuck) on the tree. And if he puts his arms around it (=tree) again, it (=gourd) will catch (=get stuck) on the tree.’ (Ji, 2017-01 @ 02:16-19)

Example (1078) describes an event in a narrative sequence, so again a subjunctive reading is excluded. We take ká-lí to mean ‘recall, call back, summon’.

(1078)

[è	úⁿ-dìⁿ	fə́ráⁿ]	
[Art	village.chief	too]	
kò	ká-lí	[ɔ̀ⁿ	ʃīɛ̄-yùò]
Infin	**do.again**.Base-call.Base	[3AnSg	behind-people]

‘The chief in turn recalled (=summoned) his subordinates.’
(Ji, 2017-11 @ 03:48)

There are two textual examples of future nà followed by ká- and another verb. These involve ká- ‘do again’.

(1079) a. dè ó^{n}!, ɲánɔ̀, já= à mà kō bè-kā =rɛ̄ʔ,
Quot oh!, friend, if 3Inan if be thus Emph,
nó nà ká-dò [à-bì-píɔ́^{n} jì] [mó bàʔà]
1Sg **Fut** **do.again**.Base-say.Base [a.little Indef] [2Sg Dat]
‘(Francolin:) “Ah, friend, if (=since) it is thus, I will reveal to you a little something.” ’ (Ji, 2017-01 @ 03:31)

b. mó sūʔɔ̄= [Ø bú j=] [ɔ̄^{n} bàʔà]
2Sg take.Pfv [Art money Indef] [3AnSg Dat]
kǎ^{n}, ɔ̀^{n} nà ká-[tà^{n}-jùʔɔ̀] mó mlɛ̌^{n} tē
Dem.AnSg, 3AnSg **Fut** **do.again**.Base-[help.Base] 2Sg how? Q
‘You-Sg received some money from him, that one. How will he help (you) again?’ (Ji, 2017-04 @ 06:56)

15.1.3.3 tá^{n}- and tá- ‘do again; do too’

Another way to say ‘VP again’ is to add tɛ̄^{n}-/tá^{n}-/tá^{n} as Vb1 to the target verb. The known examples are in (1080). Motion verbs are represented but are a small percentage of attestations.

(1080)

compound	gloss	Vb2 gloss	reference
a. motion			
tá^{n}-bà	‘come again’	‘come’	(Bi, 2017-07 @ 06:50)
tá^{n}-dà^{n}	‘arrive again’	‘arrive’	(women, 2017-18 @ 00:39)
tá^{n}-[dì-só]	‘fall again’	‘fall’	Fl
b. non-motion			
tá^{n}-ɲī^{n}	‘see again’	‘see’	(Bi, 2017-07 @ 06:50)
tá^{n}-dò	‘say again’	‘say’	(Bi, 2017-08 @ 08:12)
tá^{n}-lɛ́^{n}	‘stop again’	‘stand, stop’	(Bi, 2017-08 @ 08:35)
tá^{n}-gbɛ̄	‘take over for’	‘take’	(women, 2017-13 @ 01:17)
tá^{n}-gɔ̀	‘emit another (shout)’	‘hit; emit’	(women, 2017-13 @ 03:35)
tá^{n}-sūʔɔ̄	‘serve’ (§15.1.6.2)	‘give’	(women, 2017-12 @ 02:46)

A lengthy compound is tá^{n}-bɔ́-wē-tàʔà ‘tie fast onto (one’s hips)’, (Bi, 2017-08 @ 03:02).

In the Bofoboso texts, tá- (attested as base) can mean ‘(do) too’ in the imitative sense, as in ‘when monkey climbed down, dog climbed down too’ (2019-01 @ 01:13).

15.1.3.4 kpɔ́^{n}ʔɔ́^{n}- ‘do frequently’ as Vb1

The verb kpɔ́^{n}ʔɔ́^{n}- ‘be/do often’ is Vb1 in the compound. The combination is incompatible with perfective aspect for semantic reasons. The Ipfv form is kpɔ́^{n}ʔɔ́^{n}-à^{n}- plus the main verb. Our only examples are elicited (1081).

(1081) a. ná= à kpɔ́ⁿʔ-âⁿ-yíʔî= [[Ø úⁿ] nī]
1Sg Ipfv **do.often**.Ipfv-Ipfv-go.Ipfv [[Art village] Loc]
‘I often go to the village.’ (Ji)

b. nó má kpɔ́ⁿʔ-âⁿ-yíʔî= [[Ø úⁿ] nī]
1Sg IpfvNeg **do.often**.Ipfv-Ipfv-go.Ipfv [[Art village] Loc]
‘I don’t often go to the village.’ (Ji)

15.1.3.5 pɛ̄ⁿ- ‘keep VPing’

The verb pìɛ̀ⁿ/pɛ̄ⁿ/pīⁿ is common in the sense ‘remain, stay’ followed by an adverbial phrase denoting an abstract situation with bè nī ‘in that’, or denoting a spatial location. Two among many textual examples are (Ji, 2017-01 @ 02:21 & 02:41).

The verb can also take a verb or VP complement in the sense ‘keep VPing’. In (1082a) it is Vb1- in a verb-verb compound. In (1082b-c) it is followed by a progressive construction. If the progressive verb is intransitive it can be considered to be compounded (1082b), but if it is transitive the object intervenes between ‘remain’ and the progressive verb (1082c). In (1082d) ‘remain’ is followed by an imperfective infinitival VP which is repeated to emphasize duration.

(1082) a. mɔ́ⁿ ŋō pɛ̄ⁿ-dè
2Sg Infin **remain**.Base-say.Base
‘You keep saying (that …).’ (Bi, 2017-08 @ 10:42)

b. ɔ̀ⁿ gō [pɛ̄ⁿ-[kpərɛ̀ⁿ-ɲɔ́ⁿ] nī]
3AnSg be [**remain**.Base-[turn.head.and.look.Prog] Prog]
‘She kept turning her head to look back.’
(Bi, 2017-08 @ 02:56)

c. [bó pìɛ̀ⁿ [ɔ̀ⁿ ɲɔ́ⁿ] nī]]
[3AnSg **remain**.Pfv [3AnSg look.at.Prog] Prog]]
‘She (=hyena woman) kept looking at it.’ (Bi, 2017-08 @ 03:37)

d. bó pìɛ̀ⁿ [g-ā̀ dī́= [Ø ʃìⁿʔìⁿ-bíó]],
3AnSg **remain**.Pfv [Infin-Ipfv eat.Ipfv [Art tree-fruit]],
g-ā̀ dī́= [Ø ʃìⁿʔìⁿ-bíó]
Infin-Ipfv eat.Ipfv [Art tree-fruit]
‘It kept eating and eating the tree fruits.’ (Bi, 2017-06 @ 01:25)

15.1.3.6 Vb2 or separate verb (-)kɔ̄ ‘finish VPing’

The regular, uncompounded verb ‘finish’ is kpà/kɔ̄/kō ~ kū. This verb is ambi-valent, intransitive ‘be finished, end’ or transitive ‘finish (something)’. It indicates that an activity has reached its logical completion, or that an action has been carried out completely. A transitive example is imperative kɔ̄ =nì 'finish it (tale)!' (Ma, 2017-01 @ 01:48). An intransitive example is '(tale) ends' (women, 2017-12 @ 02:58). It can combine with another verb either as Vb2 in a verb-verb compound or as a separate free form following the other verb.

In compounds, base -kɔ̄ or Ipfv -kō ~ -kū is Vb2 following the main verb, in the sense 'finish VPing' or 'have already VPed'. This ordering is iconic.

(1083) a. nó bɛ̄-kɔ̄
1Sg cultivate.Pfv-**finish**.Base
'I have finished cultivating.' (Ji)

b. ná= á(^{n}) bá-kɔ̄
1Sg PfvNeg cultivate.Base-**finish**.Base
'I haven't finished cultivating.' (Ji)

c. bá-kɔ̄ =nì
cultivate.Base-**finish**.Base 3InanObj
'Finish-2Sg cultivating it!' (Ji)

Compounds occurring in the texts are in (1084).

(1084)

compound	gloss	Vb1 gloss	reference
a. motion			
yīʔē-kɔ̄	'be completely gone'	'go'	(Ji, 2017-04 @ 02:40)
(b)à-kɔ̄	'come and end'	'come'	(Bi, 2017-07 @ 10:10) and (women, 2017-13 @ 01:25)
b. non-motion			
bá-kɔ̄	'finish being cultivated'	'cultivate'	(Ma, 2017-03 @ 02:08)
kèʔè-kɔ̄	'totally ruin'	'ruin (v)'	(Ji, 2017-09 @ 08:10)
sə̀rà-kɔ̄	'be fully paid'	'pay'	(Bi, 20178-09 @ 05:40)
[sɛ̀^{n}-glɔ̄]-kɔ̄	'finish doffing'	'take off'	(Bi, 2017-08 @ 02:02)
wú-kɔ̄	'be dead' (figurative)	'die'	(Ma, 2017-04 @ 05:22) and (Fl, 2017-05 @ 03:35)

Many of the Vb1's in the textual examples are either naturally intransitive, mediopassive intransitives of verbs that are usually transitive ('be paid', 'be cultivated'), or transitives with an implied object omitted. However, the example with 'ruin' has a direct object, and it follows the compound.

(1085) ò kánà kèʔè-kɔ̀-də́rā= [Ø mìé]
3Pl Proh ruin(v).Base-finish.Base-do.a.lot.Base [Art 1Pl]
'May they (=elephants) not completely ruin (all of) us!' (Ji, 2017-09 @ 08:10)

It is also possible to add kɔ̄ after a complete VP including a postverbal complement or adjunct. (1086a) and (1086b) appear to be essentially synonymous.

(1086) a. nó dīē-kɔ̄ [Ø kàʔá]
1Sg eat.Pfv-**finish**.Base [Art meat]
'I have finished eating the meat.' (Flaso)

b. nó dīē [Ø kàʔá] kɔ̄
1Sg eat.Pfv [Art meat] **finish**.Base
[=(a)]

A textual example with kɔ̄ separated from the preceding verb is (1087).

(1087) *donc* ō bà á-té =ò kɔ̄,
so 3Pl if go.Base-put.Base 3AnSgObj **finish**.Base,
ò kō sə̀rɔ̀ …
3Pl Infin proceed.to.Base …
'When they have gone and installed him, they proceed to …'
(Ma, 2018-01 @ 02:07)

Our practice is to transcribe -kɔ̄ as a compound Vb2 (i.e. hyphenated) unless there is some constituent between it and the main verb.

The combination of -kɔ̄ with -pɔ̄ⁿ 'be able to, can' creates a construction translatable as active 'be able to Vb1' or (medio-)passive 'be able to be Vb1-ed'. In non-time-sensitive contexts, the latter can mean 'be Vb1-able', or when negated 'be un-Vb1-able'.

(1088) a. [ē dɛ̀] á bá-kɔ̄-pɔ̄ⁿ =ʔ
[Art field] PfvNeg cultivate.Base-finish.Base-be.able.Base Neg
'The field couldn't finish being cultivated.' (Ma, 2017-03 @ 02:08)
(context: the farmer did not have time to finish weeding the field)

b. [à má sə̀rà-kɔ̄-pɔ̀ⁿ dò]
[3Inan IpfvNeg pay.Ipfv-finish.Base-be.able.Base Emph]
'It (=damage) cannot be fully paid for.' (Bi, 2017-09 @ 05:40)
(context: elephants have caused disastrous damage to fields)

For 'cease, halt, abandon (doing)', describing cessation without reaching the natural endpoint implied by 'finish (doing)', see §17.5.2.

15.1.3.7 Vb2 -tèʔè 'be accustomed to VP'

As independent verb, invariant tèʔè can take a locative PP complement. The complement of the locative postposition may be a verbal noun (§17.5.3).

The alternative is a compound with -tèʔè as Vb2. If Vb1 is transitive, its complements follow the verb-verb compound. There are two textual examples.

(1089) a. áywà, *comme* kō wō-tèʔē=
well, as Infin sing.Base-**be.accustomed**.Base
[Ø dərì^{n}ʔ= =á^{n}]
[Art song Dem.InanSg]
‘Well, as (she) was accustomed to (sing) this song, …’
(Bi, 2017-07 @ 01:39)

b. ǒ= Ø ɲī^{n}-tèʔ= =ò rò
3Pl PfvNeg see.Base-**be.accustomed**.Base 3AnSgObj Emph
‘They (=cattle) aren’t used to seeing it (=elephant).’
(Bi, 2017-09 @ 01:33)

15.1.3.8 Vb2 -cə́rí ‘do for a long time’

The verb cərē/cə́rí/cə́rí ‘be/do/last for a long time’ can be added as Vb2 to verbs denoting processes of variable duration. Examples are dɔ̀-cə́rí ‘sleep for a long time, sleep late’ and ʃi^{n}ʔì^{n}-cə́rí ‘run for a long time’.

Especially common is pɛ̀^{n}-cə́rí ‘stay for a long time, delay, take one’s time’, hence ‘be late (arriving)’. Here Vb1 is pɛ̄^{n}- ‘remain, stay’.

15.1.4 Action and temporal location

In this class of compounds, Vb2 locates the event denoted by Vb1 in time.

15.1.4.1 ‘Spend the night VP-ing’ with -cɔ̄^{n} as Vb2

Example (1090) illustrates the ‘spend the (whole) night VP-ing’ construction. Vb2 is cùɔ̀/cɔ̄^{n}/cī^{n} ‘spend the night’. The compound describes a prolonged activity or process, or a multiply repeated event. When Vb1 is a transitive verb, our speakers reshaped the expected direct object of Vb1 into a locative or instrumental-comitative PP (1090c-d).

(1090) a. ɔ̀^{n} jūɔ̄^{n}-cɔ̄^{n}
3AnSg dance.Pfv-**spend.night**.Base
‘He/She spent the night dancing.’ (Fl Ji)

b. ɔ̀^{n} kpē-cɔ̄^{n}
3AnSg weep.Pfv-**spend.night**.Base
‘He/She spent the night crying.’ (Fl)

c. ɔ̄^{n} ɲùɔ̀-cɔ̄^{n} [[Ø lǎ^{n}] (nī)]
3AnSg drink.Pfv-**spend.night**.Base [[Art beer] (Loc)]
‘He/She spent the night drinking beer.’ (Fl)

d.	ɔ̄ⁿ	kùò-cɔ̄ⁿ	[kà	nó]
	3AnSg	hit.Pfv-**spend.night**.Base	[with	1Sg]

‘He/She spent the night hitting me.’ (Fl)

e.	ɔ̄ⁿ	ɲùɔ̀-cɔ̄ⁿ
	3AnSg	drink.Pfv-**spend.night**.Base

‘He/She spent the night drinking.’ (Ji)

This is distinct from ‘do (something) at night’, where the nighttime is merely an enclosing time interval during which a brief event occurred. This requires a PP ‘at night’.

(1091)	ɔ̀ⁿ	wūō=	[[Ø	blíʔí]	nī]
	3AnSg	die.Pfv	[[Art	night]	Loc]

‘He/She died at night (=during the night).’ (Ji)

15.1.4.2 ‘Spend the day VP-ing’ with -só as Vb2

The counterpart ‘spend the (whole) daytime VP-ing’, or more accurately ‘VP until the end of the day’, uses the intransitive verb sē/só/só, whose most relevant sense as simple verb is ‘(sun) set’, as Vb1 in the compound. Sunset is here the boundary of the relevant time interval. The normal subject of the verb is ē dè ‘sun; day(time)’. This noun becomes the direct object in the compound. If Vb2 is transitive, its object is expressed as a PP (1092).

(1092)	ɔ̄ⁿ	kùò-sō=	[Ø	dè]	[nó	nī]
	3AnSg	hit.Pfv-**sun.set**.Base	[Art	sun/day]	[1Sg	Loc]

‘He/She spent the day hitting me.’ (Fl)

This construction can be paraphrased more transparently by shifting Vb1 into a verbal-noun locative PP following ‘sun/day’.

(1093)	nó	kpǎ=	[Ø	dě=]	[[Ø	ʃìⁿʔìⁿ-ní]	nī]
	1Sg	finish.Pfv	[Art	**daytime**]	[[Art	run-VblN]	Loc]

‘I finished (=spent) the day running.’ (Fl)

15.1.4.3 Experiential perfect (‘have ever VPed’) with -ɲɔ́ as Vb2

A simple perfective clause like (1094a) below can be elaborated as an experiential perfect (ExpPf), translatable with ‘have ever’, by adding -ɲɔ́ (Bi -ɲɔ́ⁿ) as Vb2 in compound to the main verb (1094b-c). -ɲɔ́ is elsewhere the base of the verb ‘look (at)’ ɲūɔ̄/ɲɔ́/ɲú (Bi ɲūɔ̄ⁿ/ɲɔ́ⁿ/lúⁿ), and occurs as Vb2 in some lexicalized compounds involving vision, taste, and trying (§15.1.1.11, §15.1.7.2).

The experiential perfect construction describes an experience such as seeing a rare entity or going to an important but distant place that leaves a durable memory or results in a change of status. The compound occurs in perfective clauses.

(1094) a. nó ɲǎ= [Ø bɔ̌]
1Sg see.Pfv [Art elephant]
'I saw an elephant.' (Ji)

b. mó ɲà-ɲɔ̄= [Ø bɔ̌] =ɔ̄
2Sg see.Pfv-**ExpPf** [Art elephant] Q
'Have you-Sg ever seen an elephant?' (Fl Ji)

c. nó ɲà-ɲɔ̄= [Ø bɔ̌]
1Sg see.Pfv-**ExpPf** [Art elephant]
'I have (at least once) seen an elephant.' (Fl Ji)

d. nó cìɛ̀-ɲɔ̄= [Ø kàʔá]
1Sg eat.meat.Pfv-**ExpPf** [Art meat]
'I have (once) eaten meat.' (Ma)

Under negation, this construction means 'have never VPed'. As usual the perfective negative is expressed by particle á plus the base of the verb.

(1095) a. [ē bɔ̌] ná= á ɲì-ɲɔ́ =ʔ
[Art elephant] 1Sg **PfvNeg** see.Base-**ExpPf** Neg
'An elephant [topic] I have never seen.' (Ji)

b. ɔ̄ⁿ= Ø ɲì-ɲɔ́ nó =ʔ
3AnSg **PfvNeg** see.Base-**ExpPf** 1Sg Neg
'He/She has never seen me.' (Fl Ji)

There is one textual example.

(1096) ɔ̀ⁿ ŋō bà [gǎ=
3AnSg Infin come.Base [with
[Ø tàpùʔɔ̀ jə̀r=] =áⁿ sɛ́ⁿ-ɲɔ́]
[Art mat Rel] **PfvNeg** lie.down.Base-**ExpPf**]
'She then brought a (new) mat that had never been slept on.'
(women, 2017-13 @ 03:22)

Since -ɲɔ́ is H-toned, it should trigger M#H-to-L#H on a preceding verb. This is indeed the case in all dialects with most invariant verbs of tonal type MMM. The forms in (1097a-b) are valid for all dialects (Bi with -ɲɔ́ⁿ), in both the perfective (with Pfv verb) and perfective negative (with base verb).

(1097)	Pfv = base	ExpPf	gloss
a. loans from Jula, invariant stems			
	kāɲā	kàɲà-ɲɔ́(ⁿ)	'coincide'
	kēnɛ̄	kènɛ̀-ɲɔ́(ⁿ)	'be in health'

pə̄rɛ̄	pə̀rɛ̀-ɲɔ́(^{n})	‘put on finery’	
ɲāɣāmī	ɲàɣàmì-ɲɔ́(^{n})	‘mix’	
b. other invariant MMM verbs			
bɛ̄^{n}	bɛ̀^{n}-ɲɔ́(^{n})	‘be equal’	
gə̄rɛ̄^{n}	gə̀rɛ̀^{n}-ɲɔ́(^{n})	‘fix’	
klē	klè-ɲɔ́(^{n})	‘(day) break’	è tɛ́^{n} is subject
ɲīʔɛ̄	ɲìʔɛ̀-ɲɔ́(^{n})	‘bend, fold’	
sə̄rē	sə̀rè-ɲɔ́(^{n})	‘skim off from top’	

Our speakers agree on L-toned Pfv and base stems before -ɲɔ́(^{n}) for the very numerous LMM verbs, along with the single LML verb ‘see’ and the rare LLM verbs like ‘laugh’. In other words, verbs whose paradigms include an L-toned stem never appear with level-toned (M or H) experiential perfects. The verbs in (1098) are representative. Here we omit the more or less predictable ^{n} diacritic for Bi.

(1098)		Pfv/base	ExpPf (Pfv/base)	gloss
	a.	dìè/dīē	dìè-ɲɔ́ / dìè-ɲɔ́	‘enter’
		blè/bē	blè-ɲɔ́ / bè-ɲɔ́	‘get tired’
		ɲùɔ̀/ɲɔ̄	ɲùɔ̀^{n}-ɲɔ́ / ɲɔ̀-ɲɔ́	‘drink’
	b.	ɲà/ɲī	ɲà-ɲɔ́ / ɲì-ɲɔ́	‘see’
	c.	mɛ̀/mà	mɛ̀/-ɲɔ́ / mà-ɲɔ́	‘laugh’

In (1099a), the 3AnSg pronominal subject ɔ̀^{n} does not raise to M-toned as it does in (1099b), though in both cases ɔ̀^{n} is followed by a Pfv verb beginning with an L-tone. The difference is that the initial in (1099a) is M-toned dīē, before which ɔ̀^{n} does not raise (ɔ̀^{n} dīē ‘he/she ate’).

(1099)					
	a.	ɔ̀^{n} dìè-ɲɔ́^{n}	Bi	‘he/she ate once’	< dīē
	b.	ɔ̄^{n} dìè-ɲɔ́^{n}	Bi	‘he/she entered once’	< dìè

For MMM verbs other than those in (1097), and for MHH verbs, our Ji speaker in elicitation tended to flatten the tones of what should be L-H experiential perfects. (1100) gives examples with invariant MMM verbs, for which Pfv and base of the experiential perfect are identical. Similarly with jɔ̄rē ‘become complicated’, jīɛ̄^{n} ‘broadcast’, tī^{n}ʔɛ̄^{n} ‘become warm’, and fɛ̄ ‘greet’ or ‘steal’. We have difficulty determinine whether the Ji speaker’s level-toned forms are M- or H-toned; we transcribe them here as M-toned.

(1100)		Pfv = base	ExpPf	dialect	gloss
	a.	kō	kō-ɲɔ̄	Ji	‘crawl’
		"	kò-ɲɔ́^{n}	Bi Fl	

b.	kpē	kpē-ɲɔ̄	Ji	‘roll on ground’
	"	kpè-ɲɔ́ⁿ	Bi Fl	

The same division among speakers occurred for the few MMM verbs that have segmental differences from Pfv to base (1101a-b), and for the large number of MHH verbs (1101c-d). Again we have difficulty determining whether the Ji speaker’s level-toned forms are M- or H-toned.

(1101)	Pfv/base	ExpPf (Pfv/base)	dialect	gloss
a.	dē (invariant)	dē-ɲɔ̄ (invariant)	Ji	‘pick (cotton)’
	jīē/dē/dē	jìè-ɲɔ́ⁿ / dè-ɲɔ́ⁿ	Bi Fl	"
b.	dīʔɛ̄/jūʔɔ̄	dīʔɛ̄-ɲɔ̄ⁿ / jūʔɔ̄-ɲɔ̄ⁿ	Fl Ji	‘hear’
	dīʔɛ̄/jūʔɔ̄	dìʔɛ̀-ɲɔ́ⁿ / jùʔɔ̀-ɲɔ́ⁿ	Bi Fl	"
c.	glō/glú	glō-ɲɔ̄ / glú-ɲɔ́	Ji	‘exit (v)’
	"	glò-ɲɔ́ⁿ / glú-ɲɔ́ⁿ	Bi Fl	"
d.	fē/fú	fē-ɲɔ̄ / fú-ɲɔ́	Ji	‘fan (v)’
	"	fè-ɲɔ́ⁿ / fú-ɲɔ́ⁿ	Bi Fl	"

We suspect that the inter-speaker differences may be artefacts of elicitation, and that the Bi/Fl versions are representative of natural speech.

15.1.4.4 Vb1 gàʔà- ‘do first, be first to do’

The verb gɛ̀ʔɛ̀/gàʔà/gàʔà ‘be/do first (before something else)’ or ‘be the first to do’ is partially homophonous except in the Ipfv with another verb gɛ̀ʔɛ̀/gàʔà/gèʔè ~ gìʔì, The latter has senses like ‘break, snap (stick or stem)’. The former occurs mainly as Vb1- in verb-verb compounds.

(1102) a. sò ká ā gàʔ-à-sɛ́ⁿ =ɛ̄ⁿ
who? Past Ipfv **be.first**.Ipfv-Ipfv-lie.down.Ipfv Q
‘Who used to lie down first?’ (Ma, 2017-10 @ 01:20)

b. [[móⁿ bī-dɔ̀] dó]
[[2Sg younger.sib] Poss.Inan]
dà= á gàʔà-klè =ā→
(Ipfv)Past PfvNeg **be.first**.Base-be.done Q
‘Had not your younger brother’s turn happened first?’
(Bi, 2017-09 @ 02:12)

c.	[è	ɲá^{n}blá	ró]	ā	gàʔ-à-cɥ́í
	[Art	leader	Poss.Inan]	Ipfv	**be.first**.Ipfv-Ipfv-cut.Ipfv

‘The leader is the first to cut (food).’ (Bi 2017-10 @ 02:34)

15.1.4.5 Vb1 sūā^{n}- ‘do early in the morning’

sūā^{n}- is attested only in compounds.

(1103)	Pfv	base	Ipfv	gloss	Vb2 gloss
	sùɛ̀^{n}-bà	sūā^{n}-bà	sū(ā)^{n}-à^{n}-bē	‘come early’	‘come’
	sùɛ̀^{n}-dí	sùà^{n}-dí	sū(ā)^{n}-à^{n}-dí	‘eat early’	‘pass’
	sùɛ̀^{n}-fó	sùà^{n}-fó	sū(ā)^{n}-à^{n}-fó	‘leave early’	‘pass’
	sùɛ̀^{n}-[yíʔí-ʃìʔì]	sùà^{n}-[yíʔí-ʃìʔì]	sū(ā)^{n}-à^{n}-[yíʔ-ā-ʃìʔì]	‘get up early’	‘get up’

We were unable to elicit similar compound initials for late afternoon or evening.

15.1.5 Action and motion

15.1.5.1 bà ‘come’ as Vb1 or Vb2

bà/bà/bē ‘come’ can function as Vb1 in a wide range of compounds in main clauses. The compound as a whole may describe a simple motion event (1104a), or it may describe a sequence of motion and an immediately subsequent event (1104b). The latter is rather uncommon, except in simple commands and invtations like (1104b).

(1104)		Pfv	base	Ipfv	gloss	Vb2 gloss
	a.	bà-ʃìà^{n}	bà-ʃìà^{n}	bē-ā-ʃìà^{n}	‘come suddenly, blow in’	‘appear suddenly’
		bà-dīē	bà-dīē	bē-à-dīē	‘come in, come and enter’	‘enter’
	b.	bà-dí	bà-dí	bē-à-dí	‘come (and) eat’	‘eat meal’

The usual way to combine ‘come’ with a following event in other discourse contexts is the infinitival construction with the motion verb echoed redundantly, as in […*come* [Infin *come*-Vb2 …]]. With a different main-clause verb, as in […Vb3 [Infin *come*-Vb2 …]], there need be no actual motion. See §15.2.3.2 below for this construction.

Our Bi speaker sometimes iterates bà- as Vb1 in compounds. Thus bà-bà-kāɲā ‘come and coincide with’ in (Bi, 2017-10 @ 03:18) and bà-bà-á-da^{n} ‘(come and) arrive’ in (Bi, 2017-07 @ 01:16). In both examples, the first element cannot be parsed as bà ‘if’ since the iterated forms are actually preceded by bà ‘if’ (nasalized and tone-raised to mā). Uncompounded Pfv bà can also be iterated as bà-bà to indicate multiple individuals (Bi, 2017-09 @ 00:16, Ma 2021-01 @ 00:16).

As Vb2, -bà occurs in a few compounds. Most of them have Vb1's that are more or less productive with motion verbs, so the meaning of the compound is straightforwardly compositional (1105a). In (1105b), by contrast, the motion event follows an action denoted by the Vb1. In (1105c), 'come' adds an inchoative ('become') sense to an adjectival verb.

(1105)	compound	gloss	Vb1 info	reference
a.	glú-bà	'come out'	'exit (v)'	(Bi, 2017-07 @ 03:51)
	klá-bà	'come back'	§15.1.3.1	(Ji, 2017-09 @ 07:20)
	ká-bà	'come back'	§15.1.3.2	(Ji, 2017-11 @ 08:55)
	klá-ʃì^{n}ʔì^{n}-bà	'come running back'	'return-run'	(Fl, 2017-05 @ 03:21)
	klò-bà	'approach here'	§15.1.5.6	
	pɔ́^{n}ʔɔ́^{n}-bà	'come in a hurry'	'hurry'	
	tá^{n}-bà	'come again'	§15.1.3.3	(Bi, 2017-07 @ 06:50)
b.	pá^{n}-bà	'ladle and come'	'ladle (v)'	
c.	də́ró-bà	'become abundant'	'be many'	(Bi, 2017-09 @ 07:26)

15.1.5.2 yíʔí 'go' as Vb1 or Vb2

The pure 'go' verb is yīʔē/yíʔí/yíʔí, with the usual tonal variants in glottalic sesquisyllables for Fl and Ma dialects.

With one major exception, yíʔí does not occur as Vb1 in lexicalized compounds, excluding those with productive Vb2 's like -pɔ̄^{n} 'be able'. The exception is (1106).

(1106) Pfv	base	Ipfv	gloss	Vb2 gloss
yīʔē-ʃìʔì	yíʔí-ʃìʔì	yíʔí-ʃìʔì	'get up, arise'	?

This highly lexicalized compound is semantically opaque (Vb2 is not otherwise attested, and 'get up' is only loosely related semantically to 'go'). This compound can itself be Vb2 in triple compounds: kɔ̀ʔɔ̀-[yíʔí-ʃìʔì] 'get up' (Vb1 = 'be uprooted, plucked'), yì-[yíʔí-ʃìʔì] 'fly (up and) away, take flight'.

Like 'come', 'go' as Vb1 of compounds in infinitival and future constructions undergoes formal changes (including suppletion), and discourse functions may override the lexical motion sense. On these constructions, see §15.2.3.3 below.

As Vb2 in main-clause compounds, 'go' behaves similarly to 'come'. Most of these compounds are semantically transparent (1107). Those in (1107b) are interesting since Vbl1 is elsewhere H-toned at least for some of the same speakers, but is treated as M-toned (and so drops to L-toned before H).

(1107)	compound	gloss	Vb1 gloss	reference
a.	sɔ́rú^{n}-yíʔí	‘climb down’	‘descend’	Ji
	glú-yíʔí	‘exit and go’	‘exit (v)’	Ji
	klá-yíʔí	‘go back’	‘return’	§15.1.3.1; women, 2017-14 @ 00:29)
	klɔ̀-yíʔí	‘move away’	‘budge’	§15.1.5.6
	pɔ́^{n}ʔɔ́^{n}-yíʔí	‘go away in a hurry’	‘hurry’	
	ʃì^{n}ʔì^{n}-yíʔí	‘run away’	‘run’	(Fl, 2017-05 @ 01:07)
b.	kɛ̀^{n}ʔɛ̀^{n}-yíʔí	‘climb up’	‘ascend’	Ji; women, 2017-13 @ 01:49
	yè-yíʔí	‘walk along’	‘walk’	Ji; (Bi, 2017-08 @ 00:37)

15.1.5.3 -á- ‘go’ medially in triple compounds

In (1108) bà- ‘come’, iterated as bà-bà- to indicate multiple occurrences, combines with -dà^{n} ‘arrive’. Instead of all-L-toned #bà-bà-dà^{n}, we hear phonetic [bàbǎ:dà̰]. The length and rising pitch of the medial vowel indicates the presence of -á-, a specialized allomorph of ‘go’ elsewhere observed in infinitival kà= á-dà^{n} ‘(and) went and arrived’ (§15.2.3.3.2) and in past tà= á-dà^{n} ‘had arrived’ (§15.3.5.5).

(1108) ɔ̄^{n} mā bà-bà-á-dà^{n},
3AnSg if Rdp-come.Base-**go.Base**-arrive.Base,
ɔ̌^{n}= Ø wō dè
3AnSg Ipfv sing.Ipfv Quot
‘Whenever she came and arrived, she sang: …’ (Bi, 2017-07 @ 01:16)

15.1.5.4 ‘Enter’ (-dīē) as Vb2

dìè/dīē/dīē ‘enter’ is fairly common as second verb, with a more or less literal sense. In its base/Ipfv form -dīē, it is added to ‘run’ in (1109a) and to an already compounded verb meaning ‘fall down’ that itself begins with ‘enter’ (1109b).

(1109) a. zàkí ʃì^{n}ʔè^{n}-dīē [[ē wùʔú] tɔ̄^{n}]
Z run.Pfv-**enter**.Base [[Art house] under]
‘Zaki ran into the house.’ (Ma)

b. nó [dìè-só]-dīē [[Ø tìɛ̀ʔɛ́] nī]
1Sg [fall.Base]-**enter**.Base [[Art pit] Loc]
‘I fell down into the pit.’ (Fl)

Representative compound verbs ending in ‘enter’ are in (1110).

(1110)

Pfv	base	Ipfv	gloss	dialect
bà-dīē	bà-dīē	bē-à-dīē	‘come in’	(all)
[dìè-só]-dìè	[dì-só]-dīē	[dī-à-ʃí]-à-dīē	‘fall into’	Fl
kplè-dīē	klò-dīē	klò-à-dīē	‘approach’	Ji Ma Fl
ʃì^{n}ʔɛ̀^{n}-dīē	ʃì^{n}ʔì^{n}-dīē	ʃì^{n}ʔ-à^{n}-dīē	‘run in’	Fl Ji
yìè-dīē	yī-dīē	yī-à-dīē	‘jump/dive into’	Fl Ji

15.1.5.5 ‘Exit (v)’ (-glú) and ‘take out’ (-glō) as Vb2

Whereas many Tiefo-D verbs are labile, showing no difference in form between transitive and intransitive (often mediopassive) function, this verb pair does distinguish base from Ipfv stems depending on transitivity. (1111a) is the regular intransitive verb ‘exit (v)’, and also occurs as Vb2 in intransitive compounds. -glō (1111b) occurs as Vb2 in transitive compounds.

(1111)

	Pfv	base	Ipfv	gloss
a.	glō	glú	glú	‘exit (v), go/come out’
b.	dīē-glō	dī-glō	dī-à-glō	‘take out, remove’
	—	-glō	-glō	‘remove’ (in other conpounds)

Given that Vb2 in verb-verb compounds uses only the base and Ipfv stems, it follows that as Vb2 -glú can only be intransitive ‘exit (v)’ while Vb2 -glō can only be transitive ‘take out’. Representative compounds are in (1112). The examples in texts or from lexical elicitation are mainly transitive, but most transitives can be used intransitively (mediopassively) on grounds of lability. Minor dialectal differences in vowel nasalization are omitted in (1112).

(1112)

Pfv	base	Ipfv	gloss	dialect
a. intransitive				
ɲṳ̀ɛ̀-glú	ɲùà-glú	ɲù-à-glú	‘escape’	Bi Fl Ji
ʃì^{n}ʔɛ̀^{n}-glú	ʃì^{n}ʔì^{n}-glú	ʃì^{n}ʔ-à-glú	‘run out; show up’	Fl Ji
b. transitive				
basic verb ‘take out’				
dīē-glō	dī-glō	dī-à-glō	‘take out, remove’	(all)
other transitives				
gɛ̀^{n}-glō	gà^{n}-glō	gà^{n}-à^{n}-glō	‘unhook, disengage’	Fl Ji Ma
gbɛ̄-glō	gbɛ́-glō	gbɛ́-à-glō	‘separate, isolate’	Fl Ji
gblɛ̀-glō	gbɛ̄-glō	gblī-à-glō	‘pick up’	(all)
gbā-glō	gɔ́-glō	gó-à-glō	‘scoop (liquid)’	Fl Ma
"	"	gú-à-glō	"	Ji
jṳ̄ɛ̄^{n}-glō	júá^{n}-glō	jú^{n}-à^{n}-glō	‘fish (=scoop) out’	(all)

ɲɥ̀ɛ̀-glō	ɲùà-glō	ɲù-à-glō	‘rescue (sb)’	Bi Fl Ji
sɛ̀^{n}-glō	sā^{n}-glō	sɛ̄^{n}-à^{n}-glō	‘pick out & remove’	Bi Ma
"	"	sā^{n}-à^{n}-glō	"	Fl Ji
sə̀rɛ̀-glō	sɛ̄-glō	sɛ̄-à-glō	‘chip off, carve off’	Bi Fl
blɛ̄-glō	blá-glō	blá-à-glō	‘divorce; sweep away’	Bi Fl Ji
"	"	blɛ́-ɛ̀-glō	"	Ma

15.1.5.6 klò- as Vb1 in ‘approach’ and ‘dis-approach’ compounds

The otherwise transitive verb kplè/klò/klò ‘bump, knock’ combines with verbs of approaching and those of slight separation (disapproaching, so to speak). They are generally intransitive as indicated by the glosses. They can also be transitive, e.g. ‘put (something) up a little’.

(1113) compound	gloss	Vb2 gloss
klò-dà^{n}	‘approach and arrive’	‘arrive’
klò-bà	‘come near (here)’	‘come’
klò-dīē	‘approach and enter’	‘enter’
klò-yíʔí	‘move over, move away (a little)’	‘go’
klò-glú	‘move over and exit’	‘exit (v)’
klò-sə́rú^{n}	‘move down (a little)’	‘descend’
klò-kɛ̄^{n}ʔɛ̄^{n}	‘move up (a little)’	‘ascend’

There are no textual examples.

15.1.5.7 fó ‘pass, depart’ in compounds

The verb fīē/fó/fó ‘pass by, go past; depart, continue on one’s way’ is common as a main verb, and is also an important part of asymmetrical comparatives (§12.1). It occurs as Vb1 in a few lexical compounds (1114). It shows no remarkable semantic shifts, but in (1114b) it shows vocalic variants that suggest that the compound is no longer transparent.

(1114)	compound	gloss	Vb2 gloss	reference
a.	fó-gbɛ̀ʔɛ́	‘let’s proceed’	‘let’s go!’	(Bi, 2017-08 @ 02:38)
b.	fó-já	‘leave behind; surpass’	‘leave’	(Bi, 2017-09 @ 02:40)
	(dialectally also fí-já, fú-já)			(Ji, 2017-11 @ 09:38)

As Vb2, it can occur in comparatives (1115a) or in its regular motion sense (1115b).

(1115)		compound	gloss	Vb1 gloss	reference
	a.	kɔ̀^{n}-fó	‘know more than’	‘know’	(Ji, 2017-08 @ 03:25)
	b.	ló-fó	‘go around and keep going’	‘turn’	(Ji, 2017-04 @ 02:31)
		(y)é-fó	‘walk away’	‘walk’	(Bi, 2017-07 @ 04:55)

15.1.6 Action and NP roles

15.1.6.1 -tó ‘do together’ as Vb2

The verb tē/tó/tó ‘do together’ occurs in the compounds in (1116). An M-tone before -tó drops to L by regular tone sandhi. In (1116a), it is the objects of the transitive verb that are together. In (1116b), an intransitive change of state coincides with meeting. In (1116c), a motion event is followed chronologically by a meeting.

(1116)		compound	gloss	Vb1 gloss	reference
	a.	kà^n-tó	‘pile up’	(?) ‘encounter’ (kā^{n}ʔā^n)	(Ji, 2017-04 @ 02:19)
		sà^n-tó	‘put together’	‘pick out, collect’	cf. (462b)
	b.	tə̀rà^n-tó	‘have a meeting’	‘sit’	
	c.	bà-tó	‘come and meet’	‘come’	
		ʃì^{n}ʔì^n-tó	‘run and meet’	‘run’	

For some dialectal interchange between tē/tó/tó ‘do together’ and tīē/té/té ‘put down; be put down’, see §15.1.1.5.

15.1.6.2 Vb2 -sūʔɔ̄ ‘give’

The ‘give; send’ verb has dialectally variable consonantal onset. In the base and Ipfv, which have u as first vowel, C1 is usually s in Bi and Ji, ʃ in Fl, and f in Ma (§3.2.1.10), hence sūʔɔ̄/sūʔū (Bi Ji), ʃūɔ̄ʔɔ̄/ʃūʔū (Fl), and fūɔ̄ʔɔ̄/fūʔū (Ma). The Pfv begins with ʃi except fi for Ma and a variant with ʃu (realized as [ʃɥ] before front vowel) for Fl.

(1117) dialect	Pfv	base	Ipfv
Bi Ji	ʃìʔɛ̀	sūʔɔ̄	sūʔū
Fl	ʃìɛ̀ʔɛ̀ ~ ʃɥ̀ɛ̀ʔɛ̀	ʃūɔ̄ʔɔ̄	ʃūʔū
Ma	fìɛ̀ʔɛ̀	fūɔ̄ʔɔ̄	fūʔū

This verb differs in tone and +ATR vocalism from ‘catch’ sūʔō/súʔó/súʔú (with minor dialectal variants).

-sūʔɔ̄/-sūʔū (base/Ipfv) occurs as Vb2 in several compounds (1118a). The general sense that one can extract from the compounds is one of motion away from the deictic center. This vectorial sense is already observable in the uncompounded verb, which can mean ‘send’ as well as ‘give’, and which occurs in combinations like ‘give (=extend, hold out) one’s hand’. In the compounds, Vb1 is transitive in many cases. In some cases one can translate freely with English transitive verb plus ‘away’. The examples in (1118) show the base of the compound, while textual examples may be Pfv or Ipfv.

(1118)	compound	gloss	Vb1 gloss	reference/comment
	bàʔà-sūʔɔ̄	‘sling (over shoulder)’	‘sling’	(Ji, 2017-01 @ 02:09)
	cā-sūʔɔ̄	‘retract head’	‘raise (neck)’	
	dɔ́-sūʔɔ̄	‘distribute’	‘share, divide’	Bi jūā-sūʔɔ̄
	dò-sūʔɔ̄	‘tell (several people)’	‘say’	Bi, 2017-10 @ 04:34
	fɛ́-sūʔɔ̄	‘greet at a distance’	‘greet’	Bi, 2017-08 @ 04:01
	fə̂rì-sūʔɔ̄	‘fling away’	‘heave’ (< Jula)	Bi, 2017-09 @ 02:54
	gùò-sūʔɔ̄	‘belch’	‘belch’	Ji
	já-sūʔɔ̄	‘abandon’	‘leave (sth)’	§17.5.2.1
	kó-sūʔɔ̄	‘let out a wail’ (Ipfv)	‘weep’ (kó)	Bi, 2017-09 @ 03:40
	lá^{n}-sūʔɔ̄	‘guide (v)’	‘advise’	Ji, 2017-11 @ 00:54
	ɲɔ́-sūʔɔ̄	‘look out for’	‘look’	Bi, 2017-06 @ 01:43
	pàʔà-sūʔɔ̄	‘push away’	‘push’	
	té-sūʔɔ̄	‘put and leave’	‘put down’	women, 2017-16 @ 01:04

A clausal example with a direct object and a PP is (1119).

(1119)	nó	tīē-ʃūɔ̄ʔɔ̀	[Ø	bú]	[[[ē	plùʔú]	lī^{n}]	nī]
	1Sg	put.down.Pfv-**give**.Base	[Art	money]	[[[Art	bag]	guts]	Loc]

‘I put the money into the bag.’ (Fl)

15.1.6.3 sā- and fɛ̄- ‘do secretly’

The verb initial sɛ̀-/sā-/sā- (not attested outside of compounds) and in some cases the verb fɛ̄/fɛ̄/fɛ̄ ‘steal’ can combine with a range of verbs in the sense ‘do secretly, furtively, clandestinely’. fɛ̄ is more strongly pejorative.

(1120)		compound	gloss	Vb2 gloss
	a.	sā-klè	‘do secretly’	‘do’
		sā-dò	‘speak secretly’	‘say’
		sā-bà	‘come secretly’	‘come’
	b.	fɛ̄-bà	‘come secretly’	‘come’
		fɛ̀-dí	‘eat secretly’	‘eat meal’

fɛ̄-ɲī	‘drink secretly’	‘drink’
fɛ̀-ɲɔ́-sūʔɔ̄	‘look at secretly, peek at’	‘look at’ plus ‘give’

15.1.7 Ability and failure

15.1.7.1 ‘Be able to VP’ with -pɔ̄^{n}/-plū^{n} as Vb2

The verb —/pɔ̄^{n}/plū^{n} ‘be able to’ occurs only as Vb2 in compounds, so it has no Pfv form. Essentially any action that requires ability, opportunity, or willingness can serve as Vb1. Examples from the texts are in (1121). tərɛ̀^{n}-pɔ̄^{n} in (1121a) has Pfv Vb1, see (1124) below. The others in (1121a-c) are either base or indeterminate Pfv/base. See below on Vb1 aspect.

(1121)	compound	gloss	Vb1 gloss	reference
a. Vb1 is intransitive				
	dà^{n}-pɔ̄^{n}	‘can arrive’	‘arrive’	(Ji, 2017-04 @ 03:54)
	dīē-pɔ̄^{n}	‘can enter’	‘enter’	(Ji, 2017-11 @ 05:36)
	dò-pɔ̄^{n}	‘can say/ask’	‘say’	(Bi, 2017-09 @ 02:12)
	fó-pɔ̄^{n}	‘can go ahead’	‘pass’	(Bi, 2017-08 @ 02:46)
	kɛ̄^{n}ʔɛ̄^{n}-pɔ̄^{n}	‘can climb’	‘ascend’	(Ji, 2017-01 @ 02:05); (women, 2017-13 @ 01:34)
	lɛ́^{n}-pɔ̄^{n}	‘can stand’	‘stand’	(Bi, 2017-09 @ 05:35)
	tərɛ̀^{n}-pɔ̄^{n}	‘can sit’	‘sit.Pfv’	(Ma, 2018-01 @ 01:17)
b. Vb1 is transitive				
	bú-pɔ̄^{n}	‘can get’	‘obtain’	(Fl, 2017-03 @ 02:45)
	klè-pɔ̄^{n}	‘can do’	‘do’	(Fl, 2017-03 @ 01:48)
	kɔ̄^{n}-pɔ̄^{n}	‘can know/learn’	‘know’	(Ma, 2017-01 @ 04:38)
	nɛ̀ʔɛ̀-sɔ̄-pɔ̄^{n}	‘can ask for and get’	‘ask-take’	(women, 2017-18 @ 01:19)
	ɲɔ́-pɔ̄^{n}	‘can look’	‘look’	(Ji, 2017-07 @ 09:26)
	ʃūɔ̄ʔɔ̄-pɔ̄^{n}	‘can give’	‘give’	(Fl, 2017-11 @ 03:14)
c. Vb1 is mediopassive of transitive				
	bá-kɔ̄-pɔ̄^{n}	‘can be fully cultivated’	‘cultivate’	(Ma, 2017-03 @ 02:08)
	[gbɛ̀-yíʔé]-pɔ̄^{n}	‘can be lifted’	‘lift’	(Bi, 2017-07 @ 09:03)
	klè-pɔ̄^{n}	‘can be done/made’	‘do’	(Ji, 2017-07 @ 03:00)
	yìʔè-pɔ̄^{n}	‘can be unloaded’	‘unload’	(Bi & Ji, 2017-07 @ 04:53)

As (1121c) indicates, -pɔ̄^{n} is often added to a lexically transitive verb in its mediopassive (intransitive) function. Such clauses are commonly negative: ‘the field could not be fully cultivated’ (e.g. because there wasn’t enough time), ‘it could not be lifted’ (e.g. because it was too heavy). The impossibility may be due to features of the entity itself (‘be un-VERB-able’), or due to external factors.

In the perfective (positive or negative), the clause with -pɔ̄^{n} describes an act that was either achieved (‘managed to VP’, ‘succeeded in VPing’) or not (‘was unable to VP’) during some past time interval. As generally in compounds, perfective aspect is expressed by the Pfv stem of Vb1 in the positive (1122a), and by PfvNeg á plus the base of Vb1 in the negative (1122b). Also as usual in compounds, Vb2 (here -pɔ̄ⁿ) is in base form in both combinations.

(1122) a. ɔ̄ⁿ klɛ̄ⁿʔɛ̄ⁿ-pɔ̄ⁿ
3AnSg ascend.**Pfv**-be.able.Base
'He was able to climb.' (Ji, 2017-01 @ 03:50)

b. [ɔ̄ⁿ kō kɛ̄ⁿ]
[3AnSg Infin tilt.Base]
[ɔ̌ⁿ= Ø klè-pɔ̄ⁿ [[Ø sɔ̌] nī]
[3AnSg **PfvNeg** do.Base-be.able.Base [[Art pig] Loc]
'He leaned over (to reach the warthog), (but) he couldn't do it on the warthog.' (Fl, 2017-03 @ 01:48)

To indicate potentiality in a broad time frame including the present and at least immediate future, the clause is often future rather than imperfective in form. This diverges from the English phrasing which favors the general present. Both the English and Tiefo-D phrasings make sense, since 'X can VP' means that X (presently) has the capability to VP (in the future).

The future with particle nà is predominant in the positive. Several textual examples (1123) follow this pattern.

(1123) a. ā nà klè-pɔ̀ⁿ [á bí-bì píʔɔ́ⁿ] bè
3Inan **Fut** be.done.Base-be.able.Base [Inan a.little tiny] Dem.Def
'It (=voice) can become very small like that?' (Ji, 2017-07 @ 03:00)

b. ó nà dò-pɔ̄ⁿ→
1Pl **Fut** say.Base-be.able.Base
'We may ask …' (polite prelude to a question) (Bi, 2017-09 @ 02:12)

c. dè mɔ́ⁿ nàⁿ lɛ́ⁿ-pɔ̄ⁿ [à rō]
Quot 2Sg **Fut** stop.Base-be.able.Base [with 3Inan]
'(if you know) that you can afford that (fee).' (Bi, 2017-09 @ 05:35)

d. *est-ce que* ō nà ʃūɔ̄ʔɔ̄-pɔ̄ⁿ [Ø klòʔó] =ō
Q 3Pl **Fut** give.Base-be.able.Base [Art road] Q
'Could they give (us) permission (to go there)?' (Fl, 2017-11 @ 03:14)

e. bùò nà klè-pɔ̄ⁿ jɔ̀rɔ́ⁿ,
3Pl **Fut** do.Base-be.able.Base Rel
ɔ̀— ɔ̀ kō klè bè
3Pl— 3Pl Infin do.Base Dem.Def
'Whatever they are able to do, they will do that.' (Ji, 2017-11 @ 06:40)

f. [è bítə́ró], mó nà kɛ̄ⁿʔɛ̄ⁿ-pɔ̄ⁿ tē
[Art leper], 2Sg **Fut** ascend.Base-be.able.Base Q
‘You, a leper, will be able to climb?’ (women, 2017-13 @ 01:34)

There is one textual example of the bē future in a conditional antecedent with bà ‘if’:

(1124) jó= ɔ̀ⁿ mà bē tə̀rɛ̀ⁿ-pɔ̄ⁿ,
if 3AnSg if **Fut** sit.Pfv-be.able.Base,
ɔ̀ⁿ wō dò =nì
3AnSg Infin say.Base 3AnSg
‘If he can (=is willing to) be seated (=serve as chief), he says (it).’
(Ma, 2018-01 @ 01:17)

The future negative has IpfvNeg má(ⁿ) plus Pfv Vb1 (1125).

(1125) ńʔǹ! nó máⁿ fīē-pɔ̄ⁿ =ʔ
unh-unh! 1Sg **IpfvNeg** pass.**Pfv**-be.able.Base Neg
‘No, I will not be able to go ahead (of you).’ (Bi, 2017-08 @ 02:46)

It is also possible to phrase ‘can (not) VP’ in the progressive. This is expressed by kō ‘be’ and particle nī. There is one textual example.

(1126) nó má kō [[kɛ̄ⁿʔɛ̄ⁿ-pɔ̌ⁿ] nī]
1Sg IpfvNeg **be** [[ascend.Base-**be.able.Prog**] **Prog**]
‘I am unable to climb (the tree).’ (Ji, 2017-01 @ 03:30)

The Ipfv form of -pɔ̄ⁿ is -plūⁿ. Before we get to that, we mention that there are some “pseudo-imperfectives” that superficially appear to contain Ipfv particle à before the compound verb. In the relevant examples, the apparent à is actually an optionally reduced form of future nà. Consider the schemata (1127a-b).

(1127) a. X à Vb1.**Ipfv**- **à-** plūⁿ
b. X à Vb1.**Base**- pɔ̄ⁿ

In the true imperfective construction (1127a), Vb1 and Vb2 both take Ipfv stem form, and the two are separated by the intercalated Ipfv -à- (raised to -ā- by tone sandhi). In pseudo-imperfective (1127b), there is no intercalated -à- and both Vb1 and Vb2 are base stems. An elicited example of the pseudo-imperfective is (1128).

(1128) ná= à kɛ̄ⁿʔɛ̄ⁿ / sə́rúⁿ / dɔ̄ -pɔ̄ⁿⁿ
1Sg **Fut** ascend.**Base**/descend.**Base**/sleep.**Base** **be.able**
‘I can go up/go down/sleep.’ (Ji)

There are four instances of Ipfv -plūⁿ in the texts. All are negative, and all express complete impossibility, as opposed to the simple inability of an individual to accomplish an act on a given occasion.

(1129) a. *comme* [è yúó] má dàⁿ-àⁿ-plūⁿ
like [Art person] **IpfvNeg** arrive.Ipfv-**Ipfv-be.able.Ipfv**
‘since nobody (=no djinn) can manage to get close (to it)’
(Ma, 2017-04 @ 03:54)

b. [ɔ̀ⁿ úⁿʔúⁿ] máⁿ [gblī-à-yíʔé]-à-plūⁿ =ʔ
[3AnSg head] **IpfvNeg** [be.lifted.Ipfv]-**Ipfv-be.able.Ipfv** Neg
‘There was no way her head could be lifted.’
(Bi & Ji, 2017-07 @ 09:22)

c. [ē sə̀rí] sūʔō =ò
[Art shame(n)] catch.Pfv 3AnSgObj
ɔ̀ⁿ máⁿ ɲú-à-plūⁿ =ʔ
3AnSg **IpfvNeg** look.at.Ipfv-**Ipfv-be.able.Ipfv** Neg
‘She was ashamed. There was no way she could look.’
(Ji, 2017-07 @ 09:26)

d. [è náⁿ-bí] má nɛ̀ʔɛ̀-à-ʃī-à-plūⁿ
[Art person] **IpfvNeg** ask.Ipfv-Ipfv-receive.Ipfv-**Ipfv-be.able.Ipfv**
[ē ɛ̀ʔɛ́] [[è fə́rá] bàʔà] tàʔà-kó
[Art thing] [[Art stone.shelf] Dat] again
‘A person can’t any longer ask for and get a thing from a stone shelf.’
(women, 2017-18 @ 01:19)

Our Fl speaker explicitly stated that the imperfective with -plūⁿ is more forceful than that with -pɔ̀ⁿ. We interpret this as confirming our total impossibility interpretation. Some further elicited examples are in (1130).

(1130) a. ná= à klīⁿʔīⁿ/ʃìⁿʔìⁿ -àⁿ-plūⁿ
1Sg Ipfv ascend.Ipfv/run.Ipfv **-Ipfv-be.able.Ipfv**
‘I can go up/run (any time you want)’. (Fl)

b. nó má klīⁿʔīⁿ -àⁿ-plūⁿ =ʔ
1Sg IpfvNeg ascend.Ipfv **-Ipfv-be.able.Ipfv** Neg
‘I cannot go up (at all).’ (Fl)

15.1.7.2 Vb2 -ɲɔ́ ‘try to VP’ and -tē ‘fail to VP’

-tē ‘fail’ and -ɲɔ́ ‘try’ occur as -Vb2 in compounds. -ɲɔ́ is unmistakably the verb ɲùɔ̀/ɲɔ́/ɲú (Bi ɲùɔ̀ⁿ/ɲɔ́ⁿ/lúⁿ) ‘look at’. -tē is arguably related to tīē/té/té ‘put down’, which is sometimes M-toned as -Vb2 in its basic meaning, but the semantic gap between ‘put down’ (or intransitive ‘be put down’) and ‘try’ is nontrivial.

The default ‘try’ and ‘fail’ verbs have invariant klè- ‘do’ or intransitive ‘be done’ as Vb1- in the compound (1131a). A range of specific Vb1’s can combine with -tē ‘fail’ (1131b). The ’fail’ compounds typically denote unsuccessful attempts in the past.

(1131)

	compound	gloss	Vb1 gloss
a.	klè-tē	‘fail (to so sth)’	‘do’
	klè-ɲɔ́	‘try, look into’	‘do’
b.	kɛ̄ⁿʔɛ̄ⁿ-tē	‘fail to climb’	‘ascend’
	yé-tē	‘fail to walk’	‘walk’
	dí-tē	‘fail to eat’	‘eat (meal)’
	kō-tē	‘fail to crawl’	‘crawl’
	fó-tē	‘fail to get past’	‘pass by’

-ɲɔ́ can mean ‘consider (doing), plan (to do)’ as well as actually ‘try (to do)’. It does not imply success or failure and is therefore appropriate in future or hypothetical contexts. One impediment to using -ɲɔ́ in other than future contexts is that the same -Vb2 occurs as the basic experiential perfect (§15.1.4.3), as in ‘have you ever seen an elephant?’ Since the experiential perfect invariably denotes past events, -ɲɔ́ is free to occur in a different sense in future contexts.

klè-ɲɔ́ ‘try (to do)’ occurs in a tale after francolin had suggested to hare a way to climb a baobab tree. Hare replies concerning this future attempt (1132a). klè-ɲɔ́ can take a quotative complement (1132b), reinforcing the view that planning as well as the final effort is included in the sense.

(1132) a. mó dè jə̀rɔ́ⁿ, ŋ́ nà klè-ɲɔ́ =nì,
2Sg say.Pfv Rel, 1Sg Fut **do.Base-look.at.Base** 3InanObj
‘What you said, I will try it.’ (Ji, 2017-01 @ 03:41)

b. ɔ̄ⁿ klè-ɲɔ́
3AnSg **do**.Pfv-**look.at**.Base
[dè bó nà gɔ̀-kū́= [Ø ʃìⁿʔíⁿ]]
[Quot LogoSg Fut chop.Base [Art tree]]
‘He/She tried to chop the wood.’ (Ji)

In another tale, the task assigned to suitors of a young woman is to climb a fromager (*Ceiba*) tree. Here the verb is klè-tē and the failed attempts have already occurred.

(1133) [ē jī] gɔ̀ táⁿ-gbɛ̄,
[Art someone] Infin take.over.Base,
bɔ̀-wí gɔ̀ yíʔí
fellow Infin go.Base
[kō rà-kɛ̄ⁿʔɛ̄ⁿ [kō klè-tē]]]
[Infin go.Base-ascend.Base [Infin **fail.Base**]]
‘Someone (else) would take over (from him). That fellow would go and (try to) climb up and fail.’ (women, 2017-13 @ 01:17)

In (1133), the verb ‘ascend’ (i.e. ‘climb’) and the compound verb ‘fail’ are expressed as separate infinitival VPs. Shortly thereafter in the same text, the two verbs are combined, with ‘ascend’ replacing the default klè- ‘do’ (1134).

(1134)	[jə̀ró	kī-tə̀-rɛ̀-ʔɛ̀]	kō	jɔ̄^{n}-jɔ̀^{n}]	[ò	klɛ̄^{n}ʔɛ̄^{n}-tè	mɔ̂→]
	[Rel.AnPl	hand-Pl]	be	two-two]	[3Pl	**ascend**.Pfv-**fail**.Base	concerning]

‘Those who have two arms, they have failed to climb up.’
(women, 2017-13 @ 01:30)

‘Fail to VP’ can of course alternatively be expressed as the negation of ‘can VP’ with -pɔ̄^{n}/-plū^{n} as Vb2 (preceding subsection).

15.1.8 Opaque compounds

Many compounds are more or less opaque in the sense that at least one of the verbs is not identifiable with any simple verb in any relevant meaning. That they are compounds is shown by the intercalation of Ipfv -à- between Vb1 and Vb2. Two examples are in (1135).

(1135)	Pfv	base	Ipfv	gloss
	klɛ̀-lò	klà-lò	klà-(à-)lò	‘have fun, play’
	tɛ̀-klɛ́	tɛ̀-klɛ́	tɛ̀-à-klɛ́	‘be quiet’

15.2 Infinitival phrase with kō

In true verb-verb compounds, two or more verbs are directly adjacent, except when the Ipfv morpheme is intercalated between them. By contrast, infinitival VPs or clauses are always separated from a main verb (or a preceding infinitival phrase) at least by infinitival kō and often by other constituents or a prosodic break. The difference between an **infinitival VP** and an **infinitival clause** is that the latter has an overt subject, preceding kō. **Infinitival phrase** subsumes the two.

Infinitival kō is often slackly articulated as gō, wō, or ō in allegro speech, except when pronounced after a hesitation or prosodic break. The tone is dropped to L (kò, gò, etc.) before an H-tone, by regular tone sandhi.

kō is also the ‘be’ copula, which occurs with nominal and some other predicates (§11.2.2, §11.4.2, §11.4.4). The copula is part of the progressive construction (§10.2.4.1). Although infinitival kō and copula kō have similar pronunciation variants, there is no morphosyntactic evidence that they are the same morpheme. Hortative kò (§10.4.2.1.2) is accidentally homophonous with the two kō morphemes, but only before an H-tone due to tone sandhi.

Infinitival kō is followed immediately by a verb in base form, except that Ipfv particle à may separate them (it fuses with kō as k-ā), see §15.2.2 below. Copula kō ‘be’ is intrinsically stative and has no imperfective counterpart, and hortative kò cannot be directly followed by Ipfv à.

The infinitival morpheme kō normally cannot be followed by any TAMP inflectional morpheme other than Ipfv à. However, occasionally it is followed by PfvNeg á, the textual examples being (Bi, 2017-08 @ 04:59) and (Ji, 2021-02 @ 02:49). There is a possible example of kō plus past tá (Bo, 2019-10 @ 03:01).

A distinction can be made between two major functions of infinitival phrases. The first is reporting a sequence of events, as in narrative. An initial fully-inflected main clause can be followed by one or more infinitival VPs, usually with the same subject as the main clause. An example of such a VP sequence is ‘X came in, sat down, and got up’ expressed as ‘X came in, to sit down, to get up’. In this example, three discrete, more or less punctual events succeed each other in time. A variation on this is an imperfective infinitival clause, whose time interval may overlap with that of the main clause, as in ‘X was running, to be singing’ meaning ‘X ran along singing’.

It is also possible for an infinitival clause to have a different subject than the main clause (or a preceding infinitival phrase). (1136) shows three infinitival phrases, an initial infinitival VP, then an infinitival clause with a different subject, then another which reverts to the subject of the first VP.

(1136)

[kā=	à-wō]
[**Infin**	come.Base-sing.Ipfv]

[ò	gō	sūʔɔ̄	[Ø	gblɛ̀ⁿʔɛ̀ⁿ]]
[**3Pl**	**Infin**	give.Base	[Art	sorghum]]

[ɔ̀ⁿ	wò	kɔ́ⁿ]
[**3AnSg**	**Infin**	munch.Base]

‘(She) came and sang and (they) gave (her) sorghum, and she munched (it).’
(Bi, 2017-07 @ 06:55)

See also (Bi, 2017-08 @ 011) ‘then the fruits came off and fell, and she picked them up’, where both clauses are infinitival in form and both have overt subjects.

The second function is the subordination of one clause or VP to the verb of the main clause, as in English control constructions like *X forgot [to VP]* or *X instructed Y [to VP]*. In this case, the subordinated eventuality is inseparable from the main one. Some main-clause verbs require a (same-subject) infinitival VP, others like ‘instruct’ require a (different-subject) infinitival clause, and still others like ‘want’ allow both.

This section on infinitival phrases is organized as follows. §15.2.1 presents non-motion VP sequences with kō, generally interpreted as denoting discrete, sequenced events. §15.2.2 covers VP sequences with imperfective k-â (< kō à). §15.2.3 presents specialized infinitival combinations involving motion verbs ‘return’, ‘come’, and ‘go’. Subordinated infinitival phrases are covered in §17.4.

15.2.1 Non-motion VP sequences

15.2.1.1 With infinitival kō plus base

In narratives of past-time events, as in most tales, event sequences are often phrased as one main clause followed by one or more same-subject infinitival VPs. Examples abound in the texts. For example, in text 2017-01 beginning at 03:50 and omitting the interlocutor's interventions, we have the sequence in (1137). Infinitival VPs are indented.

(1137) ɔ̀ⁿ klɛ̄ⁿʔɛ̄ⁿ-pɔ̄ⁿ
3AnSg ascend.Pfv-be.able.Base
kò yíʔí
Infin go.Base
k= ó-ló-dīē
Infin go.Base-turn.Base-enter.Base
fɔ́ kò kɛ̄ⁿʔɛ̄ⁿ
until **Infin** ascend.Base
kò yíʔí
Infin go.Base
k= ó-ló-dīē
Infin go.Base-turn.Base-enter.Base
k= ó-ló-dīē
Infin go.Base-turn.Base-enter.Base
kò tɛ̄= [Ø tùpɛ̀ⁿʔɛ́ⁿ]
Infin put.down.Base [Art gourd]
kò klá-sə́rúⁿ
Infin return.Base-descend.Base
'He (=hare) was able to climb, and went and turned onto (a branch), to the point that (he) went up, and went and turned onto (a branch), and turned onto (it), and put the gourd down, then (he) climbed back down.' (Ji, 2017-01 @ 03:50-57)

Even if we disregard repetitions, which were partially triggered by the interlocutor's interruption (not shown here), this extract expresses approximately six distinct events as infinitival VPs. Importantly, the events are chronologically ordered. We often add 'then' in free translations.

Except in imperfective infinitivals, the verb that immediately follows kō is in base form. This can be seen in infinitives based on verbs that distinguish the three stems (1138).

(1138)	Pfv	base	Ipfv	gloss	Infin	reference
	ʃì(ɛ̀)ʔɛ̀	**sū(ɔ̄)ʔɔ̄**	sūʔū	'give'	kō **sū(ɔ̄)ʔɔ̄**	(Fl, 2017-02 @ 02:09)
	tə̀rɛ̀ⁿ	**tə̄rāⁿ**	tə̄rɛ̄ⁿ	'sit'	kō **tə̄rāⁿ**	(Ma, 2017-03 @ 00:32)
	gblɛ̀	**gbɛ̄**	gblī	'pick up'	kō **gbɛ̄**	(Fl, 2017-03 @ 01:21)
	ɲà	**ɲī**	ɲɛ̀	'see'	kō **ɲī**	(Ma, 2017-04 @ 01:34)
	sùò	**sō**	ʃī	'receive'	kō **sō**	(Ji, 2017-09 @ 07:12)

Since the aspectual opposition within infinitival phrases is kō versus imperfective k-ā, kō in sequences like those in (1138) is functionally somewhere between perfective and aspectually unmarked.

Sequenced infinitival VPs do not require overt subjects when they are understood to share a subject with a preceding main clause or infinitival phrase. However, a resumptive pronominal subject is optionally added. In (1139a), a negative clause is followed by a (positive) infinitival clause. In (1139b), a narrative sequence resumes after some conversational banter.

(1139) a. ò má tǝ̄rɛ̄ⁿ-àⁿ-wō [à nī],
3Pl IpfvNeg rest.Ipfv [3Inan Loc],
ò kō à-tǝ̄rāⁿ [kō klè [ō gɛ̌-ɲì-ní]]
3Pl **Infin** come.Base-sit.Base [Infin do.Base [3Pl Recip-see.Base-VblN]]
'They didn't rest therein. Then they came and sat together to hold their meeting.'
(Ma, 2017-04 @ 01:52)

b. *donc*, ò kō tǝ̄rāⁿ [kò ɲɔ́ [ò dígǝ̀-rɔ̀]] be-kā
so, **3Pl** **Infin** sit.Base [Infin look.at.Base [PlRefl Recip]] thus
'So, they sat and looked at each other.' (Ma, 2017-04 @ 02:47)

If the second of two clauses is negative, it cannot be connected to the first with kō. Instead, it takes main-clause form (1140).

(1140) [nó bà fāⁿʔāⁿ [Ø dɛ̀ⁿ]]
[1Sg come.Pfv here [Art yesterday]]
[ná =á ɲì mó =ʔ]
[1Sg **PfvNeg** see.Base 2Sg Neg]
'I came here yesterday but I didn't find you-Sg.' (Fl)

An infinitival VP without an overt subject occasionally has a different logical subject than the preceding clause (or infinitival VP). This occurs mainly in specific constructions in which the preceding clause has a verb like 'help' (§17.4.2.3.1). Another example of this type is (1141), where the object of 'pull out' is understood to be coindexed to the logical subject of 'exit (v)'. Intransitive glú 'exit.Base' is distinct from transitive glō 'take.out.Base' (§15.1.5.5).

(1141) *donc* ò wò tíⁿ-glò nóⁿ [wò glú]
so 3Pl Infin pull.Base-take.out 1Sg [Infin exit(v).Base]
'So, they pulled me out (of the burrow).' (Bi, 2017-10 @ 04:47)

15.2.1.2 With jí plus infinitival VP or clause

Clause-initial jí occurs elsewhere in some conditional antecedent ('if') clauses (§16.1.1.4-5) and in some hortatives (§10.4.2.1.2). There are also several textual examples of jí followed either by an infinitival VP (without overt subject) or by an infinitival clause (with a subject NP separating jí from infinitival kō). In these infinitival examples, jí highlights local narrative climaxes, as in the final infinitival phrase in a paragraph-like section of a narrative (cf. Eng *and finally* …). It is weaker than jǎ→ 'lo!' (§19.3.7), which marks dramatic events in narratives.

In (1142a) the events are chronologically sequenced. In (1142b) they are spatially separated. A similar example but with kō 'be' is (1142c).

(1142) a.

ɔ̀ⁿ	mlɛ̄ⁿ-kɔ̌=	[Ø	cīɔ̄ⁿ],
3AnSg	throw.at.Pfv-kill.Base	[Art	bird],

ɔ̀ⁿ	kō	kɔ̄ʔɔ̄	[Ø	cīɔ̄ⁿ-bə̀ràʔà],
3AnSg	Infin	pluck.out.Base	[Art	bird-hair],

jí	wō	wē	[Ø	cīɔ̄ⁿ]	[[ɔ̀ⁿ	júfá]	n̄]
if	**Infin**	put.in.Base	[Art	bird]	[[3AnSgRefl	pocket]	Loc]

‘Having hit and killed the bird, he plucked out the feathers, whereupon he put the bird in his pocket.’ (Bi, 2017-08 @ 07:41-45)

b.

ɲìⁿ-níⁿ	móⁿ	pìɛ̆ⁿ=	[Ø	pàmlúⁿʔúⁿ]
Prsntv	2Sg	remain.Pfv	[Art	naked]

jí	[è	[blí-kɛ́]-yò]	gō	pɛ̄ⁿ	[[Ø	fɛ̀ʔɛ́]	nīⁿ]
if	[Art	[hare]-woman]	**Infin**	remain.Base	[[Art	wrap]	Loc]

‘There you stayed, naked. Meanwhile hare’s wife remained in wraps (=well-dressed).’ (Bi, 2017-08 @ 10:12-14)

c.

[ē	kùⁿʔɔ́ⁿ]	kō	bà	[Ø=	à	líⁿ]
[Art	early.afternoon]	Infin	come.Base	[Infin	come.Base	cool.off.Base]

jó=	ò	kō	[[ò	dígə̀-rɔ̀]	ʃīɛ̄],
if	3Pl	**be**	[[PlRefl	Recip]	behind]

‘(When) the early afternoon cooled off, they were after each other (=in a chase).’ (Fl, 2017-03 @ 01:44)

Other textual examples of jí kō in similar highlighting function are (Ji, 2017-01 @ 03:39), (Bo, 2019-10 @ 03:38), (Ji, 2021-02 @ 00:55). See also (1221) in §15.3.5.7.1.

Elicited examples follow. (1143c) is imperfective.

(1143) a.

[è	bí-ʃīō]	jūɔ̄ⁿ
[Art	child.Pl]	dance.Pfv

[jí	kō	wūō	[Ø	də̀rìⁿʔíⁿ]]
[**if**	**Infin**	sing.Base	[Art	song]]

‘The young people danced and sang.’ (Fl)

b.

ò	nà	yé	[jí	kō	ʃìⁿʔìⁿ]
3Pl	Fut	walk.Base	[**if**	**Infin**	run.Base]

‘They will walk as well as run.’ (Fl)

c.

ɔ̀ⁿ=	Ø	yé	[jí	k-â	ʃìⁿʔìⁿ]
3AnSg	Ipfv	walk.Ipfv	[**if**	**Infin**-Ipfv	run.Ipfv]

‘He/She walks as well as runs.’

This construction cannot be negated. When (1143c) is negated, it is rephrased as two full clauses, with dó ~ dé ‘however’ (§19.3.8) after the second subject.

(1144) [ɔ̀ⁿ má yé]
[3AnSg IpfvNeg walk.Ipfv]
[ɔ̀ⁿ dé] má ʃìⁿʔìⁿ] (Fl)
[" dó] " " (Ji)
[3AnSg however] IpfvNeg run.Ipfv]
'He/She doesn't walk, nor does he/she run.'

15.2.2 VP sequences with imperfective infinitival k-ā̀ plus Ipfv

Imperfective infinitival phrases add Ipfv à after kō. This combination is usually pronounced [kā̀] and transcribed as k-ā̀. Before an L-tone, Ipfv à regularly rises to ā, so the infinitival combination is pronounced [kā], transcribed as k-ā. Transcription with hyphens helps distinguish k-ā̀ (and k-ā) from the elements in (1145).

(1145) Forms phonologically similar to k-ā̀

a.	kā à-	contracted from kō bà- ('to come and…', §15.2.3.2)
b.	ká, kâ	past (dialectal variants, §10.3.1.1)
c.	ká	'like, similar to' (dialectally tá, §8.5.1.1)
d.	ká-	'VP again' as Vb1 in verb-verb compounds (§15.1.3.2)
e.	ká	subjunctive (§10.4.2.3.2, §17.6.2.6)

The greatest danger of confusion in transcribing recordings is between imperfective infinitival k-ā̀ and (1145a) kā à- 'to come and …'. This is because both imperfective infinitival k-ā̀ and kā à- 'to come and …' are infinitives and both are always followed by a verb, so they occur in similar morphosyntactic environments. There is no consistent phonetic difference between them. The best way to distinguish them, aside from context, is when they are followed by a verb that has distinct base and Ipfv stems. This is always the case when the following verb is a verb-verb compound, since compounds always have medial -à- when imperfective.

Clear textual examples of imperfective infinitival k-ā̀, followed by unambiguously Ipfv verbs, are in (1146). In (1146a), the compound verb has intercalated Ipfv -à-. In (1146b-c), the verb has an Ipfv form distinct from the base (see the three-part representations of the verb in parentheses below the free translation).

(1146) a. [ē cí-cúó] k-ā̀ glú-à-yíʔí sāⁿ
[Art crop] **Infin-Ipfv** exit(v).**Ipfv-Ipfv**-go.Ipfv simultaneously
'(The bird's) crop was sticking out (=swollen) more and more.'
(Bi, 2017-06 @ 01:28)

b. k-ā̀ ɲū= [[Ø būɔ̄ⁿʔɔ̄ⁿ] gbɛ̄ʔɛ̄-kà
Infin-Ipfv look.at.**Ipfv** [[Art dog] dig.Pfv-manner
'He watched the way the dog was digging.' (Ma, 2017-02 @ 00:50)
(ŋūɔ̄/ɲɔ́/**ɲú**)

c. ɔ̀ k-ā bē bè-kā
3Pl **Infin-Ipfv** come.**Ipfv** thus
‘They came in thus.’ (Ji, 2017-04 @ 02:47)
(bà/bà/**bē**)

In (1147), the imperfective infinitival k-ā clause is repeated to emphasize prolongation.

(1147) [è blí-kɛ́] kō —
[Art hare] Infin —
[k-ā kùʔū= [Ø sə̀ròʔò-dɔ̄^{n}ʔɔ̄^{n}]
[**Infin-Ipfv** strip.**Ipfv** [Art baobab-sticky.sauce]
[k-ā kùʔū= [Ø sə̀ròʔò-dɔ̄^{n}ʔɔ̄^{n}]
[**Infin-Ipfv** strip.**Ipfv** [Art baobab-sticky.sauce]
‘The hare was stripping off baobab leaves and stripping off baobab leaves.’
(Fl, 2017-05 @ 01:26)
(cɥ̀ʔɛ̀/kùʔɔ̀/kùʔù and minor variants)

For other similar examples of the prolongation construction, see (Bi, 2017-08 @ 00:37 & 04:49) and (Bi, 2017-09 @ 03:15). In one textual passage, the infinitival k-ā is dropped in the repetitions, perhaps because the Ipfv verb is a compound that begins with a similar syllable.

(1148) ɔ̄^{n} bà [gā= à-dà^{n}],
3AnSg come.Pfv [Infin come.Base-arrive.Base],
Ø-ā kɔ́-à-sūʔū,
Infin-Ipfv weep.Ipfv-Ipfv-give.Ipfv,
kɔ́-à-sūʔū kɔ́-à-sūʔū
weep.Ipfv-Ipfv-give.Ipfv **weep.Ipfv-Ipfv-give.Ipfv**
ná^{n}-bíó kō jūʔɔ̄ [ɔ̄^{n} kóʔó]
person-Pl Infin hear.Base [3AnSg weeping(n)]
‘When she arrived here, she was letting out a wail. Wailing and wailing. Then people heard her wailing.’ (Bi, 2017-09 @ 03:40-45)

15.2.3 Infinitival phrases with motion verbs

The primary motion verbs are those in (1149), shown in base stem only.

(1149)	bà	‘come’
	yíʔí	‘go’
	glú	‘exit’
	dīē	‘enter’
	kɛ̄^{n}ʔɛ̄^{n}	‘ascend’
	sə́rú^{n}	‘descend’
	klá	‘return’

No special issues arise when any of these occurs by itself (i.e. uncompounded) in an infinitival phrase: kō bà 'and came', kō dīē 'and entered', and so forth. Only one of the verbs, klá 'return', has any special attributes as a main verb controlling a following infinitival VP, where it has the sense 'repeat, VP again' (§15.2.3.1).

However, 'come' and 'go' feature prominently in an unusual construction type that can be schematized as in (1150).

(1150) a. main clause with 'come' or Vb3 [Infin 'come'-Vb2 …]
b. main clause with 'go' or Vb3 [Infin 'go'-Vb2 …]

That is, 'come' or 'go' is Vb1 in a verb-verb compound in the infinitival phrase, even when 'come' or 'go' has already been part of the preceding clause or VP. This construction is tricky because of two phenomena (1151) that are specific to it.

(1151) a. 'come' or 'go' as Vb1is reduced in form, or suppletive.
b. 'come' (and to some extent 'go') need not refer to motion.

As a result, apparently pointless redundancies like 'X **come** [and **come**-Vb2…]' are common, as are apparent nonsequiturs like 'X lie down [and **come-sleep**]' (with no motion involved). These constructions are analysed in §15.2.3.2 below.

15.2.3.1 klá 'return' plus infinitival VP ('VP again ')

The verb klɛ̄/klá/klá 'return, go back' combines with a following infinitival VP in the sense 'repeat, do again'. In (1152), klá is itself connected to two preceding VPs. 'Fall again' denotes a single event, so there are only three (not four) sequenced events in this example.

(1152)	[è	bí-sīɔ̄^{n}]	dìè-só,	kò	yíʔí-ʃìʔì,
	[Art	child]	fall.Pfv,	Infin	get.up.Base,
	kò	klá	[kō	dì-só]	
	Infin	**return**.Base	[Infin	fall.Base]	

'The child fell, got up, and fell again.' (Ji)

We have previously noted that klɛ̄/klá/klá can also function as Vb1 in verb-verb compounds, with the combination klá-bà 'come back' especially common (§15.1.3.1).

15.2.3.2 Infinitival VPs with Vb1 bà- 'come' (kō bà-, kā= à-, Ø =à)

The verb 'come' has an irregular paradigm of Pfv=base ≠ Ipfv type as a regular main verb: bà/bà/bē (§10.1.3). The regular infinitival forms are therefore kō bà and the less common imperfective k-â bē. Before proceeding, we note that bà- 'come' can easily be distinguished from bà (dialectally mà) 'if'. The 'if' particle follows subjects in conditional antecedent clauses and never directly follows infinitival kō, so the morphosyntactic distributions of the two morphemes do not overlap.

In main clauses, ‘come’ can occur as Vb1 in an open-ended set of compounds, and as Vb2 in a smaller set of compounds, with no phonological reduction. See the data in §15.1.5.1. Our concern here is with bà- as Vb1 in compounds following infinitival kō. The general construction is (1153a-b).

(1153) a. main clause with any other Vb3 [Infin **‘come’**-Vb2 …]
b. main clause with **‘come’** [Infin **‘come**-‘Vb2 …]

The pattern (1153b) with double ‘come’ is more common in our texts than (1153a) with all other verbs combined. The literal sense of centripetal motion is redundant in (1153b), and this confirms our suspicion that even in (1153a) centripetal motion is not highlighted, and may not even be present. Instead, the post-infinitival ‘come’ appears to have a discourse function, suggesting a slight conceptual or temporal separation between the Vb3 event and the Vb2 event.

15.2.3.2.1 Semantic and aspectual restrictions on doubled ‘come’

‘Come’ is usually not doubled, as either kō bà- or kā= à-, when the following Vb2 is semantically incompatible with centripetal motion, as with ‘go’ and ‘return’. In (1154a-b) below, infinitival kō is directly followed by the next verb, without ‘come’ as compound Vb1.

Imperatives likewise generally fail to double ‘come’. Instead we get a monoclausal construction with ‘come’ as Vb1 in a verb-verb compound (1154c-d).

‘Come’ is also not transparently doubled when the overall context is imperfective. Were it transparently doubled, we would expect Ipfv bē ‘come’ plus [k-ā bē-à-Vb2 …], with a second occurrence of Ipfv bē- doubled as Vb1 in the compound. This transparent phrasing is avoided; instead, the same bà- and elided à- that occur in perfectives appear in a construction that is in every other respect morphologically imperfective, so we label them as ‘come.Ipfv’ in spite of their divergence from bē. The fullest form is kō bà-à- plus Ipfv Vb2 (1154e). Only when the b is pronounced is bà- clearly identifiable as a doubled ‘come’, as opposed to simple Ipfv à. Most speakers contract kō bà-à- to kā= Ø-à- or k= à-à- plus Ipfv Vb2 (1154f). This in turn can be further shortened to [kà], which we artfully transcribe as k= à-Ø- (1154g). The pronunciations without b can alternatively be parsed as kō plus Ipfv à, unless a given speaker has a slight tonal distinction between the two. In either parsing, the k of the infinitival morpheme is often lenited to to g or w, hence g/w= à-à- or shortened g/w= à-Ø-. It would be very reasonable to reinterpret the contraction from kō bà as a portmanteau kà ~ gà ~ wà. However, comparison with the double-‘go’ construction with Infin ‘go’-Ipfv-(1154h) gives some credence to the parsing Infin ‘come’-Ipfv in (154e-g).

(1154) a. zàkí bà [kō yīʔí]
Z come.Pfv [**Infin** go.Base]
‘Zaki came and went.’ (Fl)

b. zàkí bà [kò klá]
Z come.Pfv [**Infin** return.Base-come.Base]
‘Zaki came and went back.’ (Fl)

c. ò bà-ɲɔ̄
Imprt.Pl come.Base-drink.Base
‘Come-2Pl drink!’ (Bi Ji)

d. bà-dí
come.Base-eat.Base
‘Come-2Sg eat!’ (Bi Ji)

e. [kɔ̀-kɔ̀ sú→] ɔ̀ⁿ= Ø bē
[Rdp-day all] 3AnSg Ipfv come.Ipfv
[kō bà-à-dɛ̄ fāⁿʔāⁿ]
[**Infin** **come.**Ipfv-Ipfv-sleep.Ipfv here]
‘Every day, he/she comes and sleeps here.’ (Fl)

f. já-á-m-bè [fààmá =rɛ̄ jə̀rá=] à bē
otherwise [authority even Rel.AnPl] **Ipfv** **come**
[k= à-à-ɲú =nì]
[**Infin** **come**.Ipfv-Ipfv-look.at.Ipfv 3InanObj]
‘anyway, even the authorities who come and look at it’
(Ji, 2017-11 @ 07:39)

g. [kɔ̀-kɔ̀ sú→] ɔ̀ⁿ= Ø bē
[Rdp-day all] 3AnSg Ipfv come.Ipfv
[g= Ø-à-ɲī [Ø ɲūⁿ] (Bi)
[k= Ø-à-ɲī [Ø ɲū] (Ji)
[**Infin** **come**.Ipfv-Ipfv-drink.Ipfv [Art water]
‘Every day he/she comes and drinks water.’ (Bi Ji)

h. [kɔ̀-kɔ̀ sú→] ɔ̀ⁿ= Ø yíʔí
[Rdp-day all] 3AnSg Ipfv go.Ipfv
[kō tì-à-dɛ̄ [bè tɔ̀ʔɔ̀]]
[**Infin** **go**.Ipfv-Ipfv-sleep.Ipfv [Dem.Def place]]
‘Every day, he/she goes and sleeps there.’ (Fl)

15.2.3.2.2 kā= à- ‘and come’ versus imperfective infinitival k-ā

This semantic bleaching of the directional motion sense of ‘come’ is usually paralleled by phonological reduction, to the point of near-disguise. The combination of infinitive plus simple ‘come’ is always the transparent kō bà (or imperfective k-ā bē). In infinitival compounds, (1155a) is possible when bà- ‘come’ does not redundantly echo a preceding motion verb. When it does follow a perfective or infinitival motion verb, the b of bà- is regularly elided (1155b), which usually leads to vocalic contraction of kō à- to [kāà], transcribed kā= à- (1155c). The usual optional lenition of infinitival kō to gō or wō also applies to this combination, resulting in gā= à- or wā= à- (1155d). The M-tone in the forms in (1155c-d) is lowered by some speakers to L, resulting in kà= à- or lenited gà= à- or wà=

à- (1155e), and then sometimes shortened to [kà] ~ [gà] ~ [wà] transcribed k= à- etc. (1155f). In all of the combinations so far, the infinitival VP is clearly separate from bà 'came' in the main clause. However, it is also possible for bà 'came' in the main clause to fuse with the following kā= à- etc. to form a single long syllable [bàː] transcribed bà [Ø à- (1155g). In this last variant, the break between main clause and infinitival VP is obscured. In the preceding subsection we described similar reductions in imperfective contexts. In (1155a-g), which occur in non-imperfective contexts, we can at least be sue that we are dealing with (b)à-- 'come' and not with Ipfv à.

(1155) a. (verb other than 'come') plus [kō bà-Vb2…]
b. (bà) plus [kō à-Vb2 …]
c. (bà) plus contracted [kā= à-Vb2 …]
d. (bà) plus lenited [gā= à-Vb2 …], [wā= à-Vb2 …]
e. (bà) plus tone-dropped [k/g/wà= à-Vb2 …]
f. (bà) plus tone-dropped and shortened [k/g/w= à-Vb2 …]
g. fully fused … bà [Ø à-Vb2 …]

(1156) shows how the 'and came and Vb2-ed' construction with kā à-Vb2.Base can be distinguished from imperfective infinitival k-ā̀ Vb2.Ipfv in transcription, even when kā à- and k-ā̀ are phonetically indistinguishable. The verb 'sleep' (1156a) has distinct base and Ipfv stems, and the choice between them determines the correct parsing. By contrast, 'do' (1156b) is an invariant verb. The only audible clue pointing to a correct parsing with 'do' is that à- as Vb1 'come' is L-toned, while Ipfv à raises to ā before L-toned verbs. When an invariant verb has a nonlow tone, like 'leave, let' (1156c), a transcriber must rely on context since there may be no reliable phonetic cues.

(1156)	base	Ipfv	gloss	Infin	'and come and' kā à-Vb2.Base	Infin Ipfv k-ā̀ Vb2.Ipfv
a.	dɔ̄ (Fl)	dɛ̄	'sleep (v)'	kō dɔ̄	kā/kà= à-dɔ̄	k-ā̀ dɛ̄
	dɔ̀ (Bi Ji Ma)	"	"	kō dɔ̀	kā/kà= à-dɔ̀	k-ā̀ dɛ̄
b.	klè	klè	'do'	kō klè	kā/kà= à-klè	k-ā klè
c.	já	já	'leave, let'	kò já	kā/kà= à-já	k-ā̀ já

For speakers who lower the tone of kā à- 'and come and' to low, as in kà= à- and k= à- and lenited variants, it may be possible to distinguish 'and come and' from imperfective infinitivals by tones, subtly.

15.2.3.2.3 Infinitival 'come-Vb2' after main clause with other verb

The construction (1153a) above, with verbs other than 'come' in the main clause or infinitival phrase preceding the infinitival VP, is illustrated in (1157) below. The choice of examples is filtered so that -Vb2 following post-infinitival 'come' must be clearly in base rather than Ipfv stem, so parsing is unambiguous. We also exclude repetitions of the same phrases within a text. Of the passages in our texts that satisfy this filter, all but one have contracted kā= à- or lenited variant gā= à- ~ wā= à-. The exception with uncontracted kō bà- is (1157d), where a new start is motivated by the switch from 'go' to 'come', and by the fact that the 'go force out' VP is an echo of the preceding clause, used as background for a following foregrounded clause (not shown here). In (1157a-f) the relevant infinitival VP has no overt subject. In (1157g), by contrast, it has a pronominal subject, so it is an infinitival clause (rather than VP). An overt subject is required in this case by the shift from third singular to third plural subject within the passage.

(1157) a. ɔ̀ⁿ ŋò glú [wā= à-ɲīⁿ]
3AnSg Infin **exit(v)**.Base [Infin **come**.Base-see.**Base**]
'He came out to see.' (Bi, 2017-08 @ 04:45)

b. bùò klɛ̄ [g= à-ɲīⁿ
3Pl **return**.Pfv [Infin **come**.Base-see.**Base**
[[Ø sùⁿ-wí] fīē]]
[[Art medicine-owner] pass.Pfv]]
'They (eventually) came back, only to see (=find) that the magician had passed (away).' (Bi, 2017-09 @ 07:23)

c. kò súʔú =ò [g= à-tə̄rāⁿ]
Infin **catch**.Base 3AnSgObj [Infin **come**.Base-make.sit.**Base**]
'Then (she) took hold of her and had her sit.' (Bi, 2017-07 @ 08.27)

d. fɔ́ wō rà-[mɛ́ⁿ-tɔ̄ⁿ],
until Infin go.Base-[**throw.out**.Base],
kō bà-[mɛ́ⁿ-tɔ̄ⁿ]
Infin **come**.Base-[throw.out.**Base**]
'Until (they) went and forced (it) out. (They) came and forced (it) out (and …)' (Bi, 2017-09 @ 00:50)

e. ó yīʔē-ʃìʔì [kā= à-ɲī =nì]
1Pl **get.up**.Pfv [Infin **come**.Base-see.**Base** 3InanObj]
'We arose (=were born) and found (=inherited) it.' (Ji, 2017-11 @ 01:15)

f. nóⁿ nà klè [áⁿ bè]
1Sg Fut **do**.Base [how? Top.Inan]
[g= à-bú bè] tē
[Infin **come**.Base-get.**Base** Dem.Def] Q
'What will (=must) I do to get that?' (Bi, 2017-08 @ 01:38)

g. [ē yǒ] būɔ̄ [wò glú],
[Art woman] tie.Pfv [Infin **exit**(v).Base],
[ò [gà= à-[ló-kà^{n}ʔà^{n}] [ò dígə̀-rɔ̀]
[3Pl [Infin **come**.Base-[encounter.**Base**] [PlRefl Recip]
‘The woman tied on (her wrap) and set off. They (=two women) came and met up.’ (Bi, 2017-08 @ 02:22)

The pre-infinitival verbs in (1157) above are motion verbs ‘exit (v)’ and ‘return’, change of position verb ‘get up’ which implies immediately following motion, and transitives ‘do’, ‘catch’, and ‘throw out’. In theory, ‘come’ could add a centripetal direction to the two motion verbs (‘come out’ as opposed to ‘go out’, ‘come back’ as opposed to ‘go back’), and to the motion implied by ‘get up’. However, these examples occur in narrative passages that do not include quoted speech, so they do not have a well-defined deictic center. Centripetal motion is also absent or irrelevant in the other examples.

15.2.3.2.4 ‘Come’ in main clause plus infinitival ‘come-Vb2’

We now present textual examples of schema (1153b) above, where the pre-infinitival phrase already has ‘come’. The second ‘come’ inside the infinitival VP is therefore redundant semantically in its lexical sense. This combination is so common that one can speak of a semi-automatic syntactic process of doubling (echoing) the motion verb (also observable with ‘go’, see the following section). In other words, an expected […*come* [Infin Vb2…]] is actually expressed as […*come* [Infin *come*-Vb2…]. However, as noted above, due to phonological elision and semantic redundancy, the second ‘come’ is somewhat obscured.

We apply the same filters described above (Vb2 must be clearly in base stem, and repetitions are omitted). This leaves us with plenty of textual examples (1158). All of them have the elided kā= à- or variant gā= à- or wā= à-, rather than unelided kō bà-.

(1158) a. jǎā→ [Ø tìplípà^{n}] bà, [kà= à-[tɔ̄-tə̄rā^{n}]]
lo! [Art monkey] **come**.Pfv, [Infin **come**.Base-[hide.**Base**-sit.Base]]
‘Lo, the monkey came, and sat down in hiding.’ (Ma, 2017-02 @ 00:50)

b. [è wí jī] bà [wā— à-gbɛ̄ =ò]
[Art owner Indef] **come**.Pfv [Infin— **come**.Base-pick.up.**Base** 3PlObj]
‘Today some fellow came and took them.’ (Bi, 2017-07 @ 04:33, edited)

c. bó bà [gà= à-ɲì …]
LogoSg **come**.Pfv [Infin **come**.Base-see.**Base** …]
‘(said:) “I came and saw …” ’ (Bi, 2017-07 @ 07:56)

d. *parce que* ō bà [gà= à-bû= [Ø bú]]
because 3Pl **come**.Pfv [Infin **come**.Base-get.**Base** [Art money]]
‘Because they came and got some money.’ (Bi, 2017-09 @ 05:23)

e. ŋ́ nà bà [gà= à-ɲī—]
1Sg Fut **come**.Base [Infin **come**.Base-see.**Base**—]
‘I would come and see—’ (Bi, 2017-08 @ 04:56)

f. [nóⁿ bà [Ø= à-sūʔ= [ɔ̄ⁿ móⁿ]]
[1Sg **come**.Pfv [Infin **come**.Base-give.**Base** [Dat 2Sg]]
‘I came and gave (that) to you.’ (Bi, 2017-08 @ 10:00)

g. ō nàⁿ bà [gɔ̄= à-ɲɔ́ⁿ =nìⁿ kɛ̀]
3Pl Fut **come**.Base [Infin **come**.Base-look.at.**Base** 3InanObj Emph]
‘They will definitely come and look at it.’ (Bi, 2017-09 @ 05:32)

h. kō bà [gā= à-gbɛ̄ [Ø tì-tèʔé]]
Infin **come**.Base [Infin **come**.Base-take.**Base** [Art pot]]
‘(We) then come and take a cooking pot.’ (women, 2017-14 @ 00:21)

i. jə̀ró bà [kà= à-ɲɔ́-ɲɔ́ =nì]
Rel.AnPl **come**.Pfv [Infin **come**.Base-Rdp-look.at.**Base** 3InanObj]
‘those who came and looked intensively at it’ (Ji, 2017-11 @ 07:50)

j. bó bà [gà= à-ɲɔ́ⁿ [ē tɔ̀ʔɔ̀]]
3AnSg **come**.Pfv [Infin **come**.Base-look.at.**Base** [Art place]]
‘It came to look at the place.’ (Bi, 2017-09 @ 00:42)

k. ō bà [gà= à-ɲīⁿ …]
3Pl **come**.Pfv [Infin **come**.Base-see.**Base** …]
‘They came and saw that …’ (Bi, 2017-10 @ 00:33)

l. bó bà
3AnSg **come**.Pfv
[gà= à-gbɛ̀-yíʔé [ɔ̄ⁿ úⁿʔúⁿ]
[Infin **come**.Base-pick.up.**Base**-lift.Base [3AnSgRefl head]
‘She then came and raised her head.’ (Bi, 2017-09 @ 02:45)

m. kō bà [Ø= à-ɲìⁿ-dərá =ò]
Infin come.**Base** [Infin **come**.Base-see.**Base**-do.a.lot.Base 3AnSgObj]
‘(They) came and had a good look at her.’ (Bi, 2017-09 @ 03:47)

In view of all these clear cases, we assign some less clearcut textual examples (i.e. where Vb2 does not distinguish base from Ipfv) to the same construction. An example is (1159), where dàⁿ ‘arrive’ has the same form as base and Ipfv.

(1159) *donc* ɔ̄ⁿ bà [gà= à-dàⁿ]
so 3AnSg **come**.Pfv [Infin **come**.Base-**arrive.Base**]
‘So, she came and arrived (home).’ (Bi, 2017-08 @ 03:17)

As indicated in §15.2.3.2.2 above, and schematized as (1155g), the sequence of main-clause bà ‘come’ immediately followed by infinitival kā= à- can fuse as [bà:] for some speakers. This is transcribed bà [Ø= à-, but the infinitival construction is no longer fully transparent. With the addition of Vb2, the transcription is bà [Ø= à-Vb2.Base …]. This bà [Ø= à-] differs phonetically only in vowel length from the simple compound bà-Vb2.Base. Textual examples given above are (1158f,m). In elicitation, we heard the vowel length clearly in the relevant examples.

(1160) a. zàkí   bà   [Ø   à-dí / ɲɔ̄]
Z   **come**.Pfv   [Infin   **come**.Base-eat.**Base** / drink.**Base**]
‘Zaki came and ate/drank.’   (Fl Ma)

b. nó / ō   bà   [Ø   à-dí / ɲɔ̄]
1Sg / 3Pl   **come**.Pfv   [Infin   **come**.Base-eat.**Base** / drink.**Base**]
‘I/They came and ate/drank.’   (Fl Ma)

In allegro speech in texts, the vowel length is more subtle, but in textual examples (1161a-c) we were able to clarify the construction during transcription with the original speaker present.

(1161) a. [ē   blō]   bà   tɔ̄^{n} =mì
[Art   rain(n)]   **come**.Pfv   surprise.**Base**   2SgObj
‘The rain comes and takes you by surprise.’   (Ji, 2017-11 @ 05:03)

b. kō   bà   [Ø=   à-ɲī   =nì]
Infin   **come**.Base   [Infin   **come**.Base-see.**Base**   3InanObj]
‘(They) come and see it.’   (Ji, 2017-11 @ 06:24)

c. ɔ̀^{n} mà   klá-bà
3AnSg   if   return.Base-**come**.Base
[Ø   à-ɲī   [mɛ̀rɛ̀kɛ́   jə̀rɔ́^{n}]]
[Infin   **come**.Base-see.**Base**   [angel   Rel]]
‘The angel that you will come back and see.’   (women, 2017-18 @ 00:35)

Some further textual examples are in (1162), but they involve verbs (fó, dīē) that have identical base and Ipfv stems.

(1162) a. [dɛ̀-dɛ̀   nī]   [è   bítə́ró]   kō   bà   [Ø=   à-fó]
[now   Loc]   [Art   leper]   Infin   **come**.Base   [Infin   **come**.Base-pass.**Base**]
‘Now a leper came by.’   (women, 2017-13 @ 00:30)

b. [è   bítə́ró]   bà   [Ø=   à-dīē]
[Art   leper]   **come**.Pfv   [Infin   **come**.Base-enter.**Base**]
‘The leper came and went in.’   (women, 2017-13 @ 02:48)

The Ma speaker is underrepresented in the textual data. The elicited examples in (1163) are intended to compensate for this, and also illustrate infinitival VPs that have the same form following perfective negative, imperfective, and future main clauses. ‘Eat’ has identical base and Ipfv, but ‘drink’ distinguishes the two stems. In the imperfective example (1163b), ‘come’ as Vb1- is still à-, not bē- (regular Ipfv of ‘come’), and -Vb2 is still base (not Ipfv). The negation in (1163a) has broad scope over the main clause and infinitival VP.

(1163) a. zàkì á bà
Z PfvNeg **come**.Base
[kā= à-dí / -ɲɔ̄] =ʔ
[Infin **come.Base**-eat.**Base**/drink.**Base**] Neg
‘Zaki didn’t come and eat/drink.’ (Ma)

b. [kɔ̀-kɔ̀ sú→] zàkí à bē
[Rdp-day all] Z Ipfv **come**.Ipfv
[kā= à-dí / -ɲɔ̄]
[Infin **come.Base**-eat.**Base**/drink.**Base**]
‘Every day, Zaki comes and eats/drinks.’ (Ma)

c. zàkí bē bà
Z Fut **come**.Pfv
[kā= à-dí / -ɲɔ̄]
[Infin **come.Base**-eat.**Base**/drink.**Base**]
‘Zaki will come and eat/drink.’ (Ma)

15.2.3.3 ‘Go’ as compound Vb1 in infinitival phrases

The basic ‘go’ verb is yīʔē/yíʔí/yíʔí. In any position, yíʔí is subject to phonetic reduction as yí or ʔí. The full glottalic form yíʔí becomes yìʔí for Ma and yīʔí for Fl due to regular glottal effects on tones.

This verb gets competition from fīē/fó/fó ‘pass, go past, depart, go away, continue on one’s way’. The situation is similar to local French *aller* versus *partir*. yíʔí ‘go (*aller*)’ tends to denote entire trajectories, while fó focuses on their onsets (departures). For verb-verb compounds including fó, see §15.1.5.7. yíʔí is much more common as Vb1 in compounds, and it has numerous irregularities in form. It is regularly doubled in infinitival compounds in much the same way as ‘come’ (preceding sections).

Compounds that can occur in main clauses with yíʔí as Vb1 or as Vb2 were presented in §15.1.5.2 above. Simple infinitival phrases that have ‘go’ as the only verb, for example when followed by a spatial adverbial, take the expected form kò yíʔí in all dialects (1164).

(1164) a. ò gò yíʔî= [[Ø flí-kɔ̀] bàʔà]
3Pl **Infin** **go.Base** [[Art termite-Pl] chez]
‘They (=djinns) went to the place of the termites.’ (Ji, 2017-04 @ 05:09)

b.	[è	bí-ʃīō]	wɛ̀ʔɛ̀				
	[Art	child-Pl]	grow.up.Pfv				
	[gò	yíʔí̄=	[[[[Ø	fɛ̂ʔɛ̀]	lɛ̄ⁿ]	tɔ̀ʔɔ̀]	nī]]
	[**Infin**	**go.Base**	[[[[Art	garment]	wash.Pfv]	place]	Loc]]

‘The children had grown up. They went to wash clothes.’
(Bi, 2017-07 @ 05:32)

The imperfective infinitival counterpart is k-â yíʔí.

Like ‘come’, ‘go’ has special forms and properties as Vb1 in a verb-verb compound in an infinitival phrase. The forms are variable across dialects and are sensitive to aspect (1165).

(1165) ‘go’ as Vb1 - in compounds in infinitival phrases

a.	kò ó-	Fl	§15.2.3.3.1
	k= ó-	Fl Ji Ma	"
	kò =ʔó-	Ma	"
b.	kà= á-	Ji	§15.2.3.3.2
c.	kō rà-	Bi	§15.2.3.3.4
	kō là-	Bi	"
	rà-	Bi	"
d. imperfective			
	kō tì-à-	Fl	§15.2.3.3.3
	tì-à-	Fl	"
	kō tà-à-	Ji	"
	kō rà-à-	Bi	§15.2.3.3.5

Vb2 is in base stem following any of the variants in (1165a-c), and in Ipfv stem after the variants in (1165d).

Also parallel to ‘come’, the larger construction is most often […*go*…[Infin *go*-Vb2]], with ‘go’ in the pre-infinitival phrase and then doubled as Vb1- in the compound following infinitival kō. However, the pre-infinitival phrase sometimes has a different verb, such as the near-synonym fīē/fó/fó ‘pass’ mentioned above. Other motion and non-motion verbs are also possible. The preposition-like fɔ́ ‘until, all the way to’ can also take an infinitival complement with ‘go’ as Vb1.

15.2.3.3.1 kò ó-, k= ó-, and kò =ʔó-

In dialects other than Bi, the construction […*go* [Infin *go*-Vb2…], with redundant second ‘go’ inside the infinitival VP, is often realized with one of the variants in (1166). These forms are not used in imperfective infinitival phrases. In most cases the preceding main clause is perfective positive, but any inflectional category that is not specifically imperfective is possible.

(1166)

variant	dialect
kò =ʔó-	Ma
kò ó-	Fl
k= ó-	Fl Ji Ma

In recordings we usually hear simple [kó]. In careful speech we hear [kòó] for Fl, [kòʔó] for Ma, and [kó] for Ji. A likely diachronic source is *kò yíʔí- with forward vocalic assimilation and contraction to *kò ʔó-.

We transcribe the variant with preserved glottal stop as kò =ʔó- with the clitic boundary =. This is because glottal stop cannot occur word-initially elsewhere. The variant k= ó- also shows clear phonological interaction.

Examples of kò =ʔó- and k= ó for Ma dialect are in (1167a-c). A possible textual example is (1167d), but in allegro speech it is not easy to distinguish kò =ʔó- from k= ó-. Pfv ʒīēʔē 'went' drops by regular tone sandhi to L-toned before k= ó (1167f) but not before kò ʔó-.

(1167) a. nó ʒīēʔē [kò =ʔó-kò [Ø gbáⁿ-gbàⁿʔáⁿ]]
1Sg **go**.Pfv [Infin **go**.Base-kill.**Base** [Art lion]]
'I went and killed a lion.' (Ma)

b. nó nà yìʔí [kò =ʔó-kò [Ø gbáⁿ-gbàⁿʔáⁿ]]
1Sg Fut **go**.Base [Infin **go**.Base-kill.**Base** [Art lion]]
'I will go and kill a lion.' (Ma)

c. nó ʒīēʔē [kò =ʔó- dí / ɲɔ̄]
1Sg **go**.Pfv [Infin **go**.Base- eat.**Base** / drink.**Base**]
'I went and ate/drank.' (Ma)

d. [fɔ́→ [kò =ʔó-sɔ̄= [Ø dè]
[until [Infin **go**.Base-set.**Base** [Art sun]
'(from early morning) until the sun (went and) set' (Ma, 2017-04 @ 01:47)

e. zàkì á yìʔí [k= ó- dí / ɲɔ̄] =ʔ
Z PfvNeg **go**.Base [Infin **go**.Base- eat.**Base** / drink.**Base**] Neg
'Zaki didn't go and eat/drink.' (Ma)

f. zàkí bē ʒìèʔè [k= ó- dí / ɲɔ̄]
Z Fut **go**.Pfv [Infin **go**.Base- eat.Base / drink.Base]
'Zaki will go and eat/drink.' (Ma)

g. gbɛ̀ʔɛ́ [k= ó- dí / ɲɔ̄]
go.Hort [Infin **go**.Base- eat.Base / drink.Base]
‘Go eat/drink!’ (hortative) (Ma)

In (1167d) the subject ‘sun’ appears to be extraposed to the right. It may be that ‘set’ is construed as causative ‘cause to set’, making ‘sun’ the object, or this may be a production error. The usual phrasing is fɔ́ [kǎ= [Ø dè-só-ní] ‘until sunset’ (Fl).

Ma dialect drops the tone of an H-toned preglottalic vowel segment, hence yìʔí ‘go.Base’ corresponding to Bi Ji yíʔí. However, in the case of kò ʔó- the tones are etymologically correct (*kò yíʔí-) rather than attributable to pre-glottal tone-lowering.

Elicited examples of kò ó- (Fl dialect) are in (1168). The same speaker pronounces them as [kó], transcribed k= ó-, in allegro speech.

(1168) a. fó [kò =ó dí / ɲɔ̄]
pass.Base [Infin **go**.Base eat.**Base** / drink.**Base**]
‘Go eat/drink!’ (Fl)

b. zàkí yīēʔē [kò =ó dí / ɲɔ̄]
Z **go**.Pfv [Infin **go**.Base eat.**Base** / drink.**Base**]
‘Zaki went and ate/drank.’ (Fl)

c. zàkì á yīʔí [kò =ó dí / ɲɔ̄] =ʔ
Z PfvNeg **go**.Base [Infin **go**.Base eat.**Base** / drink.**Base**] Neg
‘Zaki didn’t go and eat/drink.’ (Fl)

d. zàkí nà fó [kò =ó dí / ɲɔ̄]
Z Fut **pass**.Base [Infin **go**.Base eat.**Base** / drink.**Base**]
‘Zaki will go and eat/drink.’ (Fl)

e. zàkí bè fīē [kò =ó dí / ɲɔ̄]
Z Fut **pass**.Pfv [Infin **go**.Base eat.**Base** / drink.**Base**]
‘Zaki will go and eat/drink.’ (Fl)

Elicited examples of k= ó- for Ji dialect are in (1169). Pfv yīʔē drops to yìʔè by tone sandhi in (1169b).

(1169) a. yíʔí [k= ó- dí / ɲɔ̄]
go.Base **[Infin** **go**.Base- eat.**Base** / drink.**Base**]
‘Go eat/drink!’ (Ji)

b. ɔ̀ⁿ yìʔè [k= ó-tɔ̄]
3AnSg **go**.Pfv [Infin **go**.Base-hide.**Base**]
‘He/She went and hid.’ (Ji)

Two textual examples of k= ó- are in (1170).

(1170) a. nó   nà   kɛ̄ⁿʔɛ̄ⁿ   =nì,
1Sg   Fut   take.up.Base   3InanObj],
kò   yíʔí   [k=   ó-dúʔú   =nì]
Infin   **go**.Base   [Infin   **go**.Base-hide.**Base**   3InanObj]
'I will take it up, and (go and) hide it.'   (Ji, 2017-01 @ 03:15)

b. [ē   blí-kɛ́]   kō   ʃīⁿʔìⁿ-yīʔí,
[Art   hare]   Infin   run.Base-go.Base,
[kō   yīʔí]   [g=   ó-kɛ̄ⁿʔɛ̄ⁿ   [Ø   sə̀ròʔò]]
[Infin   **go**.Base]   [Infin   **go**.Base-ascend.**Base**   [Art   baobab]]
'The hare ran away. He went and climbed up the baobab tree.'
(Fl, 2017-05 @ 01:07)

Bare infinitival kō without 'go' doubling, rather than doubled k= ó-, occurs when the pre-infinitival clause or VP and the following infinitival phrase cannot be conceptualized as co-events. This is necessarily the case with 'go' in its literal sense followed by 'come back'.

(1171) a. ɔ̄ⁿ   yīʔē   [kò   klá-bà]
3AnSg   go.Pfv   [**Infin**   return.Base-come.Base]
'He/She went and (then) came back.'   (Ji)

b. ɔ̄ⁿ   yīēʔē   [kō   bà]
3AnSg   go.Pfv   [**Infin**   come.Base]
'He/She went and came (back).'   (Fl)

15.2.3.3.2   kà= á- 'and went and'

Infinitival kō combines with the á- allomorph of 'go', limited to initial position in verb-verb compounds (before Vb2, the second verb), as kà= á-. It is not attested for our Bi speaker.

For the Ji speaker, we elicited kà= á- in (1172a-b). The compounded verb ('eat', etc.) is in the base stem as usual for the second verb in a compound.

(1172) a. nó   kà=   á   -dí / -ɲɔ̄ / -dɔ̀
1Sg   **Infin**   **go.Base**   -eat.Base/-drink.Base/-sleep.Base
'(and) I went and ate/drank/slept.'   (Ji)

b. nó   kà=   á-ɲì=   [Ø   bí-sìò   fīē]
1Sg   **Infin**   **go.Base**-see.Base   [Art   child.Pl   pass.Pfv]
'(and) I went and saw/found that the children had left.'   (Ji)

Textual examples for Fl and Ji are in (1173). For broader discourse context consult the texts themselves.

(1173) a. ɔ̄ⁿ yīʔē [kà= á-klè …]
3AnSg go.Pfv [**Infin** **go.Base**-do.Base …]
‘He went and had …’ (Ji, 2017-09 @ 07:00)

b. [ē sǒ], kà= á-dàⁿ
[Art pig], **Infin** **go.Base**-arrive.Base
[[ē kɛ̀ʔɛ̀-rɛ̀-ʔɛ́ jə̄-rē] nì] də́rɔ́ⁿ
[[Art *Gardenia*-Pl Indef-InanPl] Loc] only
‘when the warthog arrived at some *Gardenia erubescens* trees’
(Fl, 2017-03 @ 01:58)

c. ò á-ɲī [ɔ̀ⁿ nā-dɛ̀ dígɔ̀ʔɔ̀]
Infin go.Base-see.Base [3AnSgRefl old.man other]
‘(and) went and saw his (=the) other old man’ (Fl, @ 2017-03 @ 02:25)

d. [bùò tə́-ró] tà-à-gú̄= [Ø ɲū],
[3Pl Foc-AnPl] go.Ipfv-Ipfv-draw.water.Ipfv [Art water],
kò á-sūʔ= [ɔ̀ⁿ [Ø flí-kɔ̀]]
Infin **go.Base**-give.Base [Dat [Art termite-Pl]]
‘It’s they [focus] who go and draw water, and then go and give (it) to the termites.’ (Ji, 2017-04 @ 06:13)

e. é→ [ē kàʔá-kà-kàʔà jī],
hey [Art plump.game.animal Indef],
[gà= á-glú [ŋ̀ nī]] dè̄= [Ø sǒ] =yà
[**Infin** **go.Base**-exit(v).Base [1SgRefl Loc]] Quot [Art pig] it.is
‘(said:) “A plump game animal appeared to me. It was a warthog.” ’
(Fl, 2017-03 @ 02:31)

The textual examples are concentrated in narrative contexts where the arrival or appearance of a protagonist is followed by a foregrounded event.

The narrative context and the use of á- ‘go and’ link this construction with tà= á- (§15.3.5.5), where however the first element appears to be the past morpheme.

15.2.3.3.3 Imperfective kō tì-à-, kō tà-à- ‘and go(es) and’

Dialectally, tì- suppletes yíʔí ‘go’ chiefly in imperfective infinitives following an imperfective main clause with ‘go’.

We begin by distinguishing this from the initial in the compound verb (1174) and its minor dialectal variants. (1174) does not involve motion and has a diphthongal Pfv.

(1174)

Pfv	base	Ipfv	gloss
tìè-tɔ̄ⁿ	tì-tɔ̄ⁿ	tì-à-tīⁿ	‘spill, pour’

Suppletive tì- 'go' occurs as such in data from our Fl and Ma speakers. The Fl speaker suggests that it is a borrowing from Jula, which has kà tá- 'and/to go and …' in some infinitival verb-verb compounds. However, this is likely a secondary association, as tì- appears to be well-integrated into the grammatical system in most Tiefo-D dialects. The Fl speaker uses tì- 'go' as Vb1- in verb-verb compounds in two contexts: imperfective infinitive phrases (VPs or clauses) and perfective negative clauses.

kō tì-à- functions chiefly as the imperfective counterpart of k= ó-, kò ó-, and other dialectal variants in non-imperfective 'go (and go) and VP' constructions (§15.2.3.3.1 above). The -à- is recognizable as the intercalated Ipfv morpheme which occurs in all true verb-verb compounds, see the beginning of this chapter. The kō is sometimes omitted, resulting in just tì-à-. The larger context usually has 'go' in the pre-infinitival clause or VP, so that tì- functions as an echo of 'go'.

Elicited examples with infinitival kō tì-à- are in (1175a-b) for Fl and (1175c) for Ma.

(1175) a. [kɔ̀-kɔ̀ sú→] zàkí à yīʔí
[Rdp-day all] Z Ipfv **go**.Ipfv
[kō tì -à -dí / -ɲī]
[Infin **go.Ipfv** **-Ipfv** -eat.Ipfv / -drink.Ipfv
'Every day, Zaki goes and eats/drinks.' (Fl)

b. zàkì má yīʔí [kō tì -à -tō]
Z IpfvNeg **go**.Ipfv **[Infin** **go.Ipfv** **-Ipfv** -hide.Ipfv]
'Zaki doesn't go and hide.' (Fl)

c. ɔ̀ⁿ= Ø yìʔí [kō tì -à -dɛ̄]
3AnSg Ipfv go.Ipfv **[Infin** **go.Ipfv** **-Ipfv** -sleep.Ipfv]
'He/She (often) goes and sleeps.' (Ma)

Elicited examples of just tì- without kō are in (1176). Since tì is now adjacent to 'go', one might take it as the medial verb in a triple compound. However, there is no intercalated -à- between 'go' and tì-, which suggests that tì- functions as a portmanteau for kō tì-. If a constituent such as mā 'there.Def' is added after 'go', the full kō tì-à- must be used (1176c).

(1176) a. [kɔ̀-kɔ̀ sú→] zàkí à yīʔí
[Rdp-day all] Z Ipfv go.Ipfv
[tì -à -dí / -ɲɔ̄]
[**go.Ipfv** **-Ipfv** -eat.Ipfv / drink/Base
'Every day, Zaki goes and eats/drinks.' (Fl)

b. zàkì má yīʔí [tì -à -tō]
Z IpfvNeg **go**.Ipfv [**go.Ipfv** **-Ipfv** -hide.Ipfv]
'Zaki doesn't go and hide.' (Fl)

c. [kɔ̀-kɔ̀ sú→] zàkí à yīʔí mā
[Rdp-day all] Z Ipfv go.Ipfv
[kō tà -à -dí / -ɲɔ̄]
[**Infin** **go.Ipfv** **-Ipfv** -eat.Ipfv / drink/Base
‘Every day, Zaki goes there and eats/drinks.’ (Ji)

In texts, the same Fl speaker also used tì- ‘go’ in verb-verb compounds following PfvNeg á, with no imperfective morphology. All three examples are in conditional antecedents with jí (1177).

(1177) a. dè j= ó á tì-ɲɔ́ =ň= [Ø sɔ̀bɛ́]
say.Pfv if 1Pl **PfvNeg** **go**-look.at.Base 3InanObj [Art candor]
‘(They) said, “oh! If we don’t go look at (=consider) it seriously, …” ’
(Fl, 2017-05 @ 02:03)

b. *donc* jó= ǒ= Ø tì-ɲɔ́ [à wūⁿʔúⁿ]
so if 3Pl **PfvNeg** **go**-look.at.Base [3Inan head]
‘(said:) “So, if you-Pl don’t go and do a consultation (with a magician), …” ’
(Fl, 2017-05 @ 01:49)

c. [[bùò nā-dɔ̀ⁿʔɔ́ⁿ] nì] [jí nā-dɔ̀ⁿʔɔ̀ⁿ =ɔ́ tì-fə̄rū=
[[2Pl person-one] Loc] [if person-one **PfvNeg** **go**-marry.Base
[[Ø blí-kɛ́] bàʔà]]
[[Art hare] Dat]]
‘Among you-Pl, if one (of you) doesn’t go get married to hare, …’
(Fl, 2017-05 @ 02:48)

Our Ji speaker has (kō) tà-à-Vb2 ‘go and Vb2’ corresponding to (kō) tì-à-Vb2 in Fl and Ma. A Ji textual example with just tà-à-Vb2 is (1178). We mark it up as tà-à- parallel to Fl/Ma tì-à-, but segmentation is less transparent for Ji.

(1178) [bùò tə́-ró] tà-à-gū̃= [Ø ɲū]
[3Pl Foc-AnPl] **go.Ipfv-Ipfv**-draw.water.Ipfv [Art water]
‘It’s <u>they</u> [focus] who go and draw water.’ (Ji, 2017-04 @ 06:13)

This occurred with the infinitival morpheme as kō tà-à- in an elicited example (1179a) and a textual example (1179b).

(1179) a. [kɔ̀-kɔ̀ sú→] zàkí à yíʔí
[Rdp-day all] Z Ipfv come.Ipfv
[kō tà-à-dí / -ɲī]
[**Infin** **go.Ipfv-Ipfv**-eat.Ipfv / drink.Ipfv
‘Every day, Zaki goes and eats/drinks.’ (Ji)

b. [ɔ̀ bí=] à bē,
[3Pl all] Ipfv come.Ipfv,
kō tà-à-ɲú =nì
Infin **go.Ipfv-Ipfv**-look.at.Ipfv 3InanObj
‘They all come to go and look at it.’ (Ji, 2017-11 @ 04:47)

This kō tà-à- for Ji dialect is distributionally very different from the (non-imperfective) kō rà- ‘and went and’ for Bi dialect (next section). However, kō rà- does have an occasional imperfective version kō rà-à ‘and go(es) and’ (§15.2.3.3.5 below). Bi kō rà-à is probably etymologically homologous to Fl kō tì-à- and Ji kō tà-à-, but its synchronic morphological status is different.

15.2.3.3.4 Bi kō rà- ~ kō là- ‘went and’

For our Bi (and Bo) speakers, kō rà- is the regular non-imperfective infinitival construction with rà suppleting and doubling yíʔí ‘go’ in compounds. Vb2 is in base stem as expected. Bi kō rà- (often heard as gō rà-, wō rà-, or ō rà-) corresponds functionally to kò =ʔó, kò ó-, and k= ó- in the other dialects (§15.2.3.3.1 above). A variant kō là- is attested for Bi and Bo.

For imperfective kō rà-à- see the following subsection. We mention it here since it can be difficult to distinguish kō rà- from kō rà-à- in rapid speech, as in most of our recordings. One can be certain which one is present in a particular text segment when the following Vb2 is a verb that distinguishes base from Ipfv stem. Examples of non-imperfective kō rà- followed by what is clearly a base (not Ipfv) stem are in (1180). The female speaker in (1180b-c) grew up in Bi.

(1180) a. ɔ̀^{n} ŋò yíʔí, [kō rà-gbɛ̄ [Ø nū^{n}]]
3AnSg Infin go.Base, [**Infin** **go.Base**-take.**Base** [Art oil]]
‘Then (he) went, and took some butter.’ (Bi, 2017-08 @ 04:24)

b. bò-wí gò yíʔí [kō rà-kɛ̄^{n}ʔɛ̄^{n}] [kō klè-té]
fellow Infin go.Base [**Infin** **go.Ba**se-ascend.**Base**] [Infin fail.Base]
‘That fellow would go and (try to) climb up and fail.’
(women, 2017-13 @ 01:17, hesitation repaired)

c. kò yíʔí [kō rà-dɔ̄ [ē wɔ̀mí^{n}] [ɔ̄^{n} bàʔà]]
Infin go.Base [**Infin** **go.Base**-buy.**Base** [Art cakes] [3AnSg chez]]
‘Then (the leper) went and bought some cakes at her place.’
(women, 2017-13 @ 02:15)

d. kò yíʔí [gō rà-tərā^{n}]
Infin go.Base [**Infin** **go.Base**-sit.**Base**]
‘Then (she) went and sat (on the top).’ (women, 2017-13 @ 00:25)

e. kō sò [kò yíʔí],
Infin carry.on.head.Base [Infin go.Base],
ò kō rà-sūʔɔ̄ =nì
3Pl **Infin** **go**.Base-give.Base 3InanObj,
[[ē lō-kùò-tɔ̀ʔɔ̀] nī]
[[Art chicken.Pl-kill.Pfv-place] Loc]
'Then (they) carried it and went and gave it (to people) at the chicken slaughtering place.' (Bo, 2019-10 @ 04:35)

For the many verbs that have identical base=Ipfv, correct parsing of textual examples depends on the transcriber's ability to distinguish kō rà-à- from kō rà- in what is often rapid speech. Discourse context is often relevant to parsing. Some examples that we interpret as kō rà- plus the base stem of -Vb2 are in (1181).

(1181) a. ɔ̀ⁿ wò yíʔí māⁿ,
3AnSg Infin go.Base there.Def,
kō rà-súʔ= =ò]
Infin **go.Base**-catch.Base 3AnSgObj]
'It (=elephant) went there, and caught her.' (Bi, 2017-09 @ 03:06)

b. áywà, [ē nāⁿ-bɛ̀ʔɛ̀] wò yíʔí,
well, [Art Bouki] Infin go.Base,
kō rà-ló [ɔ̄ⁿ mǔⁿ]]
Infin **go.Base**-turn.Base [3AnSgRefl voice]]
'Well, Bouki went and changed his voice.' (Bi, 2017-07 @ 01:53)

kō rà is simplified to just rà in (1182). This makes rà look superficially like a medial verb in a triple verb compound. This simplification is only attested for Bi dialect and only before 'arrive'.

(1182) ò yīʔē [Ø rà-dàⁿ]
3Pl go.Pfv [Infin go.Base-arrive.Base]
'They (went and) arrived.' (Bi, 2017-07 @ 07:10)

In addition to infinitival kō rà- and its variants, rà- 'go and' is attested in conditional antecedents (§16.1.1.6.2). However, in that context it can be difficult to distinguish rà- 'go and' from past allomorph râ.

15.2.3.3.5 Bi kō rà-à- 'goes and'

The morphologically imperfective version of Bi kō rà- (preceding subsection) is kō rà-à-, ending in intercalated Ipfv -à-. There is one clear textual example (1183a), with verb cùɔ̀ⁿ/cɔ̄ⁿ/cīⁿ 'spend the night', so -cīⁿ is unmistakably Ipfv. The text describes recurrent activities from the past. In (1183b), dī-à-glō 'take out' is clearly imperfective, and the whole context is future-looking. té 'put down' has base=Ipfv, so we can't rule out a transcription with imperfective rà-à-tē. Since the putting down is a bounded event at the tree, while the taking out can be done repeatedly, we favor rà-tē.

(1183) a. ó gō rà-à-cīⁿ [bè tɔ̀ʔɔ̀]],
1Pl Infin go.Ipfv-Ipfv-spend.night.Ipfv [Dem.Def place]],
donc ó gō rà-à-cīⁿ [bè tɔ̀ʔɔ̀],
so 1Pl **Infin** **go.Ipfv-Ipfv**-spend.night.**Ipf**v [Dem.Def place],
[k-ā cʉ̀ĭ= [Ø kə̀-rá]
[Infin-Ipfv kill.Ipfv [Art meat-Pl]
‘We would go and spend the night at that place. So, having gone and spent the night there, we would kill wild animals.’ (Bi, 2017-10 @ 03:26-28)

b. ɔ̀ⁿ ŋō rà-tē
3AnSg Hort go.Base-put.down.Base
[wō dī-à-glō =nì] [wò bó]
[Infin remove.Ipfv 3Inan] [Infin tie.Ipfv]
‘Let me go and put down (the baobab), and take it (=finery) out and tie (it on).’ (Bi, 2017-08 @ 09:05)

Our main Bi speaker tended to avoid imperfective infinitival doubling of ‘go’. For example, (1184a) is his regular way of doubling ‘go’ in perfective contexts. However, he preferred a simple one-clause construction with ‘go’ as compound Vb1 in imperfective contexts (1184b). This may account for the marginal status of imperfective kō rà-à-.

(1184) a. zàkí yīʔē [gō rà-dí]
Z go.Pfv [Infin **go.Base**-eat.Base]
‘Zaki went and ate.’ (Bi)

b. zàkí à yíʔ-à-dí
Z **Ipfv** go.Ipfv-**Ipfv**-eat.Ipfv
‘Zaki goes and eats (regularly).’ (Bi)

15.3 Adverbial clauses with infinitival or subordinating morpheme

In this section we present subordinated clauses that function as manner (‘the way/how …’), spatial (‘where …’), and and temporal (‘when …’) adverbial adjuncts to main clauses. Some of these are straightforward special cases of the relative construction (chapter 14) with a noun like ‘time’, ‘place’, or ‘manner’ as head. As NPs, such relatives can occasionally function as arguments (e.g. ‘[the time when they will be married] is approaching’). Other adverbial clauses have more idiosyncratic structures.

We begin with manner adverbial clauses (§15.3.1), followed by mixed manner-temporal (§15.3.2), spatial (§15.3.3), mixed spatial-temporal including bipartite ‘from/since X (all the way) to/until Y’ (§15.3.4), and temporal (§15.3.5).

15.3.1 Manner adverbial clause

Clausal manner adverbials may be compared to simple manner adverbs (§8.5.5), to ‘like/similar to X’ phrases with quasi-preposition ká or tá depending on dialect (§8.5.1), and to deverbal compounds with -kà ‘manner’ (§5.1.7.2).

15.3.1.1 ‘The way …’ (kā jərɔ́ⁿ)

In this construction, the manner of some eventuality is positively compared to that denoted by the main clause. The noun kā ‘manner, way’ is the head of a relative clause (§14.2.5).

(1185) a. [ē dəràʔá], à būō-būō [[kā jərɔ́ⁿ] nī],
[Art tale], 3Inan Rdp-be.gotten.Pfv [[**manner** **Rel**] Loc],
‘the tale, in the (same) way it was (originally) gotten (=learned)’
(Fl, 2017-05 @ 00:14)

b. ō bà-bà [kā jərɔ́ⁿ],
3Pl Rdp-come.Pfv [**manner** **Rel**],
ó gà-bàʔà [wò dò [bè tóʔó]],
1Pl want.it [Hort speak.Base [Dem.Def Foc]],
‘The way they they have kept coming, that [focus] is what we want to talk about.’
(Bi, 2017-09 @ 00:16)

15.3.1.2 ‘Like …’ (ká/tá)

ká ~ tá ‘like’ occurs elsewhere as a quasi-preposition before NPs (§8.5.1.1). Unlike true prepositions, it can also occur clause- or VP-initially to form manner adverbials. In these respects it behaves like Eng *like*.

In (1186a-b), the manner clause follows infinitival clauses with the same logical subjects. This subject is not repeated in the manner clause, so ‘like’ is followed immediately by nà. We gloss the latter as future (“Fut”), but nà can be counterfactual in some constructions (§16.4.2).

(1186) a. [è úⁿʔúⁿ-tərɛ̀ⁿ-yùò] kō wūʔɔ̄-wūʔɔ̄ =nìⁿ,
[Art head-sit.Pfv-people] Infin Rdp-suck.Base 3InanObj,
tá nàⁿ wūʔɔ̄-kò [ò míⁿʔáⁿ],
like **Fut** suck.Base-kill.Base [PlRefl Refl],
‘The leaders gobbled it (=meat) up, like (they) would eat themselves to death.’
(Bi, 2017-10 @ 03:37)

b. à gō ā klè
3Inan Infin Ipfv be.done.Ipfv
[ká nà klè [ē flìʔ=] [[ē yǒ] bàʔà]
[**like** **Fut** be.done.Base [Art insanity] [[Art woman] chez]
'It (=situation) was like the woman would go crazy.'
(women, 2017-18 @ 00:15)

The elicited example (1187) has a new subject after 'like'.

(1187) ná= à ʃīⁿ [Ø kē-sùⁿʔɔ̀ⁿ]
1Sg Ipfv work(v).Ipfv [Adv work(n)]
[ká zàkí à ʃīⁿ [Ø kē-sùⁿʔɔ̀ⁿ]]
[**like** Z Ipfv work(v).Ipfv [Adv work(n)]]
'I work like Zaki works.' (Ji)

15.3.1.3 'As though …' (ā klè ká/tá)

In this construction, the manner of the subordinated eventuality is framed as hypothetical (i.e. seeming) or counterfactual. In (1187), the main clause means 'it was done, it happened' by itself, but here it corresponds to 'it is/was (as though …)'. The modal quality is expressed by ká ~ tá 'like', followed by an indicative main clause. The inanimate pronominal à in the main clause resumes the situation expressed by the 'like' clause, compare the very common ā klè kà-tó 'it happened thus'.

(1188) a. [à dó] klè [ká [à sē]]
[3Inan however] **be.done**.Pfv [**like** [3Inan collapse.Pfv]]
'However it is as though it collapsed.' (Ma, 2017-10 @ 06:45)

b. ā klè [tá [bó dè cɔ̄ʔɔ̄]]
3Inan **be.done**.Pfv [**like** [3AnSg IpfvPast fear.Base]
'It was like it (=elephant) was afraid.' (Bi, 2017-09 @ 01:26)

c. dè móⁿ mā kò [n dɛ̀ⁿʔɛ́ⁿ], ā klè
Quot 2Sg if kill.Base [Sg one], 3Inan **be.done**.Pfv
[ká [móⁿ kùò [náⁿ-bí-ó ɔ̄-rúⁿ] [yúó támwú]]
[**like** [2Sg kill.Pfv [person-Pl head-Pl] [people ten]]
'(The authorities say:) "If you-Sg kill one (elephant), it's like (=the legal equivalent of) you killed ten people." ' (Bi, 2017-09 @ 04:10)

The combination tá nà, with future (or possibly counterfactual) nà, occurs in (Bo, 2019-06 @ 00:15) in a hyperbolic context: 'rain was there enough to kill'. However, tá could also be read as the past morpheme in this example.

15.3.1.4 ‘Seems/looks like …’ (à^{n}dɛ́nɛ́ nī)

To indicate that the subordinated situation is imagined by a third person, the subordinated situation takes indicative clause form without ká ~ tá. The verb of the main clause is ‘look (at)’, followed by quotative dè and the content of the protagonist’s thinking. à^{n}dɛ́^{n}ʔɛ́^{n} nī ‘in appearance’ is part of the quoted thought. à^{n}dɛ́^{n}ʔɛ́^{n} (< Fr *on dirait* ‘one would say’, i.e. ‘il looks like…’) is partially nativized as a noun, perhaps because it resembles the numeral ‘one’.

(1189) a. bó à lú^{n} n= [à^{n}dɛ́^{n}ʔɛ́^{n} nī]
3AnSg Ipfv **look.at**.Ipfv Quot [**appearance** Loc]
[bè tóʔó], [bè bèrè] ā kò-à-fó,
[Dem.Def Foc], [Dem.Def still] Ipfv be.good.Ipfv-Ipfv-pass.Ipfv,
[[è [blí-kɛ́]-yò] bàʔà] dó]
[[Art [hare]-woman] Dat] Poss.Inan]
‘It seemed to her that that [focus], that was (still) better than the one that was with hare woman.’ (Bi, 2017-08 @ 03:11)

b. [ē bɔ̌] g-ā lú^{n}
[Art elephant] Infin-Ipfv **look.at**.Ipfv
dà= [à^{n}dɛ́^{n}ʔɛ́^{n} n=] [ɔ̀^{n} wūō]
Quot [**appearance** Loc] [3AnSg die.Pfv]
‘It seemed to the elephant that she had died.’ (Bi, 2017-09 @ 03:30)

15.3.2 Mixed manner-temporal clauses (sìɲá nī ~ ʃìɲá nī)

The very common element sìɲá nī or ʃìɲá nī occurs clause-finally, at the end of an otherwise normal indicative main clause. It is formally a PP with locative postposition nī, but it rarely occurs in any other form. It appears to take the entire preceding clause as a kind of compound initial. In elicitation we came across the compound noun sìɲà-dí^{n} ‘(any) kind of situation’.

The sìɲá nī construction is variably translatable as manner adverbial (‘the way’) or temporal (‘as soon as; after’). Eng *as* also has a range of manner and temporal functions, but the temporal function of sìɲá nī is to describe a situation created by the event, not the event itself. However, it does not allow normal nominal modifiers and is always clause-final.

Examples of the manner function are in (1190).

(1190) a. [è fɛ́] klè kà-tó [[mó dè] sìɲá] nī]]—
[Art talk(n)] be.done.Pfv thus-Foc [[2Sg say.Pfv] **situation**] **Loc**]—
[[ŋ̀ dīʔɛ̄ =nì] sìɲá] nī
[[2Sg hear.Pfv 3InanObj] **situation**] **Loc**
‘The talk happened like that, the way you-Sg said— (or rather) the way you heard it.’ (Ji, 2017-04 @ 04:27)

b. dè [[[bó ɲà yá] ʃìɲá] nī],
say.Pfv [[[LogoSg see.Pfv Dem.InanSg] **situation**] **Loc**],
[ē sɔ̀bɛ́] nī
[Art candor] Loc
'… said "how I have seen that, in all honesty" ' (Fl, 2017-05 @ 00:42)

c. [[[mó^{n} nà^{n} klè] ʃìɲá] nī^{n}] [wò bú mā^{n}]
[[[2Sg Fut do.Base] **situation**] **Loc**] [Infin get.Base there.Def]
'After you act in (such) a way, (you) will then succeed there.'
(Bi, 2017-08 @ 10:29)

d. [ē gblɛ̀^{n}ʔɛ̀^{n}] bà dīē] [[[à wō klè] ʃìná] nī]
[Art sorghum] if enter.Base] [[[3Inan Infin do.Base] **situation**] **Loc**]
'Sorghum, when sorghum ripens, the way it does.'
(Bi, 2017-07 @ 09:15) (alludes to decumbent grain heads)

e. énàfɔ́ [í-yùò ná^{n}-dì-ɔ̀] nǎ^{n} klè—
anyway [1Pl elder-Pl] PastHabit do.Ipfv—
[[[nǎ^{n} lá^{n} [ē də̀-rɔ́] kɛ̀-tɛ̀ʔɛ̀]] ʃìɲá] nī^{n}
[[[PastHabit wash.Ipfv [Art male-Pl] hand]] **situation**] **Loc**]
'Anyway, the way our elders used to circumcise boys.'
(Bi, 2017-10 @ 00:08)

The manner-adverbial sense 'the way …' lends itself to combination with clause-initial Fr *comme* (Ji, 2021-02 @ 01:39).

Examples that we attribute to the temporal function are in (1191).

(1191) a. [[[[ē [kɛ̀-tɛ̀ʔɛ̀]-bù] wìè] sìɲá] nī]
[[[[Art [hand]-digit] be.put.Pfv] **situation**] **Loc**]
ɲánɔ̀^{n} kō dɔ̄^{n}-pā^{n} [Ø [kɛ̀-tɛ̀ʔɛ̀]-bù]
friend Infin bite.Base-press.on.Base [Art [hand]-digit]
'As soon as (hare's) finger was put in, the friend (=hyena) bit and held the finger (in its teeth).' (Bi, 2017-08 @ 05:33)

b. [[[bè tóʔó] fīē] ʃìɲá] nī^{n},
[[[Dem.Def Foc] pass.Pfv] **situation**] **Loc**],
hàyà, ō bà-gbɛ̄ [kō klè *constat*]
well, 3Pl come.Pfv-pick.up.Base [Infin do.Base report]
'Once that was over, well, they came and took over and made a report.'
(Bi, 2017-09 @ 05:08)

In elicitation, sìɲá nī occurred in translations of 'after' clauses (Fr *après que*).

(1192) a. [[[nó lɛ̄ⁿ [Ø fɛ̀ʔɛ́]] ʃìɲá] nī]
[[[1Sg wash.Pfv [Art wrap]] **situation**] **Loc**]
[ɔ̀ⁿ kō bà-glú [nó nī]]
[3AnSg Infin come.Base-exit.Base [1Sg Loc]]
‘After I washed the garment, he/she appeared (abruptly) to me.’ (Fl)

b. [[[è bí-ʃīō] bà dí-kɔ̄] ʃìɲá] nī]
[[[Art child.Pl] if eat.Base-finish.Base] **situation**] **Loc**]
[ó nà yīʔí]
[1Pl Fut go.Base]
‘After the children have finished eating, we will go.’ (Fl)

sìɲá nī also occurred in translations of ‘since’ clauses (Fr *depuis que*). We note in §15.3.5.3 that ‘when …’ clauses (e.g. with kàtó) can also occur in such contexts, there being no dedicated ‘since’ element in Tiefo-D.

(1193) [[[nó bà] ʃìɲá] nī]
[[[1Sg come.Pfv] **situation**] **Loc**]
ná= á dí =ʔ
1Sg PfvNeg eat.Base Neg
‘Since I came, I haven’t eaten.’ (Fl)

The “temporal” cases of sìɲá nī do not simply specify the chronological relationships between the main and subordinated eventualities. Especially in the textual examples, the sìɲá nī clause describes a preceding event that has created a situation in which the second eventuality occurs.

15.3.3 Spatial adverbial clause (‘where …’)

In texts, many relative clauses with ‘place’ as head (§14.2.5) are separate topical phrases. In (1194), the spatial relative is preposed as topic, and is resumed by ‘that (same) place’ within the main clause.

(1194) ē pòʔò-yíʔí-tɔ̀ʔɔ̀ jə̀rɔ́ⁿ,
Art the.bush-go.Base-**place** **Rel**,
ó gō rà-à-cīⁿ [bè tɔ̀ʔɔ̀]],
1Pl Infin go.Ipfv-Ipfv-spend.night.Ipfv [Dem.Def place]],
‘The hunting place where (the bungalow was), we would go and spend the night at that place.’ (Bi, 2017-10 @ 03:26).

In (1195), the spatial relative is again preposed, but it is not resumed inside the clause. The spatial relative could therefore be analysed as a subordinated adverbial clause, as a possible alternative to a topicalized preclausal setting adverbial.

(1195) má= à dīē [tɔ̀ʔɔ̀ jərɔ́ⁿ]
2Sg Ipfv enter.Ipfv [**place** **Rel**]
[ē blō =rɛ̀] má dàⁿ [mó nī]
[Art rain(n) even] IpfvNeg arrive.Base/Ipfv [2Sg Loc]
'(In) the place where you go in, the rain doesn't reach you.'
(Ji, 2017-11 @ 05:10)

Some occurrences of 'place' as relative head have abstract rather than literal spatial reference. Almost every tale has formulaic initiations and endings that refer to the abstract "place" where the tale was 'picked up', and where it is then 'put (back)' after narration (1196).

(1196) a. [bè fɛ́] dè [kò yíʔí [tɔ̀ʔɔ̀ jərɔ́ⁿ]],
[Dem.Def talk(n)] Quot [Infin go.Base [**place** **Rel**]],
à má dìʔɛ̀ ké,
3Inan IpfvNeg be.long.Ipfv Emph,
'The place where that talk (=tale) went, it isn't too far away.'
(Ji, 2017-01 @ 04:09)

b. ŋ̀ gblɛ̀ =nì [tɔ̀ʔɔ̀ jərɔ́ⁿ]
2Sg pick.up.Pfv 3InanObj [**place** **Rel**]
ŋ̀ bà té =nì fāⁿʔāⁿ
2Sg come.Pfv put.Base 3InanObj here
'Where you-Sg picked it (=tale) up, you came and put it down here.'
(Ma, 2017-05 @ 04:44)

In other contexts, 'place' may mean more abstractly 'situation' (1197a), or stage within a developing situation (1197b). For the latter compare Eng *point* as in *at the point where/when* ...

(1197) a. [ô= Ø-mā [tɔ̀ʔɔ̀ jərɔ́ⁿ]] [ô= Ø-mā mā],
[1Pl be.Loc [**place** **Rel**]] [1Pl be.Loc there.Def],
ò kánà kèʔè-kɔ̀-dərā= [Ø mìé]
3Pl Hort.Neg ruin(v).Base-finish.Base-do.a.lot.Base [Art 1Pl]
'The place (=situation) where we are, we are there (=in it). May they (=elephants) not completely ruin (all of) us!' (Ji, 2017-09 @ 08:10)

b. [bó mlɛ̄ⁿ =ò [tɔ̀ʔɔ̀ jərɔ́ⁿ]]
[LogoSg shoot.Pfv 3AnSgObj [**place** **Rel**]]
[ɔ̀ⁿ fīē [kà [bó fīʔé]]],
[3AnSg pass.Pfv [with [LogoSg daba]]],
'(said:) "Where (=when) I shot (the daba) at it, it went away with my daba." '
(Fl, 2017-03 @ 02:42)

15.3.4 Mixed spatial/temporal adverbial clauses

15.3.4.1 ‘(All the way) to/until Y’ (fɔ́)

Clause-initial fɔ́ is common in the senses ‘until …’, ‘to the point/extent that …’, and ‘eventually …’. In all cases at least a fairly extended time interval is implied. For fɔ́ as a quasi-preposition with an NP or simple adverb as complement, including spatial examples (‘all the way to’), see §8.3.10.2.

A fairly simple temporal fɔ́ clause (‘until …’) is (1198).

(1198)	[ē	būɔ̄^{n}ʔɔ̄^{n}]	kō	yìʔí	[k=	ó-gɔ̀ʔɔ́	[ē	blù^{n}]],
	[Art	dog]	Infin	go.Base	[Infin	go.Base-dig.Base	[Art	well(n)]],
	[fɔ́	ɔ̀^{n}	kō	dǎ^{n}=	[[Ø	ɲū]	nī],	
	[**until**	3AnSg	Infin	arrive.Base	[[Art	water]	Loc],	

‘The dog went and dug the well, until he reached the water.’
(Ma, 2017-02 @ 00:41)

Extent rather than time is highlighted in (1199).

(1199)	ɲánɔ̀,	[ɔ̄^{n}	blè	=rɛ̄ʔ]	fɔ́	k-ā—
	friend,	[3AnSg	get.tired	Emph]	until	Infin-Ipfv—
	fɔ́—	mó	mà	ɲɔ́—	[[ɔ̀^{n}	dɛ́-ɲū^{n}]
	until—	2Sg	if	look.Base—	[[3AnSg	body-water]
	[[[k-ā	sə́rú^{n}-à^{n}-də́rá]	sìɲá]	nī]		
	[[[Infin-Ipfv	descend.Ipfv-Ipfv-be.very.Ipfv]	situation]	Loc]		

‘My friend, he sure was tired, to the point (extent) that, if you looked, (you’d see that) his sweat was continuously dripping down.’ (Ji, 2017-01 @ 02:25)

The ‘eventually …’ cases are those where a significant passage of time has elapsed. The new event may or may not be directly related to preceding events. Prior to (1200), the protagonist had been browbeaten by others to renounce a claim.

(1200)	fɔ́	ɔ̀^{n}	wō—	já	[ɔ̀^{n}	mí^{n}ʔá^{n}],
	until	3AnSg	Infin—	leave.Base	[3AnSgRefl	Refl],
	[ē	dɔ̌]	wò	já	[ɔ̀^{n}	mí^{n}ʔá^{n}],
	[Art	man]	Infin	leave.Base	[3AnSgRefl	Refl],

‘Eventually he gave up, the man gave up.’ (women, 2017-13 @ 03:08)

This phrase- or clause-initial fɔ́ is unrelated to clause-initial fɔ́ ~ fó ‘must’ (< Fr *il faut*) described in §17.1.7. A diagnostic clue is that fɔ́ ‘since’ is generally followed by an infinitival phrase or by an indicative clause with a Pfv verb, while fɔ́ ‘must’ is followed by a positive clause with a verb in base stem (as in the quoted imperative), or by a prohibitive clause.

15.3.4.2 '… until got tired' = '… for a very long time'

This colorful expression has counterparts in many languages in the zone. It denotes extended prolongation of an activity, not necessarily focusing on physical weariness. It is therefore used with verbs like 'eat' (1201) and 'laugh' as well as 'work', 'run', and the like. The free translations in (1201) use English idioms. fɔ́ here is the particle 'until, all the way to' (preceding section).

(1201) a. ɔ̀ⁿ dìè [fɔ́ kō bē]
3AnSg eat.Pfv [**until** Infin become.tired.Base]
'He ate until he was stuffed.' (< dīē) (Ji)

b. ɔ̄ⁿ mɛ̀ [fɔ́ kō bē]
3AnSg laugh.Pfv [**until** Infin become.tired.Base]
'He laughed until his sides hurt.' (Ji)

15.3.5 Temporal adverbial clauses

In addition to the constructions described in the following subsections, post-subject bà and variants 'if/when' play a significant role in expressing chronological sequencing of events. We defer description of this construction to the following chapter on conditionals.

15.3.5.1 Adverbial relative clause with 'time' as head

A relative clause headed by dáʔá 'time' (or tonal variant), or any temporal noun ('day', 'year', etc.), can function as a temporal relative clause (§14.2.5). In theory the relative construction should be followed by a locative postposition to qualify as a true subordinated clause, but this is honored in the breach.

Elicited examples are in (1202).

(1202) a. [[kō jə̀rɔ́ⁿ] nó bà]
[[**day** **Rel]** 1Sg come.Pfv]
[ē blò] tá à wó
[Art rain(n)] Past Ipfv rain.fall.Ipfv
'(On) the day when I came, it was raining.' (Fl)

b. [[dāʔá jə̀rɔ̀ⁿ] nó kō [bǎ nī]
[[**time** **Rel]** 1Sg be [come.Prog Prog]
[zàkì tá à-mā]
[Z Past be.Loc]
'At the time when I was on my way (here), Zaki was present (here).' (Fl)

Textual examples are in (1030) in §14.2.5.

15.3.5.2 ‘Until today’ (bànà kúⁿʔúⁿ)

bànà occurs in the phrase bànà kúⁿʔúⁿ (and tonal variants) ‘until today, up to now, so far’.

(1203) a.

ná	=á	dí	[[ē	dɛ̀ⁿ]	[bànà	kūⁿʔúⁿ]
1Sg	PfvNeg	eat.Base	[[Art	yesterday]	[**until**	**today**]

‘I haven’t eaten since yesterday.’ (Fl)

b.

[[bànà	kūⁿʔúⁿ]	nó	má	dɔ̀=	[=à	zàkí]]
[[**until**	**today**]	1Sg	IpfvNeg	speak	[with	Z]]

[kàtó	=ɔ̀ⁿ	kùò	nó]
[since	3AnSg	hit.Pfv	1Sg]

‘I haven’t spoken to Zaki ever since he hit me.’ (Fl)

We have no textual examples, and our speakers did not accept bànà with other adverbials such as ‘this year’. bànà may include (a reflex of) bà ‘come’ but if so the formation is nontransparent. In (1203b) bànà kúⁿʔúⁿ is combined with kàtó ‘(starting) from, since’ in the other clause. See the following subsection for kàtó.

Another construction for ‘until (a point in time)’ is illustrated in (1204). It is based on the infinitive of ‘come-arrive (at)’.

(1204) a.

álè	kā=	à-dàⁿ	kúⁿʔúⁿ
until	Infin	**come**.Base-**arrive**.Base	today

‘until today, up to now, so far’ (Ji)

b.

álè	kā=	à-dǎⁿ=	[Ø	dɛ̀ⁿ]
until	Infin	**come**.Base-**arrive**.Base	[Art	this.year]

‘until this year’ (Ji)

15.3.5.3 ‘When …’ or ‘since …’ (kàtó)

kàtó ‘when …’ or ‘since …, (starting) from’ is borrowed from Jula. It is distinct from bè-kà-tó ‘thus’, but the latter can reduce to kà-tó. The two differ in that kàtó ‘when’ is always clause-initial, while (bè-)kà-tó is usually postverbal (but see below).

kàtó occurs clause-initially, before an ordinary indicative clause. The sense ‘when …’, specifying the time of an event or process, is observed in (1205).

(1205) a.

[kàtó	nó	bà]
[**when**	1Sg	come.Pfv]

[nó	bà-ɲì	[nó	sē]]
[1Sg	come.Pfv-see.Base	[1Sg	father]]

‘When I came, I came and saw my father.’ (Fl)

b. [kàtó nó kō bǎ nī]
[**when** 1Sg be come.Prog Prog]
[nó ɲà [Ø blí-kɛ́]
[1Sg see.Pfv [Art hare]
'While I was coming, I saw a hare.' (Fl)

A textual example is (1206).

(1206) [ē dī-ɛ̀ʔɛ̀] bā bà,
[Art eat.Pfv-Ppl.Inan] if come.Pfv,
kàtó→ ò ʒīēʔē kò =ʔó— -láⁿ [ɔ̀ⁿ kì-tɛ̀ʔɛ̀],
when 3Pl go.Pfv Infin go.Base—, -wash.Base [3AnSg hand].
'when the food came, when they went to wash his hand, …'
(Ma, 2017-10 @ 02:19)

The sense 'when' seems present in two other textual passages: (Bo, 2019-06 @ 00:35) and (Ji, 2017-04 @ 05:14). However, there is one passages where kà-tó 'like thst' or 'as' seems to be fronted to clause-initial position with the sense 'as, in the way that' (Ji, 2021002 @ 00:40).

kàtó can be loosely translated 'since …' in some contexts (1207a), especially when paired with an 'until …' clause to bookend a long interval (1207b). The difference between 'when …' and 'since …' is that the latter extends from the relevant event across a long time interval.

(1207) a. [kàtó zàkí fīē] [ɔ̃ⁿ= Ø klá-bà]
[**when** Z pass.Pfv] [3AnSg PfvNeg return.Base-come.Base]
'Since Zaki went away, he hasn't come back.' (Fl)

b. [kàtó ō ʃìè] [fɔ́(ò) kō bà-wú]
[**when** 3Pl be.born.Pfv] [**until** (3Pl) Infin come.Base-die.Base]
[ò= Ø tɛ́ⁿ]
[3Pl Ipfv be.bitter]
'From the time they are born until they (come and) die, they are nasty.' (Fl)

'Since …' clauses are now often phrased with clause-initial Fr *depuis* 'since', as in (Ji, 2017-07 @ 05:42).

15.3.5.4 'When …' (clause-initial káá)

káá occurs in elicited examples as an equivalent to kàtó. It may be from Fr *quand* via other languages of the zone. káá precedes the subject.

(1208) a. [káá nó bà]
[**when** 1Sg come.Pfv]
[nó bà-ɲì [nó sē]]
[1Sg come.Pfv-see.Base [1Sg father]]
'When I came, I came and saw my father.' (Fl)

b. [káá nó kō bǎ nī]
[**when** 1Sg be come.Prog Prog]
[nó ɲà [Ø blí-kɛ́]
[1Sg see.Pfv [Art hare]
'While I was coming, I saw a hare.' (Fl)

15.3.5.5 Post-subject tà= á- 'when/as soon as'

In the recordings, our Fl speaker four times places phonetic [tǎ:] between the subject and the verb 'arrive' in base form. The narrative context is the same: a protagonist arrives or emerges at a key location, whereupon the next focal event occurs (usually an encounter with another protagonist). [tǎ:] is not morphemically transparent, and may be well on its way to becoming fused as a specialized 'when' marker. However, we parse it as the slightly irregular contraction of Fl dialect past morpheme tá ~ tâ and the compounding allomorph á- of 'go (and)' (cf. main-verb 'go' yīʔē/yíʔí/yíʔí). The narrative context and the use of á- point to a connection with infinitival kà= á- (§15.2.3.3.2). For other dialects there may be no distinction between infinitival kà= á- and past tà= á-.

The restriction of tà= á- to a very limited construction means that á- 'go (and)' is unlikely to be confused with PfvNeg á. Compare past perfect tâ (1209a), tà= á- with 'go' (1209b), and past perfective negative tâ á (1209c). All three involve the base of the final verb. The clause-final glottal stop in (1209c) is helpful when audible, but it is not always audible.

(1209) a. ɔ̄ⁿ tâ sɛ́ⁿ/tə̄rāⁿ
3AnSg **Past** lie.down.Base/sit.Base
'He/She had lain down/sat down.' (Fl)

b. ɔ̄ⁿ tà= á- sɛ́ⁿ/-tə̄rāⁿ
3AnSg **Past** **go.Base-** lie.down.Base/-sit.Base
'He/She had (just) gone and lain down/ sat down.'

c. ɔ̄ⁿ tâ á sɛ́ⁿ/tə̄rāⁿ (=ʔ)
3AnSg **Past** **PfvNeg** lie.down.Base/-sit.Base (Neg)
'He/She had not lain down/sat down.'

The four textual examples of tà= á-, all from narratives told by the Fl speaker, are in (1210a-b). We transcribe tà á- and gloss "Past go.Base-" but the combination is arguably fused and now monomorphemic. lò 'after' (see the following section) is also present in (1210b).

(1210) a. *donc,* ɔ̀ⁿ tà= á-dàⁿ,
so, 3AnSg **Past** **go.**Base-arrive.Base,
[ɔ̀ⁿ gā= [à nī] kpàpìò-kpàpìò-kpàpìò
[3AnSg be [3Inan Loc] digging.furiously
'So, when he arrived, he was at it (=farming) furiously.'
(Fl, 2017-03 @ 00:50)

b. [ē kɛ̆ⁿ] tà= á-dăⁿ= [[Ø gblì-lɛ̀-tɔ̀ʔɔ̀] nī]
[Art fellow] **Past** **go.**Base-arrive.Base [[Art ridge-tear.Pfv-place] Loc]
[dāʔá jə̀ré lò], [ē sɔ̂=] Ø-mā gō kăⁿ
[time Rel.InanPl **after**], [Art pig] be.Loc be Dem.AnSg
'When(-ever) the fellow (=the farmer) arrived at the outer edge (of the field), there was the warthog!' (Fl, 2017-03 @ 01:10-13)

c. [ē kùⁿʔɔ́ⁿ] tà= á-dàⁿ,
[Art early.afternoon] **Past** **go.**Base-arrive.Base,
[ē kùⁿʔɔ́ⁿ] kō bà [Ø= à-lɪ́ⁿ]
[Art twilight] Infin come.Base [Infin come.Base-cool.off.Base]
jó= ò kō [[ò dígə̀-rɔ̀] ʃīɛ̄]
if 3Pl be [[PlRefl Recip] behind]
'When the twilight (late afternoon) had arrived, the early afternoon cooled off, they were in a chase.' (Fl, 2017-03 @ 01:44)

d. ò gblɛ̆= [Ø klòʔó] fùú-jɛ̄ⁿ→ fùú-jɛ̄ⁿ→ fùú-jɛ̄ⁿ→
3Pl take.Pfv [Art road] striding
ò tà= á-dàⁿ,
3Pl **Past** **go.**Base-arrive.Base,
hàyà, [è blí-kɛ́ tōʔó] Ø-mā̀= Ø kăⁿ lē,
well, [Art hare Foc] be.Loc be Dem.AnSg turn.Pfv,
[è ʃíó-kɛ̀ⁿ wūⁿʔúⁿ-fìàⁿʔáⁿ] tàʔà-kó =ā
[Art magician head-white] again Q
'They took to the road, walking fast (with long strides). When they arrived, well, lo! The very same hare turned himself into a white-headed magician, right?' (Fl, 2017-05 @ 02:27-34)

Follow-up elicited examples are in (1211). (1211a) shows that Vb2 following tà á- is the base (not Ipfv) stem. The stem is indeterminate with 'arrive' (dɛ̀ⁿ/dàⁿ/daⁿ) in the preceding examples.

(1211) a. ɔ̀ⁿ tà= á-dɔ̄
3AnSg Past go.Base-sleep.Base
'as soon as he/she was asleep' (Fl Ji)
(dɛ̀/dɔ̄/dɛ̄)

b. ɔ̀ⁿ tà= á-glú
3AnSg Past go.Base-exit(v).Base
‘as soon as he went out’ (Fl Ji)

Another way to express ‘as soon as’ is with two verbal nouns conjoined by kà ‘with, and’ (1212).

(1212) zàkí dàⁿ-ní [kà [ɔ̀ⁿ glú-ní]]
Z arrive-**VblN** [**and** [3AnSg exit(v)-**VblN**]]
‘No sooner did Zaki arrive than he went out.’ (Fl Ji)

15.3.5.6 Clause-final lò ‘after’

This clause-final particle is used frequently by some speakers, but for some other speakers it is not attested. It may be a borrowing from Jula lò. If so it is unrelated to lè/lò/lò ‘show’.

In narratives or activity descriptions that involve sequences of closely-spaced events or actions, our texts for female speakers make frequent use of discourse structures based on the schema (1213). bà ‘if/when’ is optional. The foregrounded events X and Y are separated by an echo of X (1213b), which serves as background for Y. In some but not all cases, the echo is a resumption after a brief comment by the listener (omitted from our examples here).

(1213) X
(bà) X lò
Y

Example (1214) illustrates with a food preparation sequence.

(1214) formula text

X kò yíʔí-láⁿ =nì
Infin go.Base-wash.Base 3InanObj
‘(and we) go and wash it.’

bà X lò ó bà láⁿ =nì lò,
1Pl **if** wash.Base 3InanObj **after**,
‘When we have washed it, …’

Y ó gō bà-flò =nì
1Pl Infin come.Base-sauté.Base 3InanObj
‘We come and sauté it.’ (women, 2017-14 @ 00:31 to 00:34)

Similarly, from a tale we have (1215).

(1215) formula text

X
ɔ̀ⁿ wò sə́rúⁿ
3AnSg Infin descend.Base
'He came down (the tree).'

X lò
ɔ̀ⁿ sə̄rɔ̄ⁿ lò,
3AnSg descend.Pfv **after**,
'When he came down (=had come down), …'

Y
ò gò yíʔí [Ø lē]
3Pl Infin go.Base [Art home]
'They went home' (women, 2017-12 @ 02:08)

Further examples from the women's narratives are in (1216).

(1216) a.
[è bítə́ró] wō kɛ̄ⁿʔɛ̄ⁿ
[Art leper] Infin ascend.Base
[è bítə́ró] klɛ̄ⁿʔɛ̄ⁿ lò,
[Art leper] ascend.Pfv **after**,
[è bítə́ró] wō rà-[gɔ̀-gɔ̀] [à bɛ́ⁿʔɛ́ⁿ]
[Art leper] Infin go.Base-[Rdp-beat.Base] [3Inan tomtom]
'The leper climbed up. Then the leper (went and) kept beating that tomtom.'
(women, 2017-12 @ 01:54 to 01:59)

b.
[ē yǒ] kò máⁿʔáⁿ-súʔó= =ò,
[Art woman] Infin roll.Base-catch.Base 3AnSgObj,
ɔ̄ⁿ mɛ̀ⁿʔɛ̀ⁿ-súʔó= =ò lò,
3AnSg roll.Pfv-catch.Base 3AnSgObj **after**,
ɔ̀ⁿ nè máⁿ klè jə̀rɔ́ⁿ,
3AnSg IpfvPast IpfvNeg do.Ipfv Rel,
ɔ̀ⁿ wō jàʔà= [Ø tàpùʔɔ̀ fùⁿʔɔ̀ⁿ]
3AnSg Infin lay.out.Base [Art mat new]
'The woman would hug him tightly. After she hugged him, which she previously was not doing, she would lay out a new mat …'
(women, 2017-12 @ 02:33 to 02:38)

c.
[ē dɔ̌] wō já [ɔ̀ⁿ míⁿʔáⁿ],
[Art man] Infin leave.Base [3AnSgRefl Refl],
[ē dɔ̀] já [ɔ̀ⁿ míⁿʔáⁿ] lò,
[Art man] leave.Base [3AnSgRefl Refl] **after**,
[è náⁿ-bí] kò dɔ́—
[Art child] Infin buy.Base—
'The man gave up. When the man gave up, the young person (=girl) bought—'
(women, 2017-13 @ 03:08 to 03:14)

d. ɔ̄^{n} dè [bó má tə̄rɛ̄^{n} =ʔ],
3AnSg say.Pfv [LogoSg IpfvNeg sit.Ipfv Neg],
dè bó má tə̄rɛ̄^{n} lò,
Quot LogoSg IpfvNeg sit.Ipfv **after**,
[ē sē] k-ā ɲɛ̀ [Ø ú^{n}ʔú^{n}] ní-mā [à nī]
[Art father] Infin-Ipfv see.Ipfv [Art head] not.be.Loc [3Inan Loc]
‘(She) said she would not marry. After she said she would not marry, the (=her) father could see that there was no head in it (=that she was stubborn.’
(women, 2017-13 @ 00:08 to 00:13)

e. … kō lɛ́^{n}-klá,
… Infin stand.Base-return.Base,
ɔ̀^{n} mà lɛ́^{n}-klá lò,
3AnSg if stop.Base-return.Base **after**,
ɔ̀^{n} ŋō bà-lɛ́^{n}—
3AnSg Infin come.Base-stop.Base—
‘(said:) “… then get up and return. When you have gotten up and returned, come stand—” ’ (women, 2017-13 @ 02:35 to 02:38)

There are only scattered instances of clause-final lò in the texts from our male speakers. The references are: (Bi, 2017-07 @ 07:02; 2017-09 @ 06:06 & 07:00), (Fl, 2017-03 @ 01:10; 2017-05 @ 00:33 & 04:15), and (Ji, 2017-04 @ 06:52). The male speakers generally preferred the kō sə̀rɔ̀ [kō …] ‘and proceed(ed) to’ construction (§15.3.5.7.1) or the simple bà ‘if/when’ construction (chapter 16) to overtly specify chronological relationships among events. The male speakers made little use of echo constructions in narrative.

In extended greeting sequences, lò has a topicalizing function ‘what about X?’. The connection with ‘after’ is that this question type follows others that ask for the health of the addressee and the latter’s immediate kin.

(1217) [bùò də́ráʔá-yúó] lò
[2Pl courtyard-people] **Top**
‘What about your-Pl people of the household?’ (Ji, 2017-01 @ 00:09)

For ‘what about?’ see also (Bo, 2019-10 @ 03:06)

In texts, it can be difficult to distinguish lò ‘after’, as described above, from a clause-final emphatic that takes any of the forms lò, dò, lè, and rè (§19.4.2).

15.3.5.7 Constructions with sə̀rɔ̀

The Jula verb sə̀rɔ̀ occurs in two distinct Jula constructions which are imported into Tiefo-D. In the first construction, the construction is kō sə̀rɔ̀ [kō…] ‘and then proceed to …’, where sə̀rɔ̀ is itself in infinitival form, connected to a preceding clause or VP, and sə̀rɔ̀ in turn takes an infinitival VP complement. This construction specifies chronological sequencing and corresponds to Jula kà sə̀rɔ̀ [kà…]. The other is kà-sə̀rɔ̀ ‘whereas, although’ or ‘meanwhile’, which does not specify chronological sequencing.

15.3.5.7.1 kō sə̀rɔ̀ [kō…] ‘and then proceed to …’

A common way to overtly specify the chronological relationship between two actions is the construction (1218). A subject is possible before kō sə̀rɔ̀, but it is sometimes omitted since the logical subject is generally coindexed with that of the preceding VP. Rarely sə̀rɔ̀ is in a main clause rather than an infinitival adjunct; see (1221b) below.

(1218) …VP1
(subject) kō sə̀rɔ̀ [kō VP2]

We gloss this sə̀rɔ̀ as ‘proceed.to.Base’ in interlinears. There are more than twenty examples in our texts. Those in (1219) have overt subjects (‘djinns’, ‘she’) before kō sə̀rɔ̀.

(1219) a. *donc*, [è jə́ríⁿ-ní] kō sə̀rɔ̀
so, [Art djinn-Pl] **Infin** **proceed.to.Base**
[kō bú [ò mìàʔá]]
[Infin get.Base [PlRefl Refl]]
‘So, the djinns proceeded to become free.’ (Ma, 2017-04 @ 04:08)

b. ɔ̀ⁿ gō sə̀rɔ̀
3AnSg **Infin** **proceed.to.Base**
[wò glú [à lō]] [wō dò]
[Infin exit(v).Base [with 3Inan]] [Infin speak.Base]
‘She (=grandmother) proceeded to explain that.’ (Bi, 2017-07 @ 07:44)

Example (1220) omits the subject which is already present in the preceding VP or clause.

(1220) ó gō flè =nì,
1Pl Infin pour.off.Base 3InanObj,
kō sə̀rɔ̀ [kō gbɛ̄= [Ø púⁿ-pùʔɔ̀]] …
Infin **proceed.to.Base** [Infin take.Base [Art kneading.stick]] …
‘We pour it off. ‘Then (we) proceed to take a kneading-stick (and knead it).’
(women, 2017-16 @ 01:07-11)

kō sə̀rɔ̀ also occurred in elicited data based on cues with ‘before …’ (Fr *avant de/que*). The minor difference between […VP1] [*before* VP2] and […VP1] [*and proceed to* VP2] is a matter of perspective. Our data show that the linear sequence of VPs reflects the actual event chronology, i.e. one doesn’t prepose a ‘before’ clause to another clause. Clause-initial jí in (1221a-b) occurs elsewhere in conditional antecedents (chapter 16), but here it has the climax-marking function also seen with infinitival jí kō (§15.2.1.2)

(1221) a. é-yùò bè dīē
1Pl Fut eat.Pfv
[jí [kō sə̀rɔ̀] [kō yīʔí]]
[**if** [Infin **proceed.to**.Base] [Infin go.Base]
'We will eat before we go.' (Fl)
(lit. "We will eat, and then proceed to go.")

b. é-yùò dīē kɔ̄-kɔ̄
1Pl enter.Pfv Rdp-finish.Base
[jí [Ø blō] sə̀rɔ̀ [kō bà]]
[**if** [Art rain(n)] **proceed.to**.Pfv [Infin come.Base]]
'We had already gone inside before the rain came.' (Fl)

15.3.5.7.2 kà-sə̀rɔ̀ 'while, whereas, and yet, meanwhile'

This clause-initial form, borrowed from Jula, has the semantic effect of juxtaposing the content of its clause with that of another, without any chronological sequencing. The contents of the juxtaposed clauses may be disharmonious ('whereas', 'although', 'and yet'), neutral ('while'), or involve a shift of scene or perspective ('meanwhile'). We use 'while' in interlinears. We count nine total examples in our texts. Some are in (1222).

(1222) a. [kā= [Ø wùò-bí] [kà-sə̀rɔ̀ [mó^{n} nī] à-mā]
[like [Art orphan] [**while** [2Sg mother] be.Loc]
'like an orphan, although your mother is there.' (Ji, 2017-07 @ 00:43)

b. [kò gɔ̄= [Ø ɲū^{n}]] [ŋò klá],
[Infin draw.water.Base [Art water]] [Infin return.Base],
[kà-sə̀rɔ̀ [bó dɔ̌] à sɛ̄^{n}
[**while** [3AnSg man] Ipfv gather.Ipfv
[ē kə̀-rà-ʔá jə̀rɔ̀^{n}] mɔ̂→]
[Art meat-Pl Rel] concerning],
bó á gbɛ̄ bè
3AnSg PfvNeg take.Base Dem.Def
'Then she (=hare) drew water and went back. Meanwhile, the wild animals that her (=hyena's) husband was gathering (hunting), did she not take them?'
(Bi, 2017-08 @ 03:00-02)

c. nó^{n} kō yūā [ná= á ɲī]
1Sg Infin grope.Base [1Sg PfvNeg see.Base]
[wō sūʔɔ̄ [ŋ̀ kɛ̀-tɛ̀ʔɛ̀]],
[Infin give.Base [1SgRefl hand]],
à-sə̀rɔ̌= [Ø bū^{n}ʔɔ̄^{n}] dìʔɛ̀ [wō dīē]
while [Art dog] follow.Pfv [Infin enter.Base]
'I groped along, without seeing. (I) gave (=reached out) my hand, while the dog pursued it (=hare) into (the burrow).' (Bi, 2017-10 @ 04:23)

15.3.5.8 sánì and sá^{n}tíɛ́ 'when'

sánì and sá^{n}-tíɛ́ ~ sánì-tíɛ́ are borrowings from Jula. sánì is attested in a somewhat fragmented passage (Bi, 2017-10 @ 05:36) that we will not reproduce here. It seems to mean 'by the time (that …)' in (Bo, 2019-03 @ 02:05). A related form may be sá^{n}dè (Bo, 2019-11 @ 01:08).

Clause-initial sá^{n}-tíɛ́ ~ sánì-tíɛ́ is somewhat fused. It is said to be from Jula sánì ò cɛ́ 'before' or 'until'. There is one textual example (1223). The exact sense is unclear but it does involve a temporal gap between two events.

(1223)

ò	kà=	á-pɛ̄^{n}	[bè	tɔ̀ʔɔ̀]	[íɲàʔà	nī]
3Pl	Infin	go.Base-remain.Base	[Dem.Def	place]	[business	Loc]

sá^{n}-tíɛ́	ò	nà	klá-bà
when	3Pl	Fut	return.Base-come.Base

'They (people turned into elephants) remained in that place going about their business, while they were (getting ready) to come back.' (Ji, 2017-09 @ 07:20)

The other textual attestation of sá^{n}-tíɛ́ is in a conditional antecedent from the same speaker (Ji, 2021-02 @ 03:09, repeated at 03:18): 'whenever a war begins'.

15.3.5.9 Clause-final də́rɔ́^{n} 'only' in sense 'as soon as'

The 'only' particle də́rɔ́^{n} (§19.2.1) can occur at the end of a clause denoting a telic event in the sense 'as soon as', 'no sooner (did …)', setting up a following foregrounded event (1224).

(1224)

ɔ̀^{n}	glō	[dè	bá=	ā	ʃī^{n}ʔì^{n}	də́rɔ́^{n}→],
3AnSg	exit(v).Pfv]	[Quot	LogoSg	Ipfv	run.Ipfv	**only**],

[ē	bɔ̌]	wò	tí^{n}-gbɛ̄	=ɔ̀
[Art	elephant]	Infin	pull.Base-pick.up	3AnSgObj

'As soon as she got out (of the water) intending to flee (from it), the elephant pulled her and picked her up.' (Bi, 2017-09 @ 02:50-54)

See also (Ma, 2017-02 @ 01:36).

15.3.5.10 'Since [time measure] ago' (à= Ø yíʔí)

à= Ø yíʔí 'it goes' occurs at the beginning of a construction denoting an extended time interval continuing to the present, cf. Eng *for* as in *for (the last) five years* …

(1225)

à=	Ø	yíʔī=	[[Ø	blō	[Ø	jɔ̌^{n}]]	nī]
3Inan	Ipfv	go.Ipfv	[Art	rain(n)	[Pl	two]	Loc]

nó	má	ɲɛ̀	mó
1Sg	IpfvNeg	see.Ipfv	2Sgs

'I haven't seen you for two years.' (Ji)

The syntax, with Ipfv verb, is similar to French (*depuis deux ans je ne te vois pas*) rather than to English with its present perfect (*have seen*) predicate.

16 Conditional constructions

True conditionals express an entailment between two propositions in which the second (the “consequent”) is asserted to be true or imperative if the first (the “antecedent”) is true. Conditionals are **hypothetical** when the reality of the antecedent eventuality is not known, either because it lies in the future or because the speaker cannot determine its truth (§16.1). Special cases are ‘even if’ (§16.2.1), ‘as soon as’ (§16.2.2), and ‘whether or not’ (willy-nilly) conditionals (§16.3). Conditionals are **counterfactual** when the reality of the antecedent is known or supposed to be false (§16.4).

In Tiefo-D as in many languages the difference between hypothetical conditionals (‘if’) and simple chronological sequencing (‘when/after’) is blurry.

16.1 Hypothetical conditionals

Typical hypothetical conditionals have the structure (1226). Sbj = subject, Vb = verb.

(1226) a. antecedent

positive:	(jí)	Sbj	bà		Vb.Base …
negative:	(jí)	Sbj	bà	máⁿ	Vb.Base …

b. consequent
indicative main clause (positive or negative)
or: deontic (e.g. imperative, prohibitive) clause

jí has a less common dialectal variant já. There may be an etymological connection with já ‘leave, let’, which itself has a dialectal (Bi) variant jí.

In simple future-time ‘if … then …’ hypotheticals, the consequent is normally a regular NA-future indicative clause (1227) or an infinitival phrase.

(1227)	ŋ̀	bà	ɲɔ̀	yá,	
	2Sg	**if**	drink.**Base**	Dem.InanSg,	
	[è	lá-fùʔù]	nà	súʔú	mó
	[Art	disease]	**Fut**	catch.Base	2Sg

‘If you-Sg drink that, you’ll be sick’ (“sickness will catch you”) (Fl)

However, we will see that the consequent may also be infinitival in form, as though it were part of a series of parallel events in a narrative (§16.1.2.3). Therefore the semantic relationship between antecedent and consequent may be somewhat different between Tiefo-D and European languages.

Two antecedent clauses may be juxtaposed, leading to a single consequent. An example is (Fl, 2017-11 @ 06:10): ‘If it’s a question of water, a question of water, if you just go and arrive there, …’. In this example, the first antecedent clause is higher-level, merely indicating the topic. See §16.1.1.9 below for another way to combine two clauses within an antecedent, using an infinitival construction.

16.1.1 Hypothetical antecedents

There are two particles relevant to antecedents. Post-subject bà is very common by itself, in which case the free translation may waver between ‘if’, ‘when’, and ‘whenever’. When clause-initial jí is present, often accompanied by bà, the hypothetical (irrealis) modality is strenghened.

16.1.1.1 Post-subject bà ~ mà ‘if’

This morpheme occurs immediately after the subject. The dialectal variants are in (1228).

(1228)

morpheme	dialect	comment
bà	Fl Ma	
"	Bi	nasalizes to mà after a nasal or nasal syllable
mà	Ji	

bà ~ mà raises to bā ~ mā before an L-tone (§3.6.2.1).

In Bi, the initial stop in bà often fully nasalizes to m after a nasal consonant (proclitic 1Sg ŋ́ or 2Sg ŋ̀) or a nasal syllable (3AnSg proclitic ɔ̀^{n}, 2Sg mó^n, 1Sg nó^n). Such full nasalization is typical of Bi dialect in several morpheme combinations (§3.4.4.3). As usual in such cases, the nasality does not extend to the end of the syllable, so we have mà rather than #mà^n, with no forward nasalizing effect on the following verb. Hence /ŋ̀ bà bà/ ‘if you-Sg come’ is realized in Bi dialect as (ŋ̀) mà bà, not as #(ŋ̀) mà^n mà(^{n}).

The proclitic 2Sg combination /ŋ̀ bà/ is problematic in Bi dialect, since after nasalizing b to m, the proclitic nasal is often deleted, resulting in Ø mà varying with ŋ̀ mà. The nonproclitic 2Sg pronoun may also be used before bà (mó bà, Bi mó^n mà).

Although full nasalization does not usually occur in other dialects, the Ji variant mà may be the diachronic result of generalization of a former nasalized variant like that in present-day Bi dialect.

The verb following bà or variant in antecedent clauses is normally in base form, which suggests an original verb-verb compound. An etymological derivation from bà ‘come’ as first verb would explain this. However, the fact that other inflectional morphemes intervene between bà ‘if’ and the following verb (next subsection below) is counterevidence against ‘come’ as etymon.

16.1.1.2 Combinability of bà with inflections and verb forms

In positive antecedents, the most common construction is bà (or variant) plus the base of the verb. Some examples involving verbs with distinct base and Ipfv forms, so that the base stem is unmistakable, are in (1229). Minor dialectal variants in vocalism are normalized here.

(1229)	verb	bà/mà …	gloss	reference
	bà/**bà**/bē	… bà	‘come’	(Ma, 2017-01 @ 01:26)
	ɲà/**ɲī**/ɲɛ̀	… ɲī	‘see’	(Ji, 2017-04 @ 02:11)
	dìè-só/**dì-só**/dī-à-ʃí	… dì-só	‘fall’	(Fl, 2017-05 @ 01:55)
	klɔ̄^{n}/**kɔ́^{n}**/klú^n	… kɔ́^{n}	‘chew’	(Bi, 2017-08 @ 06:07)
	ʃìʔɛ̀/**sūʔɔ̄**/sūʔū	… sūʔɔ̄	‘give’	(Bi, 2017-08 @ 06:29)

The combinations in (1229) are aspectually unmarked, but functionally perfective or at least non-imperfective (above all, non-habitual). The aspectual distinction can be subtle, since statements of general causal relationships are often formulated in terms of specific exemplars, for example with generic ‘you’ in Tiefo-D as in English, e.g. ‘if a bee bites you (generic), you’ll feel it’.

bà or variant can be separated from the verb by any of the inflectional elements in (1230).

(1230)		
a. negative		
	á	perfective negative
	má^n	imperfective negative
b. positive		
	kō … nī	progressive (‘be …-ing’)
	bè	future
	nà	future
c. neutral		
	kō	infinitive

Perfective negative bà á is for practical purposes the negation of the aspectually unmarked bà plus base of verb. As elsewhere, the verb after á is in base form.

(1231) a. jí bè bà á klè,
if Dem.Def **if** **PfvNeg** be.done.**Base**,
[è blí-kɛ́ kǎ^n] =à^n wí =rɛ̄ʔ
[Art hare Dem.AnSg] Ipfv die.Ipfv Emph
‘If that isn’t done, that hare surely dies.’ (Fl, 2017-05 @ 03:09)

b.

[ɔ̀ⁿ	màⁿ	á	dī-glō]		
[3AnSg	**if**	**PfvNeg**	remove.**Base**]		
[ɔ̀ⁿ	nàⁿ	sɔ̀ⁿʔɔ̀ⁿ	[kútərú	té]	lè]
[3AnSg	Fut	defecate.Base	[entirely	Foc.Inan]	Emph]

‘If he doesn’t take it out, he will totally shit (=be screwed).’
(Bi, 2017-08 @ 07:03)

c.

jí	zàkì	á	ɲɔ̄	=ʔ,
if	Z	PfvNeg	drink.Base	Neg,
à	má	dáⁿ	ɔ̀ⁿ	
3Inan	IpfvNeg	be.sweet.Ipfv	Dat.3AnSg	

‘If Zaki doesn’t drink, he isn’t happy.’ (Ji)

Imperfective aspect is very rare in conditional antecedents with bà ~ mà, since the basic antecedent type with base verb does not restrict the number of hypothetical events. If the verb in the antecedent is jī ‘know, be familiar with’, which is intrinsically imperfective, the antecedent is understood as imperfective semantically. Under negation, IpfvNeg máⁿ rather than PfvNeg á is used before jī (1232a). However, the positive version lacks Ipfv à (1232b). The situation is the same with a purely stative adjectival verb like dúʔú ‘be heavy’ (1232c-d). Similarly, locational à-mā ‘be (somewhere)’ and its negation ní-mā ‘not be (somewhere)’ occur in antecedents (1232e-f) However, any adjectival quality (color, size, wetness, taste, temperature, etc.) that has an associated dynamic verb will use the latter (e.g. ‘turn red’ rather than ‘be red’) in conditionals, with PfvNeg á in the negative version (1232g-h).

(1232) a.

móⁿ	mà	máⁿ	jī	[Ø	kě	bè]
2Sg	if	**IpfvNeg**	know.**Ipfv**	[Art	matter	Top.Inan]

‘if you (generic) aren’t familiar with a (certain) thing’ (Bi, 2017-09 @ 04:29)

b.

jí	mó	mà	jī	[Ø	kě	jī]
if	2Sg	if	know.**Ipfv**	[Art	matter	Indef]

‘if you are familiar with something’ (Ji)

c.

à	bà	má	dūʔú,	bà	[kà	lō]
3Inan	if	**IpfvNeg**	be.heavy.**Ipf**v,	come.Base	[with	3Inan]

‘If it isn’t heavy, bring it!’ (Fl)

d.

à	bà	dūʔú,	já	=nì	mā
3Inan	if	be.heavy.**Ipfv**,	leave.Base	3InanObj	there.Def

‘If it’s heavy, leave it there!’ (Fl)

e.

jī́=	[Ø	bī-dɔ̌	jī]	bā	à-mà	fə́ráⁿ
if	[Art	younger.sib	Indef]	if	**be.Loc**	too

‘if moreover there is any younger brother’ (Ma, 2018-01 @ 01:21)

f. jí zàkí bà ní-mā
if Z if **not.be**.Loc
'if Zaki isn't there' (Fl)

g. à bà á ɲāʔá, mâ dí =nì
3Inan if **PfvNeg** turn.red.**Base,** Proh eat.Base 3InanObj
'If it hasn't turned red (=if it isn't red), don't eat it!' (Fl)

h. à bà ɲāʔá, dí =nì
3Inan if turn.red.**Base**, eat.Base 3InanObj
'If it has turned red (=if it is red), eat it!' (Fl)

In elicitation, our Fl assistant did accept (with misgivings) imperfective antecedents based on aspectually dynamic verbs. Along with the usual phrasing (1233a), he accepted the imperfective version (1233b), with dɛ̄ 'sleep.Ipfv' but without Ipfv à. There are no textual attestations of such imperfectives. For practical purposes, the antecedent with base verb neutralizes the aspectual opposition.

(1233) a. [ŋ̀ bà dɔ̄] [zàkí nà kò =mì]
[2Sg **if** sleep.**Base**] [Z **Fut** hit.**Base** 2SgObj]
'If you-Sg fall asleep, Zaki will hit you.' (Fl)

b. [ŋ̀ bà dɛ̄] [zàkí bē cɥ̀ì =mì]
[2Sg **if** sleep.**Ipfv**] [Z **Fut** hit.**Ipfv** 2SgObj]
'If ever/Whenever you fall asleep, Zaki will hit you.' (Fl)

A progressive antecedent is in (1234).

(1234) [ē yə̀-ró] bà wò [yíʔí ň] [[Ø blāʔā] nī],
[Art woman-Pl] **if** **be** [go.**Prog** **Prog**] [[Art pond] Loc],
[ò bíɛ́]— ŋ̀ à lúⁿ [ò dígə̀-rɔ̀]
[3Pl all]— (nasal) Ipfv look.at.Ipfv [PlRefl Recip]
'Whenever the women were on the way to the pond, everybody was looking at (=could see) each other.' (Bi, 2017-08 @ 00:30-34)

There are several textual attestations of bà plus the BE-future (1235a-d). At least some of them involve volition. There is one textual example of bà plus the NA-future (1235d). This example involved encouraging a reluctant speaker-singer during a recording session.

(1235) a. dè [jó= ò bà bè yīēʔē] [dè *bon*]
say.Pfv [if 3Pl **if** **Fut** go.**Pfv**] [say.Pfv well]
dè bá= à jī̀= [[Ø ʃíó-kɛ̀ⁿ jī] tɔ̀ʔɔ̀]
say.Pfv LogoSg Ipfv know [[Art magician Indef] place]
'(Hare:) said: "if you-Pl will go (that way), well, I know the location of a magician." ' (Fl, 2017-05 @ 02:08)

b. jɔ́= ɔ̄ⁿ mà bē tə̀rɛ̀ⁿ-pɔ̄ⁿ,
if 3AnSg **if** **Fut** sit.**Pfv**-be.able.Base,
ɔ̄ⁿ wō dò =nì
3AnSg Infin say.Base 3AnSg
'If he can (=is willing to) be seated (=serve as chief), he says (it), …'
(Ma, 2018-01 @ 01:17)

c. [jí ò bà bē klè [kā [jə̀rɔ́ⁿ kā]]]
[if 3Pl **if** **Fut** do.Pfv [with [Rel manner]]]
[ò kò klè]
[3Pl Hort do.Base]
'If they are going to do it in some way, let them do it.'
(Bo, 2019-03 @ 03:18)

d. mó mà bè būō-pɔ̄ⁿ [ē ɛ̀ʔɛ́ jī]
2Sg **if** **Fut** get.Pfv-be.able.Base [Art thing Indef]
'If you manage to earn anything, …' (Bo, 2019-03 @ 03:26)

e. jɔ́ⁿ= ɔ̄ⁿ mā nà dò-pɔ̄ⁿ [Ø jī] [à nī]
if 3AnSg **if** **Fut** speak.Base-be.able.Base [Art Indef] [3Inan Loc]
ɔ̄ⁿ bà [à lō]
3AnSg come.Base [with 3Inan]
'If she will be able to say some of it, let her bring it.' (Bo, 2019-13 @ 03:06)

16.1.1.3 Antecedents with post-subject bà (without jí)

Post-subject bà (or variant) is extremely common in Tiefo-D discourse. In many textual examples, it is difficult to decide between free translations with 'if' (hypothetical future event), 'when' (factual past event or probable future event), or 'whenever' (regularly occurring event).

In the generalizing statement (1236), either 'if' or 'whenever' is appropriate.

(1236) dè [[Ø yúó dó] bā dì-sō= [[Ø sə̀ròʔò] nī]]
say.Pfv [[Art person Top] **if** fall.Base [[Art baobab] Loc]]
d= [[ɔ̄ⁿ wī] [yí-ʃìʔì]-ní] má dáⁿ =ʔ,
Quot [[3AnSg owner] [get.up]-VblN] IpfvNeg be.pleasant.Ipfv Neg,
'(Hare) said: "but if a person falls from a baobab tree, the fellow's recovery isn't pleasant.' (Fl, 2017-05 @ 01:55)

Example (1237), by contrast, deals with a specific situation. Still, since Hare expects that the protagonist will probably chew the leaves, the conditional is borderline 'if/when'.

(1237) dè Ø mà kɔ̃ⁿ= [Ø bìⁿʔɛ́ⁿ],
Quot 2Sg **if** chew.Base [Art leaf],
ŋ̀ kō dè á dè— [[ē sə̀ròʔ= á] bìⁿʔɛ́ⁿ]
2Sg Infin say.Base oh! Quot [[Art baobab Dem.InanSg] leaf
à dáⁿ =dɛ̄ʔ,
Ipfv be.pleasant Emph,
‘(Hare:) “if you chew the leaves, you’ll say ‘this baobab’s leaves sure are tasty!’ ” ’
(Bi, 2017-08 @ 06:07)

In (1238), both antecedent and consequent events occurred in the past, so ‘when’ is the clear choice for free translation.

(1238) ó bà jùʔɔ̀ [ó biɛ́] ò yíʔí
1Pl **if** hear.Base [1Pl all] Infin go.Base
[gō rà-ɲɔ́ⁿ =òⁿ]
[Infin go.Base-look.at.Base 3AnSgObj]
‘When we heard, all of us went there to look at it.’ (Bi, 2017-09 @ 00:35)

The bà construction figures in a typical Tiefo-D discourse pattern, whereby the narrator invites the listener into the scene being described. A phrase like ‘if you saw X’ is the mechanism for this (1239). ‘Friend’ at the beginning is a vocative to the addressee.

(1239) ɲánɔ̀, [ɔ̄ⁿ blè =rɛ̄ʔ], fɔ́ k-ā—
friend, [3AnSg get.tired Emph], until Infin-Ipfv—
fɔ́— mó mà ɲɔ́— [[=ɔ̄ⁿ dɛ́-ɲūⁿ]
until— 2Sg **if** look.Base— [[3AnSg body-water]
[[[k-ā sə́rúⁿ-àⁿ-də́rá] sìɲá] nī]
[[[Infin-Ipfv descend.Ipfv-Ipfv-be.very.Ipfv] situation] Loc]
‘My friend, he sure was tired, to the point (extent) that, if you looked, (you’d see that) his sweat was continuously dripping down.’ (Ji, 2017-01 @ 02:25)

An antecedent clause with bà may be immediately followe d, often with no prosodic break, by a second same-subject VP with bà but without repeating the subject. One construction of this type has ‘come’ in the first antecedent, followed by a VP with doubled ‘come’ compounded with a second verb, see §16.1.1.6.1 below. However, the double-antecedent construction is more general than this. Whenever two events can be phrased as a main clause plus a same-subject infinitival VP, they can be phrased as a double-antecedent construction in a conditional. An example is (Bo, 2019-03 @ 00:17) where the second antecedent is just bà kō ‘(and) if finished’. Another is (Bo, 2019-03 @ 00:57) where the second antecedent begins with mā dàⁿ ‘(and) if (it) has reaached …’. Here the prosodic phrasing is so tight that 3InanObj =nì(ⁿ) at the end of the first antecedent nasalizes bà to mà (which raises to mā before L-tone). A triple antecedent is [… bà dú] [bà yíʔí-ʃìʔì] [bā dàⁿ] ‘when (the maize) has been sown (=planted), and has grown (high), and has ripened’ (Bo, 2019-06 @ 00:12).

The second antecedent in such a pairing sometimes has a new subject, as in (Bo, 2019-03 @ 00:22): ‘when the clearing (of the field) is finished and when it has rained, …’. Here, however, the prosodic phrasing need not be tight.

For mā-ɲī, apparently frozen from ‘if you see/saw’ but functioning as a backchannel element in interactive narrative, see §19.5.2.

16.1.1.4 Antecedents with pre-subject jí plus post-subject bà

The preceding section described hypothetical antecedents with post-subject bà as the only conditional marker. Here we consider antecedents with both clause-initial (pre-subject) jí and post-subject bà. In general, jí reinforces the hypothetical (irrealis) modality of the consequent, and thereby reinforces the contingent nature of the consequent. This makes ‘if’ rather than ‘when’ appropriate in free translations. In other words, the jí … bà combination is not regular in narrated event sequences as is simple bà.

(1240) a. jī= [Ø bī-dɔ̌ jī] bā à-mà fɔ́rá^{n},
if [Art younger.sib Indef] **if** be.Loc too,
[ē bī-dɔ̌] kō dò =nì [[Ø bí-ʃīō] bàʔà],
[Art younger.sib] Infin say.Pfv 3InanObj [[Art children] Dat],
‘If moreover there is any younger brother, the younger brother will say it to the children.’ (Ma, 2018-01 @ 01:21)

b. jí [à dó] bà kɔ̄= [Ø wú-ní]
if [3Inan Poss.Inan] **if** be [Art die.Base-VblN]
[ò má dò bà-bàʔà] [ŋ́ kò wú =ū→],
[3Pl IpfvNeg speak.Base/Ipfv quickly] [1Sg Hort die.Base Q],
‘(Hare:) “ooh! ooh! If its (meaning) is (my) dying, won’t you-Pl tell (me) quickly, so I may die!” ’ (Fl, 2017-05 @ 03:29)

c. dè *bon* dè jí ɔ̀^{n} mà á là [bó nī]
Quot well Quot **if** 3AnSg **if** PfvNeg believe.Base [LogoSg Loc]
‘(said:) “all right, if you-Sg don’t believe me, …’
(women, 2017-13 @ 02:31)

While (1240a) is a classic conditional describing a causal relationship, the antecedents in (1240b-c) are discourse-pragmatic in nature. This is also the case in (1241).

(1241) jí bè bā =à glò
if Dem.Def **if** it.is it.is
‘if that [focus] is (the way) it is’ (Bi, 2017-07 @ 02:53)

16.1.1.5 Pre-subject jí without bà in narrative and conditionals

Clauses with jí followed by a regular main clause, without bà, are slightly more frequent in the texts than those with both jí and bà. Clause-initial jí without bà does not always function as a conditional antecedent. When jí is added to an infinitival VP (jí kō), it mildly highlights the content of the new event, as the climax of a local narrative sequence. For discussion and examples, see §15.2.1.2.

Some examples with just jí that can be interpreted as conditional antecedents are formulaic expressions. The most important of these has the two variants in (1242a-b). Both are likely contracted from the original full form in (1242c), which did not occur in the texts but which our assistants readily produced.

(1242) a. jí á m bè
já= á m bè

b. jí má bè

c. jí à má kō bè
if 3Inan IpfvNeg be Dem.Def
'if it isn't thus'

The textual references are listed in (1243). The translations are rough.

(1243)		
	Bi, 2017-10 @ 05:06	'otherwise'
	Bi, 2017-10 @ 05:29	'anyway, …'
	Ji, 2017-11 @ 04:59	'other than that, …'
	Ji, 2017-11 @ 07:39	'anyway, …'
	Ji, 2017-11 @ 10:10	'anyway, …'
	Ji, 2017-11 @ 10:56	'in other words'
	Ji, 2017-11 @ 11:05	'otherwise'

For the discourse functions of this combination, see §19.1.3. Positive counterparts ('if it is thus/that') are also attested (1244a-b).

(1244) a. jí bè =yà
if Dem.Def it.is
'if it's that (way)' (Bi, 2017-07 @ 08:15)

b. jí bè =yà =rɛ̄→
if Dem.Def it.is Emph
'if that is the case' (women, 2017-18 @ 00:28)

Compare the final example in the preceding section, with both jí and bà.

Some jí antecedents in the texts are counterfactual, and we consider them in §16.4.1 below. Most of the remaining jí antecedents are standard hypothetical conditionals like those in (1245a-b).

(1245) a. jî= [Ø ná-bí ɲə́rámá] á dò dē ɔ̀^{n} tə̄rā^{n}-wō,
if [Art person very.good] PfvNeg say.Base Quot 3AnSg rest(v).Base,
ɔ̀^{n} má tə̄rɛ̄^{n}-à^{n}-wō =ʔ
3AnSg IpfvNeg rest(v).Ipfv Neg
'Unless the human told him (=a djinn) to rest, he didn't rest.'
(Ji, 2017-04 @ 01:13)

b. jí [jə̀rɔ́^{n} jù] á wùɔ̀ʔɔ́,
if [Rel eye(s)] PfvNeg be.open.Base,
[ō tɔ̀ bíɛ́] nà ɲī bùò
[3Pl other all] Fut see.Base 2Pl
'If (there is/you are) one whose eye has not opened (=is blind), all the others will see you-Pl.' (Ma, 2017-04 @ 02:05)

c. dè [jí bó wō [Ø də̀rì^{n}ʔí^{n} jī]]
Quot [**if** LogoSg sing.Base [Art song Indef]]
'(said:) "If I sing a song, …" ' (Bi, 2017-07 @ 05:57)

jí has other functions, not always easily distinguishable in texts. It can function as a dubitative complementizer 'whether' (§17.3.1.3). jí is present in some hortative clauses (§10.4.2.1.2). In (1246a), from a text describing marriage practices, jí is added to the very common infinitival kō sə̀rɔ̀ '(and) proceed to', to emphasize the locally climactic event. In (1246b) jí seems to function as a variant of já 'leave (alone); let, allow'.

(1246) a. kō sūʔ= [ɔ̀^{n} [Ø ná-bí-ó]] [kò dí],
Infin give.Base [Dat [Art person-Pl]] [Infin eat],
jí kō sə̀rɔ̀ [kō klà-lò [ē klà-lò-ní]],
if Infin proceed.Base [Infin have.fun.Base [Art party]],
'Then they give it to the people to eat. And then they have fun (sing and dance).'
(Bo 2019-10 @ 03:38)

b. jí nó wō [kō bà]
if 1Sg bathe.Base [Infin come.Base]
'(Please wait) until I bathe and come back.' (Fl)

16.1.1.6 Antecedents with bà/mà 'if' plus motion-verb compound

In §15.2.3.2-3 above we described constructions of the type (1247a-b).

(1247) a. [… *come* …] [Infin *come*.Base-Vb2.Base …]
b. [… *go* …] [Infin *go*.Base-Vb2.Base …]

where the infinitival VP contains 'come-' or 'go-' in base form (regular after infinitival kō) compounded with another verb (Vb2), and where this follows a main clause or VP containing a form of 'come' or 'go' (less often some other verb). The compound-initial 'come-' or 'go-'

takes a disguised (reduced or suppletive) form in comparison with the regular ‘come’ or ‘go’ verb as in main clauses (§15.2.3.2-3).

This doubling construction and some of the same disguises in ‘come-’ and ‘go-’ compounds also occur in conditionals. The formulae are those in (1248). Both clauses are conditional antecedents. The subject X appears overtly only in the first antecedent.

(1248) a. [*if* X *come*] *[if* *come*.Base-Vb2.Base …]
b. [*if* X *go*] [*if* *go*.Base-Vb2.Base …]

The ‘if’ morpheme in the relevant examples is bà (dialectally mà), which raises to bā/mā before an L-tone.

16.1.1.6.1 bà/mà ‘if’ plus ‘come-Vb2’ compound

Examples with ‘come’ in both antecedents are in (1249). ‘Come’ is bà/bà/bē in main clauses, i.e. with bà as base stem, so the first antecedent has bā bà or mā bà. The second antecedent has the reduced form à- plus the compounded -Vb2 in base stem

(1249) a. [ɔ̄ⁿ mā bà]
[3AnSg if **come.Base**]
[bā à-dìè] [dáʔá jə̀rɔ́ⁿ]
[if **come.Base**-enter.Base] [time Rel]
‘when he comes and enters’ (women, 2017-13 @ 02:42)

b. [ɔ̄ⁿ mā bà] [mā à-dìè] [dáʔá jə̀rɔ́ⁿ]
[Ji dialect version of (a)]

c. [zàkí mā bà] [mā à-ɲɔ̄]
[Z if **come**.Base] [if **come.Base**-drink.Base]
‘if Zaki comes and drinks’ (Ji)

This double-antecedent construction is effectively synonymous with a bà/mà antecedent plus an infinitival VP with bà- or à- ‘come’ (1250).

(1250) ɔ̄ⁿ bā bà [kō bà-dìè] [dáʔá jə̀rɔ́ⁿ]
3AnSg if **come**.Base [Infin **come**.Base-enter.Base] [time Rel]
[Fl version of (1249a) above, with infinitival VP]

Compounds with reduced à- ‘come’ plus some other Vb2’s can also occur in single antecedents without a preceding ‘come’ antecedent. (1251) is an example.

(1251) ŋ̀ mā à-bú māⁿ],
2Sg **if** **come.Base**-get.Base there.Def],
[bè ō bè]
[Dem.Def be Dem.Def]
‘If you-Sg get (=make a profit) there, that’s what it is.’ (Bi, 2017-09 @ 05:17)

Other likely textual examples of this bā à-Vb2 construction, but with verbs (Vb2) that do not distinguish base from Ipfv, are the following: (Bi, 2017-09 @ 04:36 & 04:48 & 05:32 & 05:35; 2017-10 @ 02:58).

16.1.1.6.2 bà/mà ‘if’ plus ‘go-Vb2’ compound

While the reduced compounding form of bà ‘come’ is reliably à-, the dialects have a wide range of often well-disguised compounding forms that replace yīʔē/yíʔí/yíʔí ‘go’. Those attested with bà/mà ‘if’ are listed in (1252). The “regular” bà yíʔí-Vb2 is unattested.

(1252)	‘if go and Vb2’			dialect
a.	bà-ʔá		Vb2.Base	Ma
	mà	á-	Vb2.Base	Ji
	bà	í-	Vb2.Base	Fl
b.	bā	rà-	Vb2.Base	Bi
	bā	là-	Vb2.Base	Bi (woman), Bo

The double-antecedent construction with a regular form of ‘go’ or a semantically related verb in the first antecedent and a ‘go-Vb2’ compound in the second is illustrated in (1253).

(1253) a. zàkí mà yíʔí [mà á-ɲɔ̄] (Ji)
“ bà yíʔí [bà í-ɲɔ̄] (Fl)
Z **if** **go**.Base [**if** **go**.Base-drink.Base]
‘if Zaki goes and drinks’

b. mó mà gbɛ̄ [mà á-dǎⁿ= [Ø cɔ̀fɔ̄rá]]
2Sg **if** take.Base [**if** **go**.Base-arrive.Base [Art T]]
‘if you take (the road) and go and arrive in Tiefora (village)’
(Ji, 2017-11 @ 09:19)

c. ō bà yíʔí [bā rà-dàⁿ māⁿ]
3Pl **if** **go**.Base [**if** **go**.Base-arrive.Base there.Def]
‘When they went and arrived there, …’ (Bi, 2017-10 @ 00:53)

Disguised ‘go-Vb2’ compounds can also occur in simple antecedents that do not follow another antecedent with ‘go’. Textual examples of ‘if go.Base-Vb2.Base’ are in (1254). All show substitutions for ‘go’ as in infinitival compounds for the same dialects.

(1254) a. ò mà á-wē [ō kɛ̀-tɛ̃̀ʔɛ̀] [à nī]
3Pl **if** **go.Base**-put.Base [PlRefl hand] [3Inan Loc]
‘if they go and put their hand(s) on it’ (Ji, 2017-04 @ 06:03)

b. ó bà rà-ē̃= [Ø pòʔó]]
1Pl **if** **go.Base**-walk.Base [Art the.bush]]
‘when we went hunting’ (Bi, 2017-10 @ 03:48)

c. [*donc* ō bà ʔá-té =ò kɔ̄,
[so 3Pl **if** **go.Base**-put.Base 3AnSgObj finish.Base,
[ò kō sə̀rɔ̀ [kō fũ̄ɔ̄ʔɔ̄ [[Ø klòʔó] n̄]
[3Pl Infin proceed.to.Base [Infin give.Base [[Art road] Loc]
‘When they have gone and installed him, they proceed to give him (permission) to the road (=to go).’ (Ma, 2018-01 @ 02:07)

16.1.1.7 Apparent relative clause as antecedent

The relative marker and the indefinite determiner are morphologically associated (1255).

(1255)

	unmarked Sg	AnPl	InanPl	reference
relative	jə̀rɔ́^{n}	jə̀ró	jə̀ré	§14.1.1
indefinite	jī	jə̄-rō	jə̄-rē	§4.4.2.3

Sometimes the “relative” form functions as an indefinite. This happens in conditional antecedents that contain both bà ~ mà ‘if’ and relative jə̀rɔ́^{n}. This combination is problematic when translated literally, but it does make sense if the “relative” is interpreted as indefinite.

(1256) [è ná-bí ɲə́rámá] mā dè jə̀rɔ́^{n},
[Art person very.good] **if** say.Base **Rel**,
[è jə́rí^{n}] à ʃī^{n} [bì tóʔó]
[Art djinn] Ipfv work(v).Ipfv [Dem.Def Foc]
‘Whatever a human said (to do), that [focus] is what the djinn would perform.’
(Ji, 2017-04 @ 00:49)

We can parse the first clause either as a indefinite relative ‘whatever a human said’, with bà ~ mà adding a hypothetical modal note, or as a classic antecedent ‘if a person said/says something’, with jə̀rɔ́^{n} interpreted as a simple indefinite.

16.1.1.8 Specialized antecedent jí/já X má glò (‘if it is not X’)

A special type of antecedent with initial jí ~ já and without bà ~ mà occurs in the construction ‘if it isn’t X’, i.e., ‘unless it is X’. The predicate is má glò (=ʔ) ‘it is not’.

(1257) a.

jí	bè	má	glò
if	Dem.Def	**IpfvNeg**	**it.is**

‘if it isn’t that’ (i.e. ‘otherwise’) (Ji)

b.

jí	nó	má	glò,	sǒ	nà	yíʔí
if	1Sg	**IpfvNeg**	**it.is**,	who?	Fut	go.Base

‘if not me, who will go?’ (Ji)

See also jí-má-bè (§16.1.1.5, §19.1.3), and (1505) in §19.4.2.

16.1.1.9 Infinitival kō bà/mà ‘and if then’

The combination of infinitival kō plus bà ~ mà ‘if’ is attested twice in the texts for Ji dialect, in the form kō mà, as the second of two antecedent clauses. In the first antecedent clause, kō ‘be’ is part of the progressive construction. The second antecedent clause has infinitival kō followed by mà ‘if’. This is Ji dialect, so mà ‘if’ cannot be confused with bà- ‘come’ as compound initial. In narrative, infinitival phrases (clauses and VPs) typically function to mark chronological event sequences, and this appears to be the case in (1248).

(1258)

alors	[ò	mà	gō	bǎ	nī]
then	[3Pl	if	be	come.Prog	Prog]

ò	gō	mà	ɲī	[bè	ɛ̀ʔɛ́]
3Pl	**Infin**	**if**	see.Base	[Dem.Def	thing]

‘So if they are coming, and if they then see that thing, …’
(Ji, 2017-11 @ 08:03)

The other example of kō bà is (1259).

(1259)

ò	kō	bà	[Ø=	à-ɲī	=nì],
3Pl	Infin	come.Base	[Infin	come.Base-see.Base	3InanObj],

kō	mà	ɲɔ́	=ǹ]	mlɛ̌ⁿ-ʃìʔé
Infin	**if**	look.at.Base	3InanObj]	like.that-manner

‘(They) come and see it (=grotto). Then if (they) look at it—’
(Ji, 2017-11 @ 06:24 to 06:26)

16.1.2 Consequents in hypothetical conditionals

Consequent clauses that follow hypothetical antecedents with jí and/or bà are regular main clauses for the most part. They can be in various tense-aspect categories (imperfective, future, stative), either positive or negative, and either indicative or interrogative. In past-time contexts where we might expect a perfective or imperative consequent, infinitival phrases appear in some textual examples.

16.1.2.1 Future-tense consequent

The most common positive future clause type has post-subject future nà plus base of verb (1260a). The future negative has IpfvNeg má(^{n}) plus Pfv verb (1260b). These consequents follow prototypical antecedents that describe hypothetical future events.

(1260) a. [cógó-cògò, [ɔ̀^{n} wí] bā bà],
[anyway, [3AnSg owner] **if** come.Base],
[bó nà fù̀ʔú [ɔ̀^{n} wí] kù^{n}ʔú^{n} bè
[LogoSg **Fut** get.together.**Base** [3AnSg owner] today Dem.Def
'(thought:) "anyway, when the fellow comes, I will meet (=confront) the fellow even today." ' (Ma, 2017-02 @ 01:26)

b. *parce que* jí ɔ̌^{n}= Ø dò =nì,
because **if** 3AnSg PfvNeg speak.Base 3InanObj,
ɔ̀^{n} má^{n} mlɛ̄^{n}-tɔ̄^{n} =ò dò
3AnSg **IpfvNeg** release.**Pfv** 3AnSgObj Emph
'Because if he (=hare) doesn't say it, he (=hyena) won't release him.'
(Bi, 2017-08 @ 06:20)

16.1.2.2 Imperfective or stative consequent

The consequent may be imperfective to describe a recurrent event, or stative to describe a fixed state (1261a). In (1261b) the consequent is past imperfective.

(1261) a. ālè [à= ānàʔà-yùò] mà glú tɔ̀ʔɔ̀-tɔ̀ʔɔ̀, kō bà,
even [3Inan face-people] **if** exit(v).Base Rdp-place, Infin come.Base,
… [nó tóʔó] à yíʔí [à júò]
… [1Sg Foc] **Ipfv** go.**Ipfv** [with 3An]
'Even if leaders come here from various places, … I [focus] go with them.'
(Ji @ 00:41 to 00:51)

b. à dɛ́-[ɲí^{n}ʔɛ́^{n}-ní^{n}] bà kɔ̄→,
3Inan body-[be.sour-VblN] if finish.Base,
[ē pòʔó] dè é =rɛ̄ʔ
[Art the.bush] **IpfvPast** be.walked.**Ipfv** Emph
'When the pain of it ended, hunting would be done.' (Bi, 2017-10 @ 03:01)

Another imperfective example is in (1015a) above.

16.1.2.3 Infinitival consequent

In texts, when the consequent denotes an already realized event, it often appears in infinitival rather than Pfv form. The examples are for Bi dialect (1262). See also (1238) above.

(1262) a. ó bā d= ɔ́= à dī= [à— [Ø bɛ́ⁿʔɛ́ⁿ]],
1Pl **if** say.Base 1Pl Ipfv enter.Base [with— [Art tomtom]],
bɛ́ⁿʔɛ́ⁿ-yúó gò yíʔí
tomtom-people **Infin** go.Base
'If we intended to enter (Jinejan) with tomtoms, the tomtom people (=players) went (in).' (Bi, 2017-10 @ 05:48-54)

b. ō bà yíʔí [bā rà-dàⁿ māⁿ],
3Pl **if** go.Base [**if** go.Base-arrive.Base there.Def],
ò kō gbɛ̄ =wò
3Pl **Infin** pick.up.Base 3AnPlObj
'When they went and arrived there (=in the bush), they took them.'
(Bi, 2017-10 @ 00:53)

c. ó bà glú [bè tɔ̀ʔɔ̀],
1Pl **if** exit.Base [Dem.Def place],
ó gō sə̀rɔ̀ [gò→ má-ló]
1Pl **Infin** proceed.to.Base [Infin turn.Base]
'When we left that place, we proceeded to change direction.'
(Bi, 2017-10 @ 06:22)

However, what might seem to be infinitival consequents in imperative function are analysed as hortatives with kò (1263).

(1263) a. ò bā rà-ɲī =ɔ̀ⁿ,
3Pl **if** go.Base-see.Base 3AnSgObj,
ò gò súʔ= =ò [wō bà]
3Pl **Hort** catch.Base 3AnSgObj [Infin come.Base]
'If you-Pl go and see her, catch her and come (=bring her).'
(Bi, 2017-07 @ 06:39)

b. [[è dúrɲáⁿ] nīⁿ], [Ø mā à-māⁿ māⁿ]
[[Art world] Loc], [2Sg **if** be.Loc there.Def]
[Ø ŋà= à-klɛ̌= [Ø kɛ̌] dɔ́n-dɔ́n-dɔ́n-dɔ́n
[2Sg **Hort** come.Base-do.Base [Art matter] a.little (iterated)
'In this world, if you are there, do a thing gently.' (Bi, 2017-08 @ 10:25)

Optionally, infinitival consequents can occur where a future clause would also have been appropriate.

(1264) a. [ɔ̀ⁿ mà ká-súʔú =nì]
[3AnSg **if** do.again.Base-catch.Base 3InanObj]
[à kō gǎⁿ= [[Ø ʃìⁿʔíⁿ] nī]]
[3Inan **Infin** get.stuck.Base [[Art tree] Loc]]
'And if he puts his arms around it (=tree) again, it (=gourd) will catch (=get stuck) on the tree.' (Ji, 2017-01 @ 02:19)

b. [bè-kā ò mā bà] [ò kò glú ùʔù]
[thus 3Pl **if** come.Base] [3Pl **Infin** exit(v).Base together]
'That way, when they come, they (will) leave together (in a group).'
(Ji, 2017-09 @ 08:18)

The ability of consequents to appear in infinitival form, like noninitial clauses in narrative event sequences, suggests a tighter relationship between antecedents and consequents than we find in languages like English. One might summarize this by saying that Tiefo-D puts more emphasis on the chronological sequencing of antecedent and consequent than on any causal logic.

16.1.2.4 Imperative consequent

Imperative and other deontic consequents were elicited, so there is no hard grammatical prohibition on them. (1265) illustrates with an imperative. As a reminder, the base of the verb functions as imperative.

(1265) jî= [Ø [wɔ́-rúⁿ]-fɔ̄-rɔ́] bā bà, ʃîⁿʔìⁿ
(if) [Art thief-Pl] **if** come.Base, run.**Base**
'If the thieves come, run-2Sg!' (Bi)

16.1.2.5 Interrogative consequent

The consequent may be a question.

(1266) jí máⁿ= à-màⁿ [bó cùʔà-tɔ̀ⁿ] mɔ̂→,
if 2Sg be.Loc [3AnSg under] concerning,
mɔ́ⁿ nàⁿ— mɔ́ⁿ nàⁿ bú míⁿʔ-âⁿ mè-yá= =ā
2Sg Fut— 2Sg Fut get.Base Refl-2SgRefl **how?** **Q**
'If you are under it (=elephant), how will you find (=save) yourself?'
(Bi, 2017-09 @ 02:20 to 02:24)

16.2 Alternatives to regular 'if' particles

16.2.1 'Even if …' (álè)

Clause-initial álè 'even' followed by a regular main clause means 'even if…'. In other words, the factuality of the antecedent proposition has no effect on that of the consequent proposition. The 'even if' antecedent clause may be in any inflectional category, including perfective (1267a) and future. bà ~ mà may be absent (1267a-b) or present (1267c). Examples in (1267) are elicited.

(1267) a. álě= [Ø blō] bà,
even [Art rain] come.**Pfv**,
ná= à yíʔí= [[Ø dɛ̀] nī]
1Sg Ipfv go.Ipfv [[Art field] Loc]
'Even if rain comes, I'm going to the field(s).' (Ji)

b. álě= [Ø blò] á bà, …
even [Art rain] **PfvNeg** come.Base, …
'even if it doesn't rain, …' (Ji)

c. álè nó mà yíʔí [sàmàʔà nī],
even 1Sg **if** go.**Base** [Bobo Loc]
nó má cə̄rē mā =ʔ
1Sg IpfvNeg do.long.time.Pfv there.Def Neg
'Even if I go to Bobo, I won't be long there.' (Ji)

Textual examples are (527) above, and (1268).

(1268) álě= [Ø blō =rɛ̄=] Ø-mā
even [Art rain(n) Emph] be.Loc
'even if rain is there' (Ji, 2017-11 @ 05:03)

16.2.2 'As soon as …' (sú→)

There is no special form of the antecedent, which has the usual bà 'if' before the base form of the verb. Adverb sú→ 'immediately', subject to unbounded prolongation, is added at the end of the consequent. (1269) is elicited; there are no textual examples.

(1269) zàkí mā bà,
Z if come.Base,
ó à dí sú→
1Pl Ipfv eat.Ipfv **immediately**
'As soon as Zaki gets here/comes out, we'll eat.' (Ji)

For kɔ̀-kɔ̀ sú→ 'always, every day', where sú→ functions as a universal quantifier, see §6.6.1.2.

16.3 Willy-nilly and disjunctive antecedents ('whether X or Y …')

In a willy-nilly antecedent, the two truth-conditionally incompatible antecedents (e.g. positive and negative versions of the same proposition) are spelled out as parallel main clauss. Most elicited and textual examples have particle (w)ō or yō, glossed 'whether', at the end of both clauses (1270a-d). The negative enclitic =ʔ does not appear in the negative clause.

The particle may be intonationally prolonged as (w)ō→, again in both clauses. The pitch of the o vowel of the particle is steady (whether or not prolonged) and is between those of modal M and L tones. This is an intonational feature shared with polar interrogative =ā (§13.2.2.1).

(1270) a. [ē blō] à wó =ō
[Art rain(n)] Ipfv rain.fall.Ipfv **whether**,
[ē blò] má^{n} wó =ō,
[Art rain(n)] IpfvNeg rain.fall.Ipfv **whether**,
ná= à yíʔī= [[Ø dɛ̀] nī]
1Sg Ipfv go.Ipfv [[Art field] Loc]
'Whether it rains or not, I'm going to the field.' (Ji)

b. ɔ̀^{n} kō, [ē fə̂rà-fí^{n}] wō,
3AnSg be, [Art African] **whether**,
ɔ̀^{n} wō [ē *anglais*] wō
3AnSg be [Art English] **whether**
'whether he/she be an African, or whether he/she be an English person'
(Fl, 2017-11 @ 10:03)

c. [è ná^{n}-bí] à kó =ō→,
[Art child] Ipfv weep.Ipfv **whether**,
ɔ̀^{n}= Ø mīɛ̄ ō→,
3AnSg Ipfv laugh.Ipfv **whether**,
[ɔ̄^{n} dɔ̀ tóʔó] wō kǎ^{n}
[3AnSg man Foc] be Dem.AnSg
'Whether the young woman is weeping, or whether she is laughing (i.e. whether she likes it or not), her husband [focus] is that one.'
(women, 2017-13 @ 02:01)

d. [[è lé] dó] =ō,
[[Art house] Poss.Inan] **whether**,
[[è sáwú-cáʔá] dó] =ō
[[Art outside.of.house] Poss.Inan] **whether**,
[à bíɛ́] à dí [[bè tóʔó] dīē-kà]
[3Inan all] Ipfv be.eaten.Ipfv [[Dem.Def Foc] eat.Pfv-manner
'Whether the one for the house, or whether the one for the outside of the house. Both are eaten in that (same) [focus] manner of eating.'
(Bi, 2017-10 @ 02:45)

In one example, the consequent is repeated verbatim after both antecedents. In this case, the particle is L-toned (1271). This suggests that the distinctive intonational pitch of the particle in the preceding examples is conditional on direct juxtaposition of the two antecedent clauses.

(1271) Ø ŋō nā-dɛ̀ =ò,
2Sg be old.man **whether**,
lɛ̂ⁿ= [[Ø jɥ̀ɛ̀ʔɛ̀ dó] nī],
accept.Base [[Art God Poss.Inan] Loc],
Ø ŋò bí-ʃīɔ̄ⁿ =òⁿ,
2Sg be child **whether**,
lɛ̂ⁿ= [[Ø jɥ̀ɛ̀ʔɛ̀ dó] nī]
accept.Base [[Art God Poss.Inan] Loc]
‘Whether you are an old man, accept God’s (role)! Whether you are a child, accept God’s (role)!’ (Fl, 2017-03 @ 03:07-10; hesitation omitted)

In other words, ‘whether you are an old man or a child, …’.

Another textual example omits the clause-final disjunctive particles and directly juxtaposes the positive and negative antecedent clauses, without a prosodic break (1272). In this example there is no special intonational right-boundary pitch target in either clause. lɛ̄ⁿ [=ɛ̀ⁿ =nī] is the usual pronunciation of /lɛ̄ⁿ à nī/.

(1272) dè [[ē jɥ̀ɛ̀ʔɛ́] lɛ̄ⁿ [=ɛ̀ⁿ nī]]
Quot [[Art God] accept.Pfv [3Inan Loc]]
[[ē jɥ̀ɛ̀ʔɛ̀] á lɛ́ⁿ [=ɛ̀ⁿ nī]]
[[Art God] PfvNeg accept.Base [3Inan Loc]]
‘(said:) “… whether God accepts it or God doesn’t accept it, …” ’
(Fl, 2017-03 @ 00:28)

16.4 Counterfactual conditionals

In a counterfactual conditional, the antecedent event is understood not to have occurred. In the alternative reality in which the antecedent event did occur, the consequent event followed it.

16.4.1 Post-subject morphemes in antecedents and consequents

The antecedent of a counterfactual is expressed by combining pre-subject jí ‘if’ with a post-subject morpheme that precedes a negative marker (if present) and the verb in base stem. The post-subject morpheme is a past marker, in most cases (dè, yì, è) identical in form to an IpfvPast morpheme used before Ipfv verbs in the past imperfective construction (§10.3.1.8). For Bi, IpfvPast dè occurs when the only ‘if’ morpheme is clause-initial jí (§16.4.3-4) while regular past râ is required when post-subject bà ‘if’ is present (§16.4.5). Since PfvNeg á is regular, the only remaining oddity in (1273) is nà in Ji negative antecedents with nà á. On this nà see §16.4.2 below.

(1273) Counterfactual antecedent post-subject morphemes

dialect	post-subject		comment
	positive	negative	
Bi	dè, rà, râ	dè á	râ ~ rà Past, dè IpfvPast (§10.3.1.1)
Fl	yì	yì á	yì IpfvPast
Ji	è	nà á	yì IpfvPast, nà CFact

Ji è is realized as ò after 1Sg nó and 2Sg mó.

Counterfactual consequents have the post-subject morphemes in (1274). bè is the future marker, and even when optionally omitted it is followed by a Pfv verb as it is in main clauses. bè raises to bē before L-tone. The chief oddity in (1274) is the combination nà bè, which does not occur in main clauses.

(1274) Counterfactual consequent post-subject morphemes

dialect	post-subject	
	positive	negative
Bi	nà^{n} bè ~ nà^{n} mè	dè má^{n}
Fl	nà bè	ì má
Ji	nà bè, è bè	(è) má (bè)

A special case is the bare-bones construction jí X má glò 'if not for X', a morphologically hypothetical antecedent that is, however, usually followed by a counterfactual consequent. See (Ji, 2017-04 @ 05:19) for a textual example.

16.4.2 Post-subject nà as counterfactual morpheme

In main clauses, nà (Bi nà^{n}) is the productive future particle in all dialects, followed by the base of the verb (§10.2.3.1). However, in counterfactuals it occurs in consequents in contexts that make a direct connection with future main clauses problematic. This is already evident in the arrays showing post-subject morphemes and their combinations in elicited counterfactuals (preceding section).

Specifically, the combination nà bè (plus Pfv verb) in counterfactual consequents means 'would have'. In other words, it is an irrealis future-in-past, similar to the so-called "(past) conditional" of Romance languages. Since bè plus Pfv stem is a future construction (§10.2.1.2), what nà adds is the shift to a past reference time, along with the irrealis modal quality. The same is true of nà in the combination nà á with PfvNeg morpheme á in antecedents for Ji dialect.

We therefore label nà (Bi nà^{n}) in counterfactuals not as future, rather as counterfactual ("CFact"). We will see that in some textual passages nà combines in similar function with infinitival kō (§16.4.7 below). The CFact label might also be appropriate for nà in tá nà 'like/as though' clauses (§15.3.1.2).

In Bi dialect, the future and counterfactual morphemes are nàⁿ with the typical nasalized vowels of this dialect. This is distinct from nà with oral vowel in Bi counterfactual antecedents, which is a variant of rà secondarily nasalized after a nasal syllable, as in 1Sg nóⁿ nà.

16.4.3 Elicited counterfactuals

Elicited examples for Bi dialect are in (1275). The 'if' morpheme is clause-initial jí, not post-subject bà. The post-subject inflectional morpheme in the antecedent is IpfvPast dè followed by base (not Ipfv) verb for positive polarity, and IpfvPast dè plus perfective negative for negative polarity. The consequent has nàⁿ plus perfective future with bè for positive polarity, and IpfvPast dè plus future negative for negative polarity. IpfvPast dè and future bè can be fully nasalized, respectively, to nè (1275a) and to mè (1275b) after a nasal syllable. bè (or nasalized mè) is raised to M-tone before an L-tone. (1275d) has negative antecedent and negative consequent.

(1275) a. jí nóⁿ nè kɔ̄ⁿ =nìⁿ,
if 1Sg **IpfvPast** know.**Base** 3InanObj,
nóⁿ nàⁿ mē tɛ̀ⁿ-jùʔɔ̀ móⁿ
1Sg **CFact** **Fut** help.Pfv 2Sg
'If I had known, I would have helped you.' (Bi)

b. jí zàkí dè glú,
if Z **IpfvPast** exit.**Base**,
nó nàⁿ mē ɲà =ò
1Sg **CFact** **Fut** see.Pfv 3AnSgObj
'If Zaki had come out, I would have seen him.' (Bi)

c. jí zàkí dè ɲìⁿ nóⁿ
if Z **IpfvPast** see.**Base** 1Sg
'if Zaki had seen me' (Bi)

d. jí nóⁿ dè á ɲī =nìⁿ,
if 1Sg **IpfvPast** PfvNeg see.Base 3InanObj,
nóⁿ dè máⁿ lɛ̄ [à nīⁿ]
1Sg **IpfvPast** IpfvNeg accept.Pfv [3Inan Loc]
'If I hadn't seen it (myself), I wouldn't have believed it.' (Bi)

Elicited examples for Ji dialect are in (1276). The antecedent has IpfvPast è in one surface form or another plus the base stem of the verb for positive polarity, and CFact nà plus perfective negative for negative polarity. The consequent has CFact nà or IpfvPast è plus perfective future with bè for positive polarity, and optional IpfvPast è plus future negative (with bè optional) for negative polarity. Negative antecedents are in (1276d-e). Negative consequents are in (1276c-d,f).

(1276) a. jí nó =ò kɔ̄^{n} =nì,
if 1Sg **IpfvPast** know.**Base** 3InanObj,
nó nà bē tɛ̀^{n}-jùʔɔ̀ mó
1Sg **CFact** **Fut** help.Pfv 2Sg
'If I had known it, I would have helped you.' (Ji)

b. jí zàkí è glú,
if Z **IpfvPast** exit(v).**Base**,
nó =ò bē ɲà =(y)ò
1Sg **CFact** **Fut** see.Pfv 3AnSgObj
'If Zaki had come out, I would have seen him.' (Ji)

c. jí mó =ò tɔ̄,
if 2Sg **IpfvPast** hide.Base,
zàkì má^{n} ɲà mó
Z **IpfvNeg** see.**Pfv** 2Sg
'If you-Sg had hid, Zaki wouldn't have seen you.' (Ji)

d. jí zàkí nà á glú,
if Z **CFact** **PfvNeg** exit.Base,
[ē bɔ̌] má (bè) bū= =ò
[Art elephant] **IpfvNeg** (**Fut**) get.Pfv 3AnSgObj
'If Zaki hadn't come out, the elephant wouldn't have gotten him.'
(< būō) (Ji)

e. já zàkí nà á ɲɔ̄
if Z **CFact** **PfvNeg** drink.Base
'if Zaki hadn't drunk' (Ji)

f. jí zàkí nà á glú,
if Z **CFact** **PfvNeg** exit(v).Base,
nó =ò má ɲà =yò
1Sg **CFact** **IpfvNeg** see.Pfv 3AnSgObj
'If Zaki hadn't come out, I would not have seen him.' (Ji)
(< /nó è má/)

Elicited examples for Fl dialect are in (1277). The antecedent has IpfvPast yì, which is followed by base stem for positive polarity and by perfective negative for negative polarity. The consequent has CFact nà plus perfective future with bè for positive polarity, and IpfvPast yì plus future negative (without bè) for negative polarity. Negative antecedents are in (1277d-e). A negative consequent is in (1277e).

(1277) a.

jí	zàkí	(y)ì	glú,
if	Z	**IpfvPast**	exit.Base,

nó	nà	bē	ɲà	=ò
1Sg	**CFact**	**Fut**	see.Pfv	3AnSgObj

‘If Zaki had come out, I would have seen him.’ (Fl)

b.

jí	zàkí	(y)ì	ɲì	nó
if	Z	**IpfvPast**	see.Base	1Sg

‘if Zaki had seen me’ (Fl)

c.

nó	nà	bè	wūō
1Sg	**CFact**	Fut	die.Pv

‘I would have died’ (Fl)

d.

já	zàkí	(y)ì	á	ɲɔ̄
if	Z	**IpfvPast**	**PfvNeg**	drink.Base

‘if Zaki hadn’t drunk’ (Fl)

e.

jí	zàkí	(y)ì	á	glú,
if	Z	**IpfvPast**	**PfvNeg**	exit(v).Base,

nó	yì	má	ɲà	=yò
1Sg	**IpfvPast**	**IpfvNeg**	see.Pfv	3AnSgObj

‘If Zaki hadn’t come out, I would not have seen him.’ (Fl)

The following sections present textual rather than elicited examples.

16.4.4 Counterfactuals with IpfvPast dè in antecedent (Bi dialect)

There are a fairly small number of textual passages that we interpret as counterfactuals, and most are structurally incomplete or aberrant. Those from Bi dialect with IpfvPast dè in the antecedent are clearly contrary-to-fact.

(1278) illustrates one main Bi type of antecedent (jí ‘if’, past dè, base of verb). The consequent, however, has nà^{n} plus base of verb, which matches the simple NA-future. This diverges from the elicited examples (1275a-b) above whose consequents have CFact nà^{n}, future bè, and Pfv verb. The nà^{n} tərā^{n} (before tone sandhi) in (1278) would be nà^{n} mē tərè^{n} if it had followed the pattern of (1275a-b). However, the context calls for an irrealis future-in-past, so we gloss nà^{n} in (1978) as counterfactual, as explained in §16.4.2 above.

(1278)

á	jí	bó	dè	bú	=ò,
ah!	**if**	LogoSg	**IpfvPast**	get.**Base**	3AnSgObj,

bó	nà	tərà^{n}	[[bó	tóʔó]	bàʔà],
LogoSg	**CFact**	sit.Base	[[3AnSg	Foc]	Dat],

‘(said:) “Ah, if I had gotten him (as husband), I would have married him [focus].’ (women, 2017-13 @ 02:24)

(1279) is another example with the main Bi type of antecedent (jí 'if', past dè, base of verb). Here the consequent is a simple BE-future, without CFact nà^{n}.

(1279) jɔ́= =ɔ̀^{n} nè jūʔɔ̄ [Ø là^{n}-ní] [[ē cīɔ̄^{n}] bàʔà],
if 3AnSg **IpfvPast** hear.Base [Art advise-VblN] [[Art bird] Dat],
dáʔá-ʃìʔé ɔ̀^{n} bè būō [ɔ̀^{n} mí^{n}ʔá^{n}]
at.that.time 3AnSg Fut get.Pfv [3AnSgRefl Refl]
'If he (=hyena) had listened to advice from the bird, then he would have gotten (=saved) himself.' (Bi, 2017-08 @ 11:00)

(1280), from the same Bi speaker, is a rhetorical question in the dialectally regular counterfactual consequent form with IpfvPast dè (not CFact nà^{n}), followed by future negative (without bè). The verb is Pfv wūō. (1280) is preceded in the text only by the abbreviated 'otherwise' rather than by a full counterfactual antecedent clause.

(1280) ɔ̀^{n} nè má^{n} wū= =ā→
3AnSg **IpfvPast** **IpfvNeg** die.**Pfv** Q
'Would he not have died?' (Bi, 2017-09 @ 02:19)

16.4.5 Past hypothetical antecedents with bà râ, bà tâ

Several textual passages, mainly from our Bi speaker, have antecedents with post-subject bà 'if' (becoming mà after nasal syllable), plus Past râ. The following verb is clearly base rather than Ipfv in (1281a-b), the verbs being ɲà/ɲī/ɲè 'see' and būō/bú/bí 'get'. The secondary nasalization of bà to mà does not entail further rightward nasalization of râ to nâ.

This type of antecedent, schematically [X bà râ Vb.Base], differs structurally and semantically from another common Bi dialect antecedent pattern, schematically [jí X dè Vb.Base]. The latter is illustrated in (1275a-c) and (1278-1279) above. The choice between IpfvPast dè and Past râ correlates with absence versus presence of immediately preceding bà 'if'. Semantically, the type [X bà râ Vb.Base] is not clearly contrary-to-fact in the fashion of [jí X dè Vb.Base]. In other words, [X bà râ Vb.Base] is a past hypothetical 'if when X VPed' denoting an antecedent event that occasionally happened or may have done so.

Some examples of bà râ or nasalized mà râ in (1281) lack an immediately following consequent clause in the recording.

(1281) a. í→, [[è ná^{n}] mà râ ɲī^{n} =ò]
oh, [[Art cow] **if** **Past** see.**Base** 3AnSgObj]
'Ah, if a bull saw it (=elephant), …' (Bi, 2017-09 @ 01:33)

b. *mais* ɔ́^{n} mà râ bû= [Ø ná^{n}]
but 3AnSg **if** **Past** get.**Base** [Art bovine]
'but if it (=elephant) encountered a bull, …' (Bi, 2017-09 @ 01:30)

c.	ò	bà	râ	rè …
	3Pl	**if**	**Past**	say.**Base** …

‘if they (=elders) had told (them to …)’ (Bi, 2017-10 @ 00:18)

d.	ó	bà	râ	rè …
	1Pl	**if**	**Past**	say.**Base** …

‘If we said …’ (Bi, 2017-10 @ 05:45)

e.	jí-á-ḿ-bè	ó	bà	râ	klè
	otherwise	1Pl	**if**	**Past**	do.**Base**

‘anyway, when we had done’ (Bi, 2017-10 @ 05:29)

There is a similar passage with bà tâ for the Ma speaker (1282). láⁿ is one of the base=Ipfv verbs but in this context we take it as base.

(1282)	[ō	kɛ̀-tɛ̀ʔɛ̀]	bà	tâ	láⁿ
	[3Pl	hand]	**if**	**Past**	be.washed.**Base**

‘if their hand had been washed, …’ (Ma, 2017-10 @ 02:52)

16.4.6 Irrealis clauses or counterfactual consequents with nà bè

As explained earlier and illustrated with elicited examples (1275a-b), a basic counterfactual consequent construction for Bi dialect has CFact nàⁿ, future bè, and Pfv verb. This is validated by textual examples (1283a-c). Only (1283a) is a full counterfactual with both antecedent and consequent. dà in the antecedent in (1283a) seems to be a variant of dè.

(1283) a.	jí	bó	dà	ɲáⁿʔāⁿ=	[Ø	jū],
	if	3AnSg	IpfvPast	redden.Base	[Art	eye(s)],
	[bó	tè-tèʔè]	nàⁿ	bē	gbèʔè	
	[3AnSg	waterjar]	**CFact**	**Fut**	be.shattered.**Pfv**	

‘If she didn’t watch out, her waterjar would be (=was at risk of being) shattered.’
(Bi, 2017-08 @ 03:37)

b.	móⁿ	nàⁿ	bè	dīē-glō	[Ø	jī]
	2Sg	**CFact**	**Fut**	remove.**Pfv**	[Art	something]

‘Would you take something (else)?’ (Bi, 2017-08 @ 10:39)

c.	dáʔá-ʃìʔé	móⁿ	nàⁿ	bē	bà
	at.that.time	2Sg	**CFact**	**Fut**	come.**Pfv**
	[Ø=	à-ɲīⁿ	=nì	māⁿ]	=āⁿ
	[Infin	come.Base-see.Base	3InanObj	there]	Q

‘At that time, you would come and see it there?’
(Bi, 2017-08 @ 10:45)

For Ji we have one textual example of nà bè, this time with Ipfv verb since it describes what would have been a continuing situation (1284).

(1284) jí [bùò kè] má glò,
if [2Pl matter] IpfvNeg it.is,
é-yùò nà bè ʃī^{n} [[Ø kē-sù^{n}ʔɔ̀^{n}] nī] mā
1Pl **CFact** **Fut** work(v).**Ipfv** [[Art work(n)] Loc] there.Def
'If not for your-Pl involvement, we would (still) be performing work there.'
(Ji, 2017-04 @ 05:19)

16.4.7 Counterfactual consequents with kō and nà kò

Infinitival clauses can occur in narratives to describe chronologically sequenced events (§15.2.1.1), but mere sequencing is semantically inadequate for a counterfactual consequent. In hypothetical conditionals, infinitival kō is attested occasionally in antecedents that are themselves sequenced with another antecedent. Importantly, kō is immediately followed by bà ~ mà 'if' in those examples (§16.1.1.9).

The combination of nà (Bi nà^{n}) with kò is also attested. Some of the examples are ambiguous as to whether the second morpheme is infinitival kō (dropping to kò before H) or hortative kò. A further contributor to ambiguity is that infinitival kō and very often hortative kò are both followed by the base stem of the verb. Only hortative kò can immediately precede an Ipfv verb, without an intervening morpheme. This is only helpful in distinguishing infinitival from hortative phrases for verbs that distinguish base from Ipfv.

In (1285), the verb is M-toned and unmistakably Ipfv rather than base. We therefore confidently parse kò as hortative.

(1285) bùò nà kò ʃī^{n}= [Ø bə́rá jə̀rɔ́^{n}]
LogoPl **CFact** **Hort** work(v).**Ipfv** [Art work(n) Rel]
'(said:) "the work that we would have (had to) do" ' (hesitation omitted)
(Ji, 2017-04 @ 05:42, hesitation omitted)

Based on this structurally clear example, we apply a similar markup to other textual examples that have nà kō before L-toned verb that could be either base or Ipfv.

In (1286), the context is that hyena is trying to induce hare to prick the inside (not outside) of hare's cheek (so hyena can bite and hold hare's paw). The antecedent here is not technically (past) counterfactual, but hyena is effectively prohibiting that event, so it is close to being counterfactual. For our Bi speaker, the L-toned verb tùʔù can be either base or Ipfv.

(1286) d= ɔ̀^{n} sɔ́ʔɔ́ [[ē lī^{n}] nī^{n}], à bà sɔ́ʔɔ́-gbɛ̄
Quot 3AnSg jab.Base [[Art interior] Loc], 3AnSg **if** be.pierced.Base
[[Ø cə̀rɛ̀-ní^{n}] nà^{n} gò tùʔù [bó dɛ́]
[[Art fly(n)-Pl] **CFact** **Hort** bother.Ipfv [LogoSg body]
'(Hyena) said, "Jab it from the inside! If it were pierced (from the outside), flies would bother my body!" ' (Bi, 2017-08 @ 05:15, cf. 05:21)

In (1287), the L-toned verb sò is likewise either base or Ipfv.

(1287)	ā	nà^{n}	wō	sò	bè-kā
	3Inan	**CFact**	**Hort**	be.carried.on.head.Ipfv	like.that

‘(Then) it would be carried like that.’ (Bi, 2017-08 @ 10:44)

17 Quotative, complement, and purposive clauses

17.1 Quotative complements

Thought is equated with (inner) speech. Therefore ‘say’ can also mean ‘say to oneself, think’ with reference to propositional content. There is no difference in form between speech quotations and thought quotations.

‘X said he$_x$/she$_x$ (logophoric) will VP’ is the usual phrasing for ‘X decided to VP’ or ‘X tried to VP’; see also §17.6.2.3 below.

(1288) [ē būⁿʔɔ̄ⁿ] dè [bá= à klīⁿʔīⁿ]
[Art dog] **say**.Pfv [LogoSg Ipfv ascend.Ipfv]
[[ē būⁿʔɔ̄ⁿ] klɛ̄ⁿʔɛ̄ⁿ-tē],
[[Art dog] ascend.Pfv-fail.Base],
‘Dog said he would (=attempted to) climb, (but) dog was unable to climb.’
(Bo, 2019-01 @ 01:21)

17.1.1 Quotative verbs dè/dò/dò and dè/dè/dò

The verb of speaking has two variants, cf. §10.1.3. Especially in Bi dialect, dè is sometimes pronounced rè with a tap after an oral vowel, or fully nasalized to nè after a nasal vowel. The stem paradigms are in (1289).

(1289)	gloss	Pfv	base	Ipfv
a.	‘speak, say (sth)’	dè	dò	dò
b.	‘say “…” ’	dè	dè / dò	dò

In (1289a), ‘speak’ or ‘say’ is followed by an NP or adverb (‘said it’, ‘said that’, ‘said a greeting’, ‘said thus’). (1289b) is ‘say’ followed by quoted matter (with or without intervening quotative particle dè, §17.1.2.1). The only morphological difference is that (1289a) always has dò as base stem, while (1289b) has a mix of dè and dò depending on the construction and the dialect. In this respect, (1289a) follows the regular pattern for verbs that have an e/o alternation, viz., with e in the Pfv versus o in the base, while (1289b) is irregularly idiosyncratic.

The main constructions requiring the base of the verb are displayed in (1290). Minor dialectal variation in secondary nasalization is omitted here.

(1290)	‘speak/say (sth)’	‘say “…” ’	dialect
a. dò versus dè			
infinitive	kō dò	kō dè	all
prohibitive	mâ dò	mâ dè	Bi Ji (not Fl)
NA-future	nà dò	nà dè	Ji Ma
b. dò in both cases			
perfective negative	á dò	á dò	Fl Ji
imperative	dò	dò	Fl Ji
prohibitive	mâ dò	mâ dò	Fl (not Bi Ji)
NA-future	nà dò	nà dò	Fl
verbal noun	dò-ní	dò-ní	(all)

The infinitival construction is illustrated in (1291). The key datum is kō dè ‘and (then) said “…” ’ in (1291a). This combination occurs several times in our texts. kō dò in (1291b) is morphologically regular but is limited to ‘speak, say (something)’ with at most an NP object.

(1291) a. *donc* ɔ̀ⁿ gō dè áy!, mó dè jə̀rɔ́ⁿ, …
so 3AnSg **Infin** **say**.Base ah!, 2Sg say.Pfv Rel, …
‘Well, he then said: “Ah, what you said, …” ’ (Ji, 2017-01 @ 03:41)

b. é, [kō tə̄rāⁿ]
huh!, [Infin sit.Base]
[kō dò [bè tòʔɔ̄=] [[Ø də̀ràʔá] nī]]
[**Infin** **say**.Base [Dem Foc] [[Art courtyard] Loc]]
‘Huh? (He) sat and said that [focus] in a courtyard!’
(Ma, 2017-03 @ 00:32)

The prohibitive with mâ(ⁿ) has either dè or dò for ‘say “…” ’ depending on the dialect. Compare Bi Ji mâ dè or nasal variant (1292a-b) with Fl mâ dò (1292c).

(1292) a. mâ dè dè [[Ø úⁿ bíɛ́] nī]
Proh **say**.Base Quot [[Art village all] Loc]
‘Don’t say (=think) that (it’s) in the whole village!’ (Ji, 2017-01 @ 04:31)

b. māⁿ nè [má= à—]
Proh **say**.Base [2Sg Ipfv—]
‘Don’t say you’ll—’ (Bi, 2017-07 @ 09:43)

c. mâ dò dè [mó— kō nā-dɛ̀, …]
Proh **say**.Base Quot [2Sg— be old.man, …]
‘Don’t say (=think) that you are an old man, (and) …’
(Fl, 2017-03 @ 03:00)

The NA-future is nà dè for ‘say “…” ’ (1293). Contrast nà dò for ‘speak, say (something).

(1293) a.	… [Ø	jī]	nà	dè	[mó	sūʔɔ̄= …]
	… [Art	someone]	**Fut**	**say**.Base	[2Sg	take.Pfv …]

‘Someone will say that you-Sg received ….’ (Ji, 2017-04 @ 06:52)

b.	*donc*	mó	nà	dè	[dɔ̀=	ɔ̀ …]
	so	2Sg	**Fut**	**say**.Base	[Quot	3Pl …]

‘… will you tell them (to …)’ (Ma, 2017-04 @ 07:04)

The perfective negative is á dò for both ‘speak, say (something)’ and ‘say “…”.’ The latter is illustrated in (1294), see also (Ji, 2017-04 @ 05:46), (Ji, 2017-11 @ 10:32).

(1294)	jî=	[Ø	ná-bí	ɲə́rámá]	á	dò	dē	ɔ̀^{n}	tə̄rā^{n}-wō
	if	[Art	person	very.good]	**PfvNeg**	**say**.Base	Quot	3AnSg	rest(v).Base

‘unless the human told him (=a djinn) to rest’ (Ji, 2017-04 @ 01:13)

The imperative has dò.

(1295)	dò	[zàkí	bàʔà]	[dē	ɔ̀^{n}	bà]
	say.Base	[Z	Dat]	[Quot	3AnSg	come.Base]

‘Tell-2Sg Zaki to come!’

The verbal noun is dò-ní. The agentive is dè-nɔ̀ ‘speaker’.

17.1.2 Quotative particles

17.1.2.1 Quotative particle dè

dè, identical in form to the Pfv of ‘say’, can introduce a quotation. It is vaguely similar to the Eng *that* complementizer in ‘X say [that …]’. Like Pfv dè ‘said’, the particle can be tapped to rè, especially in Bi dialect. Unlike Pfv dè ‘said’, the particle raises to M-toned before an L-tone (§3.6.2.1).

Quotative particle dè often directly follows dè ‘say’ (1296a) or infinitive kō dè ‘and said’. In the combination dè dè, only the second dè (the particle) is eligible to raise to dē (1296b). The two dè may be separated by other elements, as in (1296c).

(1296) a.	mâ	dè	[dè	[[Ø	ú^{n}	bíɛ́]	nī]],
	Proh	**say**.Base	**[Quot**	[[Art	village	all]	Loc]],

‘Don’t say (=think) that (it’s) in the whole village!’ (Ji, 2017-01 @ 04:31)

b.	ō	dè	[dē	bùò	bà]
	3Pl	**say**.Pfv	**[Quot**	LogoPl	come.Pfv]

‘They$_{x}$ said that they$_{x}$ came.’ (Fl Ji)

c. ɔ̌ⁿ=   Ø   dò   =nì   [sú→   bíɛ́]
Z   PfvNeg   **say**.Base   3InanObj   [always   all]
[dè   bó   nà   bà]
Quot   LogoSg   Fut   come.Base
'He$_x$ always says that he$_x$ will come.'   (Fl Ji)

d. zàkì   á   dò   [dè   bó   nà   bà]
Z   PfvNeg   **say**.Base   [**Quot**   LogoSg   Fut   come.Base]
'Zaki$_x$ didn't say that he$_x$ will come.'

In a narrative, if it is obvious who the speaker is, a simple dè without a subject may function to frame a quotation. We gloss such occurrences as Quot (i.e. the quotative particle).

(1297) áywà,   dè   ɔ̀ⁿ   mā   rè
well,   **Quot**   3AnSg   if   say.Base
[[bó   bìⁿʔɛ́ⁿ]   =àⁿ   dáⁿ
[[LogoSg   leaf]   Ipfv   be.pleasant.Ipfv
' "Well," (the tree) said, "if you say that my leaves are pleasant (=tasty), …" '
(Bi, 2017-08 @ 01:04)

In an extended quotation, or in a two-part quotation (e.g. with an initial exclamation), dè may be repeated at the beginning of a new chunk. It may even reappear in the middle of a sentence.

(1298) a. dè   é!,   dē   bùò   ā   klɛ̌=   [Ø   ɛ̀ʔɛ́]   tē
Quot   oh!,   **Quot**   3Pl   Ipfv   do.Ipfv   [Art   what?]   Q
'(She) said, "oh! What are you-Pl doing?" '   (Bi, 2017-07 @ 05:47)

b. [è   blí-kɛ́]   dě=   [[Ø   tùplípàⁿ]   bàʔà]
[Art   hare]   **say**.Pfv   [[Art   monkey]   Dat]
d=   ó   nà   tḗ=   [[Ø   bùⁿʔɔ̀ⁿ]   yíé]
Quot   1Pl   Fut   put.down.Base   [[Art   dog]   name]
dè   mè-ŋā   tē
Quot   how?   Q
'Hare said to monkey, "how shall we put (=call) dog's name?" '
(Bo, 2019-01 @ 00:30)

dè can also function as a complementizer with other main-clause verbs like 'know' and 'hear' (§17.3.1.1, §17.3.1.5-6).

17.1.2.2 Quotative marker lɛ̄→

A rare alternative to dè dè 'said that', attested once in the texts, is dè lɛ̄→. Whereas quotative dè is followed by quoted matter with no prosodic break, lɛ̄→ is followed by a pause before continuing with the quotation (1299).

(1299)	nó	dè	lɛ̄→,
	1Sg	say.Pfv	**that**,

[è	lóʔó	té]	à-mā	[[Ø	tùpɛ̀^{n}ʔɛ́^{n}]	n̄]	=dɛ̄ʔ
[Art	cleverness	Foc.Inan]	be.Loc	[[Art	gourd]	Loc]	Emph

‘I said that, magic power [focus] is in the gourd.’ (Ji, 2017-01 @ 03:13)

17.1.3 Dative PP with postposition bàʔà

There are two adpositions that can be labeled dative. One is preposition ɔ̀^{n} which marks the recipient in ditransitives like ‘give’, the typical sequence being X *give* Y [ɔ̀^{n} Z] ‘X give Y to Z’ (§8.1.2). The other is postposition bàʔà, which is either a general dative-benefactive, an abstract spatial ‘among’ or ‘chez’, or part of the ‘want’ construction (§8.1.1).

Postposition bàʔà is used to mark the addresseee in the main clause with dè/dè/dò ‘say “…” ’, or dè/dò/dò ‘speak, say (something)’, or just the quotative marker dè.

(1300) a.	dè	é!,	dè—	[[è	síglò-yò]	bàʔà],
	Quot	oh!,	**Quot**—	[[Art	hyena-woman]	**Dat**],

d=	ɔ̀^{n}—	[ɔ̀^{n}	dɔ̆] …
Quot	3AnSg—	[3AnSg	man] …

‘(Hare) said to hyena’s wife, “oh, your husband …” ’
(Bi, 2017-08 @ 09:28)

b.	*non*,	dərísà,	ní-ŋ́-ká	dɔ̆=	[Ø	jì]	[mó	bàʔà]
	no,	D,	if.I.may	**say**.Base/Ipfv	[Art	Indef]	[2Sg	**Dat**]

‘No, Drisa. If I (may) say something to you’ (Ji, 2017-09 @ 05:45)
[ní-ŋ́-ká < Jula]

17.1.4 Direct versus indirect quotation

Both direct and indirect quotations occur in the texts. The difference is that a direct quotation preserves the pronominal forms of the original utterance, while an indirect quotation replaces original first and second person pronouns. Except as indicated in later sections, the TAMP inflections (including future and imperative) and the deictic demonstratives are unchanged in either case.

The usual conversions of pronominal categories are in (1301), assuming that neither the original speaker nor the addressee coincides with the current speaker or addressee. The forms in the right-hand column are valid for subjects, possessors, and postpositional complements. For objects and prepositional complements the usual enclitic forms (not shown here) are used.

(1301) Conversions in indirect quotations

	original category	in indirect quotation	form
a. original speaker			
	1Sg	LogoSg	bó
	1Pl	LogoPl	bùò
b. original addressee			
	2Sg	3AnSg	ɔ̀ⁿ (proclitic)
	2Pl	3Pl	ò (proclitic)

Schematic examples of direct and indirect quotations are in (1302).

(1302)	direct	indirect
a.	'I will help you-Pl.'	X said [LogoSg will help 3Pl]
	'I will help them.'	" "
b.	'You-Sg will help yourself.'	X said [3AnSg will help 3AnSgRefl]
c.	'You-Sg will help him/her'	X said [3AnSg will help 3AnSg]
d.	'We will help him/her.'	X said [LogoPl will help 3AnSg]

These formulae are sufficient when neither the original speaker nor the original addressee is a current speech event participant. If a participant of the original speech event coincides with the current speaker or addressee, the pronouns relevant to the current speech event are used. Therefore the logophorics are more precisely described as third-person logophorics, i.e. referents other than current speaker or addressee who are coindexed with the author of the quoted material.

Some elicited examples follow. In (1303a), LogoSg bó marks coindexation of the subject of 'see' with the quoted speaker (or author), while 2Sg mó is based on the current speech event. In (1303b), 1Sg nó in the quotation (as well as in the main clause) is directly based on the current speech event. The 3AnSg object enclitic =yò has either replaced the original 2Sg, or refers to a new third-person individual.

(1303) a.

zàkí	dè	[dè	bó	ɲà	mó]
Z	say.Pfv	[Quot	**LogoSg**	see.Pfv	**2Sg**]

'Zaki$_x$ said that he$_x$ saw you-Sg.' (Fl)

b.

nó	dè	=nì	[zàkí	bàʔà]
1Sg	sayPfv	3InanObj	[Z	Dat]

[dè	nó	bē	tɛ̀ⁿ-jūʔɔ̄	=yò]
[Quot	**1Sg**	Fut	help.Pfv	**3AnSgObj**]

'I said to Zaki$_x$ that I will/would help him$_x$ / him-or-her$_y$' (Fl)

In (1304a-b), the subject in both clauses is directly based on the current speech event.

(1304) a. nó dè [dè nó má bē =ʔ]
1Sg say.Pfv [Quot **1Sg** IpfvNeg come.Ipfv Neg]
'I said that I am/was not coming.' (Fl)

b. mó dè [dè mó má bē =ʔ]
2Sg say.Pfv [Quot **2Sg** IpfvNeg come.Ipfv Neg]
'You-Sg said that you-Sg are/were not coming.' (Fl)

In (1305a), 2Sg is again based on the current speech event, though the current addressee was probably also the original addressee (unless the command was transmitted by someone else). In (1305b), the subject of 'help' is coindexed with the main-clause subject Zaki, and since Zaki is not part of the current speech event the subject of 'help' is logophoric. The 1Sg object is based on the current speech event.

(1305) a. zàkí dè [dè mó pɛ̄^{n} fā^{n}ʔā^{n}]
Z say.Pfv [Quot **2Sg** remain.Base here]
'Zaki told you-Sg to stay here.' (Fl)

b. zàkí dè [dè bó nà tà^{n}-jùʔɔ̀ nó]
Z say.Pfv [Quot LogoSg Fut help.Base 1Sg]
'Zaki said that he will/would help me.'

The tales (texts 2017-01 to -08, 2017-13, 2017-18, 2019-01) are full of direct and indirect quotations.

While original 2Sg is normally converted to 3AnSg, it can be converted to 3Inan in tales when a personified inanimate acts as a conversational partner. This is the case with baobab tree in text 2017-08. When hare addresses baobab, the conversion is from original 2Sg to 3Inan in (1306).

(1306) dà= [à lɔ́^{n}] à dá^{n} =nɛ̄ʔ
Quot [3Inan shade] Ipfv be.pleasant.Ipfv Emph
'(said:) "your shade is really nice!" ' (Bi, 2017-08 @ 00:49)

17.1.5 Quoted interrogatives

A clause-final particle tē occurs frequently in quoted questions. It corresponds to clause-final enclitic =ā, which has a specific pitch signature in unquoted questions. Pronominals in the quoted question may be of direct or indirect type. See §13.2.2.2 for details and examples.

17.1.6 Jussive complement (reported imperative or hortative)

17.1.6.1 Quoted imperative

The original imperative (1307a) retains its form (base of verb stem) when quoted (1307b-c). A subject NP is present, representing the original addressee. In indirect quotation, the usual pronominal conversions and updates occur throughout the clause. The quotative particle dè is optionally present after the 'say' verb.

(1307) a. pɛ̄^{n} fā^{n}ʔā^{n}
remain.**Base** here
'Stay-2Sg here!' (Ji)

b. zàkí dè [(dè) nó pɛ̄^{n} fā^{n}ʔā^{n}]
Z say.Pfv [(Quot) 1Sg remain.**Base** here]
'Zaki told me to stay here.' (Ji)

c. nó dè [(dè) zàkí pɛ̄^{n} fā^{n}ʔā^{n}]
1Sg say.Pfv [(Quot) Z remain.**Base** here]
'I told Zaki to stay here.' (Ji)

The imperative plural-addressee preverb ò that is present in unquoted imperatives (1308a) is absent in the quoted version, which instead has a genuine subject NP (1308b). However, in some examples this NP might happen to be the homophonous 3Pl ò.

(1308) a. ò pɛ̄^{n} fā^{n}ʔā^{n}
Imprt.Pl remain.**Base** here
'Stay-2Pl here!'

b. zàkí dè [(dè) é-yùò pɛ̄^{n} fā^{n}ʔā^{n}
Z say.Pfv [(Quot) **1Pl** remain.**Base** here]
'Zaki told us to stay here.' (Ji)

It is possible to resume (anticipatorily) the command as an inanimate object pronominal =nì on the 'say' verb (1309a,c), and/or to add an overt dative PP with postposition bàʔà (13093b-c). If the command was given to an intermediary who then transmits it, the dative is coindexed with the intermediary rather than with the subject of the imperative (1309d). This combination is awkwardly translatable into English unless two *tell* verbs are used.

(1309) a. zàkí dè =nì [dè nó pɛ̄^{n} fā^{n}ʔā^{n}]
Z say.Pfv **3InanObj** [Quot 1Sg remain.Base here]
'Zaki told me to stay here.' (Fl)

b. zàkí bē dè [nó bàʔà] [dè nó pɛ̄^{n} fā^{n}ʔā^{n}]
Z Fut say.Pfv [1Sg **Dat**] [Quot 1Sg remain.Base here]
'Zaki will tell me to stay here.' (Fl)

c. zàkí dè =nì [nó bàʔà]
Z say.Pfv **3InanObj** [1Sg **Dat**]
[dè nó pɛ̄ⁿ fāⁿʔāⁿ]
[Quot 1Sg remain.Base here]
‘Zaki told me to stay here.’ (Fl)

d. zàkí dè [nó bàʔà] [dè mó pɛ̄ⁿ fāⁿʔāⁿ]
Z say.Pfv [1Sg **Dat**] [Quot 2Sg remain.Base here]
‘Zaki told me to tell you-Sg to stay here.’ (Fl)

There are many textual examples of quoted imperatives, such as (1310a-b).

(1310) a. dē ɔ̀ⁿ líⁿ [ɔ̀ⁿ ɲɔ́],
Quot 3AnSg cool.**Base** [3AnSgRefl heart],
‘(said:) “Cool-2Sg your heart (emotional center)!” ’
(Fl, 2017-05 @ 03:41)

b. ɔ̀ⁿ ɲɔ́ [[ò yūō jɔ̄ⁿ] nī]
3AnSg look.at.**Base** [[3Pl people two] Loc]
‘(said:) look-2Sg at (=consider) (which) of the two (people).” ’
(Fl, 2017-05 @ 03:53)

17.1.6.2 Quoted prohibitive

Quoted prohibitives likewise retain their original form with mâ(ⁿ) plus base or sometimes Ipfv stem of verb (1311a), but add a subject (1311b).

(1311) a. mâ pɛ̄ⁿ fāⁿʔāⁿ
Proh remain.**Base** here
‘Don’t-2Sg stay here!’ (Ji)

b. zàkí dè (dē) [ɔ̀ⁿ mâ pɛ̄ⁿ fāⁿʔāⁿ]
Z say.Pfv (that) [3AnSg **Proh** remain.**Base** here]
‘Zaki told him/her not to stay here.’ (Ji)

Again, the imperative plural preverb in unquoted prohibitives (1312a) can be replaced by a full subject in the quotation (1312b-c).

(1312) a. ò mâ pɛ̄ⁿ fāⁿʔāⁿ
Imprt.Pl **Proh** remain.**Base** here
‘Don’t-2Pl stay here!’

b. zàkí dè (dè) [é-yùò mâ pɛ̄ⁿ fāⁿʔāⁿ]
Z say.Pfv (Quot) [1Pl **Proh** remain.**Base** here]
‘Zaki told us not to stay here.’ (Ji)

c.

zàkí	dè	=nè=	[é-yùò	bàʔà]
Z	say.Pfv	3InanObj	[1Pl	Dat]

[dè	ó	mâ	pɛ̄ⁿ	fā̃ⁿʔāⁿ]
[Quot	1Pl	**Proh**	remain.**Base**	here]

‘Zaki told us not to stay here.’ (< dè =nì) (Fl)

There are many quoted prohibitives in the texts. (1313a) is a rare imperfective prohibitive. It is marked up as direct discourse with Imprt.Pl ò, but this is homophonous with 3Pl ò, so one could also mark it up as indirect. (1313b) has 3AnSg ɔ̀ⁿ as subject-addressee of the quoted prohibitive.

(1313) a.

é-yùò	dē→	[Ø	cɔ̀fə́-rɔ́]	d=
1Pl	Quot	[Art	Tiefo-Pl]	say.Pfv

[ò	mâⁿ	gblī	[ē	tərà ⁿʔáⁿ]]
[Imprt.Pl	**Proh**	pick.up.**Ipfv**	[Art	marriage]]

‘We the Tiefo say, “don’t-2Pl (try to) pick (your) marriage.” ’
(women, 2017-13 @ 03:44)

b.

dè	[jɥ̀ʔɛ́	bàʔà],	*comme,*	*bon,*	[yá	jərɔ́ⁿ]	klè,
Quot	[God	Dat],	like	well,	[Dem.InanSg	Rel]	be.done.Pfv,

ɔ̀ⁿ	mâ	já,	[[è	ná-bí	ɲərámá]	kò—	ɲɛ̀	bùò
3AnSg	**Proh**	leave.**Base**,	[[Art	person	very.good]	Hort—	see.Ipfv	LogoPl

‘‘(They) said to God, like, “well, (with) that which has happened, you mustn’t allow a human to see us.’ (Ji, 2017-04 @ 04:35)

17.1.6.3 Quoted hortative

An original hortative can be quoted. An overt subject is present if the quotation is indirect. If the subject is third person (1314c), this means there is no overlap with the current speaker or addressee. A positive hortative is expressed in the usual way with suppletive ‘let’s go!’ (1314b) or for any other verb with hortative morphemes jó and/or kò (or variant) plus either base or Ipfv verb (1314b-c).

(1314) a.

zàkí	dè	[ó	gbɛ̀ʔɛ́]
Z	say.Pfv	[1Pl	**go.Hort**]

‘Zaki said, let’s go!’ (Ji)

b.

zàkí	dè	[ó	kò	dí / ɲī]
Z	say.Pfv	[1Pl	**Hort**	eat.Ipfv/drink.Ipfv]

‘Zaki said, let’s eat!’ (Ji)

c.

zàkí	dè	=nì	[d=	ò	jó=	ò	dí]
Z	say.Pfv	3InanObj	[Quot	3Pl	**Hort**	**Hort**	eat.Ipfv]

‘Zaki said (to them), let’s eat!’ (Fl)
[< /dè ò jí kò dí/]

Textual examples involving gbɛ̀ʔɛ́ are in (1315).

(1315) a. *donc,* dò= ò gbɛ̀ʔɛ́
so, Quot 3Pl **go.Hort**
[kò gɔ̀ʔɔ́ dě= [Ø blùⁿ]
[Hort dig.Base Quot [Art well(n)]
'(Dog:) "So, let's go dig a well!" ' (Ma, 2017-02 @ 00:20)

b. [í-yùò nīⁿ] nè [móⁿ yíʔí], móⁿ gbɛ̀ʔɛ́
[1Pl mother] say.Pfv [2Sg go.Base], 2Sg **go.Hort**
'Our mother said for you-Sg to go, for you-Sg to (please) go.'
(Bi, 2017-07 @ 06:58)

c. dè *bon* dē bà-gbɛ̀ʔɛ̀ [ó wò yíʔí]
Quot well Quot come.Base-**go.Hort** [1Pl Hort go.Ipfv]
'(They) said, "Come, let's go!" ' (Bi, 2017-07 @ 07:28)

d. dè→, [è [blí-kɛ́]-yò] fó-gbɛ̀ʔɛ́
Quot, [Art [hare]-woman] pass.Base-**go.Hort**
'(She) said, "hare woman, go ahead!" ' (Bi, 2017-08 @ 02:38)

(1316) was initially parsed as a quoted hortative with jí as well as kò. However, it actually contains jí as dialectal variant of já 'leave, let', followed by infinitival kō.

(1316) ŋ́ nò= [ò jí [ŋ̀ ŋō bà]]
1Sg say.Pfv [3Pl **leave**.Base [2Sg **Infin** come.Base]]
'I told them to have you come.' (Bi, 2017-07 @ 09:01)

17.1.6.4 Quoted hortative negative

A negative hortative is likewise expressed in the usual way with prohibitive mâ plus either base or Ipfv verb, but with a true subject. In elicited (1317), hortative kò is optional after the prohibitive morpheme. Without kò it can be parsed as a quoted prohibitive.

(1317) zàkí dè [ó mâ (kò) dí / ɲɔ̄ =ʔ]
Z say.Pfv [1Pl **Proh** (Hort) eat.**Base**/drink.**Base** Neg]
'Zaki said, let's not eat/drink!' (Ji)

Textual example (1318) has parallel positive and negative quoted hortatives. Here the hortative morpheme is present in both clauses.

(1318) *donc* [bùò tə́-ró] kò—, bùò kò ɲɛ̀ [Ø ná-bí],
so [LogoPl Foc-AnPl] Hort—, LogoPl **Hort** see.Ipfv [Art person],
[è ná-bí] mâ wò ɲɛ̀ bùò
[Art person] **Proh** **Hort** see.Ipfv LogoPl
'(said:) "So we [focus] must, we must (be able to) see a human, (but) the human must not (be able to) see us." ' (Ji, 2017-04 @ 04:44)

17.1.6.5 Bare quoted hortative in obligational function

In the absence of a quotative frame, such as dè, a clause in the form of a positive or negative "quoted" hortative can function as an obligational ('must', 'should').

(1319) a. ō gò ɲɔ́ nó
3Pl **Hort** look.at.Base 1Sg
'They must look at me.' (Ji)

b. ò mâ^{n} kò ɲɔ́ nó
3Pl **Proh** **Hort** look.at.Base 1Sg
'They must not look at me.' (Ji)

Overt obligational markers are ká^{n} (§8.5.4.3, §17.4.3.3), fó ~ fɔ́ (in the following section), and bá-kɔ̄ (§17.1.8).

17.1.7 Impersonal fó ~ fɔ́ 'must' with jussive or prohibitive clause

Especially when the obligation is attributable to a human agent, something like 'must' can be translated as an imperative or prohibitive, with a variable subject (not just second person). This is close to the structure of a quoted imperative, but with no overt marking of quotation. Clause-initial fó ~ fɔ́, cf. Jula fó and Fr *il faut*, is optionally added clause-initially.

(1320) a. (fó) zàkí bà / dì-só
(**must**) Z come.**Base**/fall.**Base**
'Zaki must come/fall.' (Fl Ji)

b. (fó) zàkí ɲɔ́ nó
(**must**) Z look.at.**Base** 1Sg
'Zaki must look at me.' (Fl Ji)

There are four textual examples of fó and one of fɔ́ in this sense (not to be confused with fɔ́→ 'all the way to/from' in spatiotemporal phrases). Three examples (1321a-b) are of the same type as the elicited examples above.

(1321) a. ɔ̀ⁿhɔ́ⁿ, fó ɔ̀ⁿ dò [Ø fɛ́]
uh-huh, **must** 3AnSg speak.**Base** [Art talk(n)]
'Un-huh, he (=hare) must speak.' (Ji, 2017-08 @ 05:49)

b. fó mó fɛ́ =ò
must 2Sg greet.**Base** 3AnSgObj
'you-Sg must go greet (=welcome) him.' (Ji, 2017-04 @ 04:55)

c. fɔ́→ [jɔ̀rɔ́ⁿ jū→] wùɔ̀ʔɔ́
must [Rel eye] be.open.**Base**
'It must be one whose eyes are open (=who can see).'
(Ma, 2017-04 @ 02:02)

The other textual example has an inchoative adjectival verb with Ipfv à.

(1322) fó bó à ɲáʔā= [Ø jū]
must LogoSg Ipfv redden.Ipfv [Art eye]
'(said) "I must redden my eye(s) (=concentrate my attention)" '
(Fl, 2017-05 @ 00:46)

The negative counterpart of the positive examples presented above has prohibitive morphosyntax. fó may again be added clause-initially. Our only example is elicited.

(1323) (fó) zàkí mâⁿ ɲɔ́ nó
(**must**) Z Proh look.at.Base 1Sg
'Zaki must not look at me.' (Fl Ji)

17.1.8 Impersonal bá-kɔ̄ 'must' with jussive or prohibitive clause

bá-kɔ̄ followed by a jussive clause is used like fó (preceding section). It appears to be pandialectal in spite of being ousted by the French-Jula borrowing fó in most of our data. It does occur in texts from Bofoboso (1324a).

(1324) a. bá-kɔ̄, é bàmà [kò tá-fā
must, 1Pl try.hard.Base [Infin do.again.Base-look.for.Base
[Ø tɔ̀ʔɔ̀ jī] [à nì] tê→,
[Art place Indef] [3Inan Loc] Emph,
'We must look again for another situation for it.' (Bo, 2019-05 @ 00:39)

b. bá-kɔ̀ [bó [kà [bó dɔ̀ tóʔó],
must [3AnSg [and [3AnSg man Foc],
fɔ́ [kǎ= [Ø jɥ̀ʔɛ́-lē]]
until [with [Art God-house]]
'It must be (just) her and her husband, until God's house (=death).'
(Bo, 2019-10 @ 05:24)

c. bá-kɔ̄ mó bā̃= [Ø tì-tó]
must 2Sg cultivate.Base [Art yam]
‘You-Sg must grow yams.’ (Fl)

d. bá-kɔ̄ mó mâ bā̃= [Ø tì-tó]
must 2Sg Proh cultivate.Base [Art yam]
‘You-Sg must not grow yams.’ (Fl)

e. bá-kɔ̄ mó gbɛ̄ [Ø sù^{n}-bíó]
must 2Sg take.Base [Art medicine-children]
‘You must take the pills.’ (Fl)

This bá-kɔ̄ is unrelated to the homophonous verb-verb compound bá-kɔ̄ ‘finish cultivating’.

17.2 Indicative clausal complements without complementizer

The verbs ‘do, make’ and ‘let, leave’ can serve as main-clause verbs in the sense ‘cause’, followed by an indicative clause identical in form to a main clause. There is no complementizer. A rival construction (§17.4.2.5) has infinitival clauses as complements.

17.2.1 Periphrastic causatives without complementizer (klè ‘do’)

The invariant verb klè ‘do, make’ can take an indicative clause as complement in the sense ‘cause (to happen), bring about (that …)’. Compare Eng *make* and Fr *faire en sorte que*. There is no complementizer. The subordinated proposition is optionally resumed as an inanimate object pronominal on klè (1325b). These examples are elicited.

(1325) a. [ē blò tóʔó] klè [ná= á bà =ʔ]
[Art rain(n) Foc] **do**.Pfv [1Sg PfvNeg come.Base =Neg]
‘The rain caused me to not come.’ (=prevented me from coming) (Ji)

b. [ē blō] klè =nì bè-kā
[Art rain(n)] **do**.Pfv **3InanObj** thus
[ná= á bú [kō bà] =ʔ]
[1Sg PfvNeg get.Base [Infin come.Base] =Neg]
‘The rain caused me to be unable to come.’ (Fl)

17.2.2 ‘See’ with indicative complement

If the subject directly perceived the event denoted by the complement, the complement takes regular indicative main-clause form. There is usually no complementizer. The complement may be perfective denoting a single bounded event (1326a-b), progressive denoting an ongoing unbounded process (1326c), or imperfective denoting a recurrent event type (1326d).

(1326) a. nó ɲà [zàkí dìè-só / fīē / glō]
1Sg **see**.Pfv [Z fall.Pfv / pass.Pfv / exit.Pfv]
‘I saw Zaki fall/go away/go out.’ (Ji)

b. nó ɲà [zàkí gbǎ= [Ø būⁿʔɔ̄ⁿ]]
1Sg **see**.Pfv [Z hit.Pfv [Art dog]]
‘I saw Zaki hit the dog.’ (Ji)

c. nó ɲà [zàkí kō [yǐ nì]]
1Sg **see**.Pfv [Z be [jump.Prog Prog]]
‘I saw Zaki jumping.’ (Ji)

d. [kɔ̀-kɔ̀ sú→] ná= ā ɲɛ̀ [[Ø bí-sīɔ̄ⁿ] dī-à-ʃí]
[Rdp-day all] 1Sg Ipfv **see**.Ipfv [[Art child] fall.Ipfv]
‘Every day I see the child fall down.’ (Ji)

There is some ambiguity as to whether Zaki in (1326a), and so forth for the other examples, is really the subject of the lower-clause verb or the object of ‘see’ in the main clause. In elicitation, our Ji assistant often paused after this NP, and pronounced the following complement with a resumptive subject pronoun. However, the best test for this is when the lower subject is a third-person inanimate pronoun, where one can easily distinguish object enclitic =nì from subject proclitic à, and this speaker used the latter (1327).

(1327) nó ɲà= [ā dì-só]
1Sg **see**.Pfv [3Inan fall.Pfv]
‘I saw it fall.’ (Ji)

‘See’ can also occur in inferential rather than direct-observation contexts.

(1328) a. nó yìʔè [k= ó-ɲī [zàkì ní-mā =ʔ]]
1Sg go.Pfv [Infin go.Base-**see**.Base [Z not.be Neg]]
‘I went and saw that Zaki was not present.’ (Ji)

b. nó kà= á-ɲī= [[Ø bí-sīō] fīē]
1Sg Infin go.Base-**see**.Base [[Art children] pass.Pfv]
‘I went and saw that the children had left.’ (Ji)

17.3 Propositional complements with dè, tá, or jí as complementizer

Clause-initial dè is common at the beginning of quoted matter (speech or thought), see §17.1 above. Here we show that dè also introduces clausal complements of the verbs ‘know’, ‘hear’, ‘look/consider’, ‘want’, ‘forget’, ‘fear’, ‘consent’, and ‘forbid’. These complements represent propositions that are conceptualized by the subjects of these verbs. We therefore continue to gloss dè as Quot(ative).

dè may raise to M-toned dē before an L-toned syllable.

In addition to quotative complements with dè, some of these verbs also allow **dubitative** complements indicating uncertainty. Dubitative complements may have clause-initial jí or tá as complementizers. jí occurs elsewhere as an ‘if’ morpheme in conditional antecedents (§16.1.1.4-5). tá resembles the ‘like, similar to’ particle (quasi-preposition), which is ká (Ji) or tá (Bi Fl Ma) (§8.5.1.1). Since some speakers may distinguish dubitative tá from ká ‘like’, we treat them as different morphemes.

17.3.1 ‘Know’ and ‘believe’ with propositional complement

The relevant verbs here are kùɔ̀ⁿ/kɔ̄ⁿ/kɔ̄ⁿ ‘know’ (§11.2.5.1.1) and invariant sɔ̀ⁿ ‘think, believe’. The latter can also mean ‘do willingly’ (§17.4.4.2).

As a reminder, the Pfv kùɔ̀ⁿ, literally ‘knew (i.e. learned)’ is regularly used to describe a continuing state of knowledge (‘knows’).

When the complement of ‘know’ is propositional, it begins with one of the particles described below. However, in one textual example the speaker simply pauses, then pronounces the “subordinated” clause as a main clause. The context is that if you don’t realize the value of the cliffs, you don’t know (=appreciate) a good thing.

(1329) dè [mó tóʔ=] á kɔ̄ⁿ =ʔ, à= Ø kò
Quot [2Sg Foc] PfvNeg **know**.Base Neg, 3Inan Ipfv be.good.Ipfv
‘You [focus] don’t know (=realize), (that) it’s good.’ (Ji, 2017-11 @ 10:19)

17.3.1.1 kɔ̄ⁿ ‘know (that …)’ with quotative dè

Elicited quotative complements of ‘know (that …)’ are in (1330). The subordinated sequence following dè has the form of a main clause. Either main or subordinated clause may be negated independently of the other. A third person subject of ‘know’ binds logophoric pronouns in the complement (1330d).

(1330) a. nó kùɔ̀ⁿ [dē zàkì á bà =ʔ]
1Sg **know**.Pfv [**Quot** Z PfvNeg come.Base Neg]
‘I know that Zaki didn’t come.’ (Ji)

b. zàkí kùɔ̀ⁿ [dè ná= á bà =ʔ]
Z **know**.Pfv [**Quot** 1Sg PfvNeg come.Base=Neg]
‘Zaki knows that I didn’t come.’ (Ji)

c. zàkì á kɔ̄ⁿ [dè nó bà]
Z PfvNeg **know**.Base [**Quot** 1Sg come.Pfv]
‘Zaki doesn’t know that I have come.’ (Ji)

d. zàkì á kɔ̄ⁿ [dè [bó sē] nà bà]
Z PfvNeg **know**.Base [**Quot** [**LogoSg** father] Fut come.Base]
‘Zaki$_x$ doesn’t know that his$_x$ father will come.’ (Jinejan)

e.	nó	kùɔ̀^{n}	[dē	zàkí	nà	bà]
	1Sg	**know**.Pfv	[**Quot**	Z	Fut	come.Base]

‘I know that Zaki will come.’ (Ji)

The subordinated proposition may be anticipatorily resumed (anticipated) as a 3Inan object enclitic on ‘know’ in the main clause (1331).

(1331)	zàkí	kùɔ̀^{n}	=nì	[dè	[bó	sē]	bē	bà]
	Z	know.Pfv	**3InanObj**	[Quot	[LogoSg	father]	Fut	come.Pfv]

‘Zaki$_x$ knows that his$_x$ father will come.’ (Fl)

There are many examples in the texts, including those in (1332).

(1332) a.	ǒ=	Ø	kɔ̄^{n}	[dè	[bùò	màmá]	=à^{n}	dò]
	3Pl	PfvNeg	**know**.Base	[**Quot**	[3Pl	grandmother]	it.is	Emph]

‘They didn’t know that she was their grandmother.’ (Bi, 2017-07 @ 06:43)

b.	í!	[[bùò	yúó]	wō	kɔ̄^{n}	=nì]
	oh!	[[3Pl	people]	Infin	**know**.Base	3InanObj]
	[dò=	ó	bà			
	[**Quot**	1Pl	come.Pfv			
	[[ē→,	cì]	wáʔá-sō	tɔ̀ʔɔ̀]	nī^{n}]],	
	[[Art,	millet]	make.noise.Base-take.Base	place]	Loc]],	

‘Oh! The people (in Jinejan) knew that we had come in order to make noise and receive millet (grain).’ (Bi, 2017-10 @ 06:03)

17.3.1.2 ‘(Not) know’ with nonquotative clausal complement

In (1333), the clause following ‘not know’ lacks quotative particle dè since it does not represent a complete propositional thought. It also lacks an ‘if’ or dubitative particle (see the following sections), since the issue isn’t the truth or falsity of the proposition. (1333) is future-oriented and implies a covert ‘what?’.

(1333)	ɔ̌^{n}=	Ø	kɔ̀^{n}	[[[bó	nà	klè]	sɪ̀ɲá]	nī]
	3AnSg	**PfvNeg**	**know**.Base	[[[LogoSg	Fut	do.Base]	situation]	Loc]

‘He didn’t know what to do next.’ (Ji, 2017-01 @ 02:35)

17.3.1.3 ‘(Not) know (if/whether …)’ with jí ‘if’

If the complement is dubitative, as in negative ‘not know (whether …)’ and in questions like ‘do you know (whether …)?’, the most common option is to begin the subordinated clauses with jí ‘if’. The particle is sometimes prolonged as jí→. In these examples the complement is NA-future or BE-future.

(1334) a. ná= á kɔ̄ⁿ [jí→ [zàkí nà bà]]
1Sg **PfvNeg** **know**.Base [**if** [Z Fut come.Base]]
'I don't know whether Zaki will come.' (Ji)

b. ná= á kɔ̄ⁿ [jí zàkí bē bà]
1Sg **PfvNeg** **know**.Base [**if** Z Fut come.Pfv]
'I don't know whether Zaki will come.' (Fl)

In this construction, jí may be preceded by quotative dè, as in textual example (1335).

(1335) dè [bó =rɛ̌=] Ø kɔ̄ⁿ =nì
Quot [LogoSg Emph] **PfvNeg** **know** 3InanObj
dè jí [kè yá] kō bā
Quot **if** [matter Dem.InanSg] be nothing
'(Hare) said: "I don't know whether that (i.e. its fall) was for nothing (=coincidental)." ' (Fl, 2017-05 @ 01:41)

17.3.1.4 '(Not) know (if/whether …)' with dubitative tá 'or'

An alternative to jí in this construction is the disjunctive particle tá (§7.2.2), here in dubitative function. Our Ji assistant used both particles, often producing jí first in elicitation, then pivoting to tá in repetitions.

(1336) a. ná= á kɔ̄ⁿ [tā= [Ø blō] nà bà]]
1Sg **PfvNeg** **know**.Base [**or** [Art rain(n)] Fut come.Base]]
'I don't know whether rain will come (=it will rain).' (Ji)

b. zàkì á kɔ̄ⁿ [jí / tá [bó nà bà]
1Sg **PfvNeg** **know**.Base [**if / or** [LogoSg Fut come.Base]
'Zaki$_x$ doesn't know whether he$_x$ will come.' (Ji)

17.3.1.5 sɔ̀ⁿ 'think, believe (that …)' with quotative complement

In the sense 'believe (that …)', invariant sɔ̀ⁿ takes a quotative complement with particle dè. An example is (1337), where the narrator reports a (false) belief on the part of a protagonist.

(1337) [jó bó =ō sɔ̀ⁿ]
[if 3AnSg Ipfv **think**.Ipfv]
[dè [bó tóʔó ɲɔ̀ɣɔ̀] ní-mā [[è lóʔó] nī]]
[**Quot** [LogoSg Foc equal(n)] not.be.Loc [[Art cleverness] Loc]]
'if he thinks that <u>his</u> [focus] equal in cleverness (=magic) does not exist, …'
(Ji, 2017-01 @ 04:00)

However, the majority of false beliefs in narratives are expressed with dè 'said' in the sense 'said (to oneself)'.

For sɔ̀ⁿ in the sense 'consent (to do sth)', with infinitival complement, see §17.4.4.2.

17.3.1.6 là 'be sure (that)' with quotative complement

Invariant là 'be sure, believe' takes a locative PP denoting a person, followed by a quotative complement. In the negative the sense is 'not be sure'.

(1338)	nó	á	là	[ɔ̀ⁿ	nī]	[dē	ɔ̄ⁿ	nà	bà]
	1Sg	PfvNeg	**believe**.Base	[3AnSg	Loc]	[**Quot**	3AnSg	Fut	come.Base]

'I'm not sure that he/she is coming.' (Ji)

17.3.2 'Hear'(jūʔɔ̄) with clausal complement

The verb 'hear' is dīʔɛ̄ ~ jīʔɛ̄/jūʔɔ̄/jūʔɔ̄ or variant. It takes complements of two types.

17.3.2.1 'Hear (that/whether …)' with quotative dè or dubitative tá

A propositional complement of 'hear (that)', i.e. in the context of hearsay rather than hearing a sound, begins either with quotative particle dè (1339a), or with dubitative tá (1339b-c). Since hearsay is intrinsically less authoritative than eye-witnessing, a dubitative complement is common in Tiefo-D even where English would use *that*. Logophorics may occur in the complement (1339b-c). The subordinated proposition may be anticipatorily resumed by an inanimate object pronominal (1339a).

(1339) a.	nó	dīʔɛ̄	=nì	[dē	zàkí	fīē]
	1Sg	**hear**.Pfv	3InanObj	[**Quot**	Z	pass.Pfv]

'I hear(d) that Zaki has gone.' (Ji)

b.	zàkí	dìʔɛ̀	[tá	ò	nà	kò	bó]
	Z	**hear**.Pfv	[**whether**	3Pl	Fut	kill.Base	LogoSg]

'Zaki$_x$ heard that they will/might kill him$_x$.' (Ji)

c.	zàkí	dìʔɛ̀	[tá	ō	kùò	[bó	būⁿʔɔ̄ⁿ]]
	Z	**hear**.Pfv	[**whether**	3Pl	kill.Pfv	[LogoSg	dog]]

'Zaki$_x$ heard that they (apparently) killed his$_x$ dog.' (Ji)

Nearly all textual examples of 'hear' have nominal objects ('hear it', 'hear/listen to advice', etc.). There is one example of 'hear' followed by dè and 'say', cf. Eng *if you hear us say…*

(1340) má= à jūʔɔ̄ dè→ é-yùò dè→
2Sg if **hear**.Base **Quot** 1Pl say.Pfv
[Ø cɔ̀fɔ́-rɔ́] d= [ò mâⁿ gblī [ē tə̀ràⁿʔáⁿ]]
[Art Tiefo-Pl] say.Pfv [Imprt.Pl Proh choose.Ipfv [Art marriage]]
‘If you hear that we have said, (we) the Tiefo have said, “don’t-2Pl (try to) pick (your) marriage.” ’ (women, 2017-13 @ 03:44)

17.3.2.2 ‘Hear (sth happening)’ with progressive complement

When what was heard was the sound of an ongoing action, the complement takes progressive form (1341). Even here, dubitative tá is optionally present.

(1341) a. nó dīʔɛ̄̂= [[Ø bí-sīō] kò [jɥ́í nī]]
1Sg **hear**.Pfv [[Art child.Pl] **be** [fight(v).**Prog** **Prog**]]
‘I heard the children (apparently) squabbling.’ (Ji)

b. nó dìʔɛ̀ tâ= [[Ø bí-sīō] kò [jɥ́í nī]]
1Sg **hear**.Pfv **whether** [[Art child.Pl] **be** [fight(v).**Prog** **Prog**]]
‘I heard the children (apparently) squabbling.’ (Ji)

17.3.3 ‘Look at, consider’ (ɲɔ́) with jí ‘if (whether)’ complement

While ɲà/ɲī/ɲɛ̀ ‘see’ takes indicative complements without quotative dè or other complementizer (§17.2.2), ɲūɔ̄/ɲɔ́/ɲú ‘look at’ in the sense ‘consider (whether …)’ can take a dubitative complement with jí ‘if’. There is one textual example.

(1342) [ò kò ɲɔ́ =nì [jī́= [Ø dɛ̄ jī]—
[3Pl Infin **look**.Base 3InanObj [**if** [Art elder.sib Indef]—
[ē bī-dɔ̌ jī] bā à-mā [[Ø màsà-cɛ́] bàʔà],
[Art younger.sib Indef] if be.Loc [[Art chief] chez]
‘They look at (=consider) whether there is some elder sibling— (or rather) some younger sibling (of the deceased chief) at the chief’s place (=family).’
(Ma, 2018-01 @ 00:52)

17.3.4 ‘Forget’ (pɛ̄) with quotative complement

pɛ̀/pɛ̄/pɛ̄ (with minor variants) ‘forget’ takes a quotative complement with dè, when what is forgotten is a factual proposition (‘forget that …’).

(1343) zàkí pɛ̀ [dè nó bà]
Z **forget**.Pfv [**Quot** 1Sg come.Pfv]
‘Zaki forgot that I have come.’ (Ji)

There is a textual example (1344).

(1344)	kō	pɛ̄	[de᷅=	[Ø	jʮ̀ɛ̀ʔɛ́]	á	sə̀rɔ̀ⁿ	bó]
	Infin	**forget**.Base	[**Quot**	[Art	God]	PfvNeg	take.down.Base	LogoSg]

‘(He) forgot that God didn’t bring him down.’ (Ma, 2017-03 @ 00:43)

For the infinitival construction ‘forget to VP’, see §17.4.2.2.

17.3.5 ‘Fear (that …)’ (cɔ̄ʔɔ̄) with quotative complement

The transitive verb cɛ̀ʔɛ̀/cɔ̄ʔɔ̄/cɔ̄ʔɔ̄ ‘fear (v), be afraid of’ can take a quotative complement with dè. The complement may denote either a suspected but unverified past event (1345a), or a future event (1345b). The ‘fear’ verb takes Pfv form in present-time contexts.

(1345)	a.	nó	cɛ̀ʔɛ̀	[dè	[[nó	ná-bī]	jɛ̀ʔɛ̀-bló]]]	
		1Sg	**fear**.Pfv	[**Quot**	[[1Sg	child]	get.lost.**Pfv**]]]	

‘I fear that my child has gotten lost.’ (Ji)

	b.	nó	cɛ̀ʔɛ̀	[dē	zàkí	nà	kò	nó]
		1Sg	**fear**.Pfv	[**Quot**	Z	**Fut**	kill.Base	1Sg]

‘I fear that/lest Zaki (might) kill me.’ (< kō) (Ji)

For the infinitival construction ‘be afraid (to VP)’, see §17.4.2.1.

17.4 Infinitival complements

In these constructions, the main clause may have a “control” verb that can take an infinitival complement: ‘X help Y [to VP]’, ‘X forget [to VP]’, ‘X cause Y [to VP]’. Infinitival complements have the same forms as infinitival phrases in narrative that function like conjoined clauses.

Before proceeding it is necessary to distinguish infinitival from hortative complements, which might otherwise cause confusion.

17.4.1 Infinitival versus hortative complements

The distinction between these two types of complements (clauses or VPs) is summarized in (1346).

(1346)	aspectually unmarked	imperfective
a. infinitival	(subject) kō Vb.Base …	(subject) k-ā Vb.Ipfv …
b. hortative	(subject) kò Vb.Base …	(subject) kò Vb.Ipfv …

It can be difficult to distinguish the two in the aspectually unmarked version, which is most common. Both infinitivals and hortatives make use of the base of the stem, and infinitival kō drops to kò before an H-toned verb (§15.2.1.1). Fortunately, the distinction is unmistakeable in the imperfective, with infinitival k-â (§15.2.2) versus hortative kò.

An additional difference is that some (but not all) hortative complements may begin with quotative particle dè.

Based on these criteria, the relevant constructions (with specific main-clause predicates, plus purposives) break down as shown in (1347). The division correlates with whether the complement is conceptualized in a verbalizable form by a protagonist.

(1347)

main clause	gloss
a. infinitival kō, including imperfective k-â plus Ipfv verb	
cɔ̄ʔɔ̄	'be afraid (to VP)'
jíjà	'strive (to VP)'
klè/já/té/wē	causative 'make/let (X VP)'
pɛ̄	'forget (to VP)'
tà^{n}-jūʔɔ̄	'help someone (to VP)'
wē [Ø kè-tɛ̀ʔɛ̀]	'join in, apply oneself, help (to VP)'
(any)	purposive 'in order to VP'
b. hortative kò plus base or Ipfv stem (with or without quotative dè)	
kà-bàʔà	'want (to VP)'
sūʔɔ̄ [Ø klɔ̀ʔó]	'give road (=authorization, instruction) to sb (to VP)'
ká^{n}	'must (VP)'
c. infinitival (same-subject) or hortative (different-subject)	
lɛ́^{n} [à nī]	'consent (to VP)', 'consent for Y (to VP)'
sɔ̀^{n} (< Jula)	" "

Hortatives often co-occur with simple jussives (quoted imperatives and prohibitives).

In §17.4.2 just below we describe constructions with infinitival complements. §17.4.3 covers constructions with hortative and jussive complements. In §17.4.4 we describe main-clause predicates that allow both types of complement based on the same versus different subject distinction. Miscellaneous constructions involving verbal nouns and other nominals are in §17.5. Purposives and 'because' clauses are described separately in §17.6.

17.4.2 Constructions with infinitival complements

As indicated just above, infinitival phrases have kō plus base stem of verb, or in imperfective contexts k-â plus Ipfv stem. Whereven possible we include imperfective examples.

17.4.2.1 'Be afraid (to VP)' cɔ̄ʔɔ̄ with infinitival VP

The verb cɛ̀ʔɛ̀/cɔ̄ʔɔ̄/cɔ̄ʔɔ̄ can be intransitive 'be afraid' (Bi, 2017-09 @ 01:26) or transitive 'be afraid of, fear (sth/sb)' with an NP object (Bi, 2017-04 @ 00:57). It may also take an infinitival VP complement, denoting a hypothetical same-subject event (1348). In present-time contexts, the Pfv form of 'fear' is preferred, interpretable as 'have become fearful' with continuing present relevance. The imperfective version with k-ā̀ (1348c) indicates recurring bouts of fear.

(1348) a. nó cɛ̀ʔɛ̀ [kō bà fā̃ⁿʔāⁿ]
1Sg **fear**.Pfv [**Infin** come.Base here]
'I am afraid to come here.' (Ji)

b. zàkì á cɔ̄ʔɔ̄ [kò yíʔī= [[Ø pòʔó] nī]]
Z PfvNeg **fear**.Base [**Infin** go.Base [[Art the.bush] Loc]]
'Zaki isn't afraid to go out to the bush.' (Ji)

c. ɔ̀ⁿ= Ø cɔ̄ʔɔ̄ [k-ā̀ bē]
3AnSg Ipfv **fear**.Ipfv [**Infin**-Ipfv come.Ipfv]
'He/She (always) fears to come.' (Ji)

The complement can alternatively be expressed with a verbal noun.

(1349) ɔ̄ⁿ cɛ̀ʔɛ̆= [Ø bà-ní] fā̃ⁿʔāⁿ
3AnSg fear.Pfv [Art come-VblN] here
'He/She is afraid of coming here.' (Ji)

For 'be afraid that …' with propositional complement in quotative form, see §17.3.5.

17.4.2.2 'Forget (to VP)' pɛ̄ with infinitival VP

'Forget' is pɛ̀/pɛ̄/pɛ̄ ~ pē (most dialects) or invariant pɛ̀ (Ji). As in English, the verb may be intransitive, or transitive with nominal object. Also as in English, the verb can alternatively take an infinitival complement in the sense 'forget to VP', where the implied agent of the infinitival action is coindexed with the subject of the main clause. The imperfective version has k-ā̀ (1350c).

(1350) a. zàkí pɛ̀ [kō bà]
Z **forget**.Pfv [**Infin** come.Base]
'Zaki forgot to come.' (Ji)

b. mâ pɛ̀ [kō bà [kă= [Ø kàʔā]]]
Proh **forget**.Base [**Infin** come.Base [with [Art meat]]]
'Don't-2Sg forget to bring the meat!' (Ji)

c. ɔ^{n}= Ø pē [k-ā bē] (Fl)
" " pɛ̄ " " (Ji)
3AnSg Ipfv **forget**.Ipfv [**Infin**-Ipfv come.Ipfv]
'He/She (often) forgets to come.' (Fl Ji)

For 'forget that …' with propositional complement, see §17.3.4.

17.4.2.3 'Help' constructions with infinitival complement

17.4.2.3.1 tà^{n}-jūʔɔ̄ 'help' with object and infinitival complement

The transitive verb tɛ̀^{n}-jūʔɔ̄/tà^{n}-jūʔɔ̄/tà^{n}-à^{n}-jūʔū 'help' can take an infinitival complement, whose covert subject is coindexed with the object of 'help'. (1351c-d) are imperfective with k-ā.

(1351) a. zàkí tɛ̀^{n}-jùʔɔ̀ nó [kō kɛ̄^{n}ʔɛ̄^{n} fā^{n}ʔā^{n}]
Z **help**.Pfv 1Sg [**Infin** ascend.Base here]
'Zaki helped me climb up here.' (Ji)

b. zàkí tɛ̀^{n}-jùʔɔ̀ nó [kō mɛ̄ [Ø wùʔú]]
Z **help**.Pfv 1Sg [**Infin** build.Base [Art house]]
'Zaki helped me build a house.' (Ji)

c. zàkí ā tà^{n}-à^{n}-jùʔù nó [k-ā klī^{n}ʔī^{n}]
Z Ipfv **help**.Ipfv 1Sg [**Infin**-Ipfv ascend.Ipfv]
'Zaki (often) helps me climb.' (Ji)

d. ɔ^{n}= Ø tà^{n}-à^{n}-jūʔū [ɔ̀^{n} tó-tɔ̄rā^{n}-nɔ̀]
3AnSg Ipfv **help**.Ipfv [3AnSgRefl neighbor]
[k-ā mɛ̄ [Ø wùʔú]]
[**Infin**-Ipfv build.Ipfv [Art house]]
'He/She (often) helps his/her neighbor to build a house.' (Ji)

17.4.2.3.2 wē [Ø kè-tɛ̀ʔɛ̀] 'help' with object and infinitival complement

Another way to express 'help X [to VP]' is 'put (in) a hand to/for' (1352). Without a dative, this phrase means 'throw oneself actively (into an activity)'. In the 'help' examples, the phrasing makes it clear that the assistance was direct (physical), not indirect. The verb 'put (in)' is wìè/wē/wī (for Fl, yɥ̀è/wē/yɥ̄ī). The first vowel of 'hand' varies by dialect: kì-tɛ̀ʔɛ̀ (Ma), kè-tɛ̀ʔɛ̀ (Ji), or kɛ̀-tɛ̀ʔɛ̀ (Bi Fl). This is not a verb-verb compound, so no medial -à- is intercalated between 'put' and 'hand' in the imperfective. For multiple subjects, plural kè-tə̀-rɛ̀ or variant can be used (1352b). (1352d) is imperfective with k-ā.

(1352) a. zàkí wìɛ̌= [Ø kè-tɛ̀ʔɛ̀] [nó bàʔà]
Z **put**.Pfv [Art **hand**] [1Sg **Dat**]
[nó kō bà]
[1Sg **Infin** come.Base]
‘Zaki gave me a hand to (help me) go up.’ (Ji)

b. kō wē [Ø kè-tə̀-rɛ̀] [[ò dígə̀-rɔ̀] bàʔà]
Infin **put**.Base [Art **hand**-Pl] [[PlRefl Recip] **Dat**]
‘(for them) to give a hand to each other’ (Ji, 2017-11 @ 10:54, edited)

c. wē [Ø kɛ̀-tɛ̀ʔɛ̀] [kō sɔ̄^{n} [Ø kē-sù^{n}ʔɔ̀^{n}]]
put.Base [Art **hand**] [**Infin** work(v).Base [Art work(n)]]
‘Apply yourself to the job!’ (Fl)

d. ɔ̀^{n}= Ø wī [Ø kè-tɛ̀ʔɛ̀] [k-ā̀ mɛ̄]
3AnSg Ipfv **put**.Ipfv [Art **hand**] [**Infin**-Ipfv build.Ipfv]
‘He/She joins in (lends a hand) to build (houses).’ (Ji)

An antonymic construction with parallel structure is glō [Ø kè-tɛ̀ʔɛ̀] ‘withdraw help, stop helping’ (lit. “remove hand”).

Another compound verb meaning ‘help’ with the same Vb1 ‘put (in)’ is wē-tàʔà (base).

17.4.2.4 jíjà and kāʔā ɔ̀^{n} míʔá ‘strive’ plus infinitival VP

jíjà ‘strive, try hard, make an effort’, a Jula borrowing, takes infinitival VP complements with implied same subject (1353). See also (1435) in §18.4.1. (1353b-c) are imperfectives with k-ā̀.

(1353) a. nó jíjà [kō kɔ̄ [ŋ̀ dɛ̀]]
1Sg **strive**.Pfv [**Infin** finish.Base [1SgRefl field]]
‘I worked hard to finish (cultivating) my field.’ (Fl Ji)

b. ná= à jíjà [k-ā̀ kō [ŋ̀ dɛ̀]]
1Sg Ipfv **strive**.Ipfv [**Infin**-Ipfv finish.Ipfv [1SgRefl field]]
‘I (regularly) strive to finish my field.’ (Fl)

c. ɔ̀^{n}= Ø jíjà [k-ā̀ bē]
3AnSg Ipfv **strive**.Ipfv [**Infin**-Ipfv come.Ipfv]
‘He (always) makes an effort to come.’ (Ji)

The native Tiefo-D phrasing corresponding semantically to the borrowed jíjà is X kāʔā [ɔ̀^{n} mí^{n}ʔá], literally “X harden him/her-self,” plus an infinitival complement. Compare Eng *steel oneself.*

(1354) ɔ̀ⁿ= Ø kāʔā [ɔ̀ⁿ míʔá] [k-ā bē]
3AnSg Ipfv **harden**.Ipfv [3AnSgRefl **Refl**] [**Infin**-Ipfv come.Ipfv]
'He (always) makes an effort to come.' (Ji)

17.4.2.5 Periphrastic causatives with infinitival clauses

The verbs klɛ̀ 'do, make', wē 'put (in)', té 'put down', and já 'leave (behind)' can function as main-clause verbs meaning 'cause, induce' or 'let'. Each is followed by an infinitival clause, normally including an overt subject.

17.4.2.5.1 klɛ̀ 'do, make' as causative with infinitival clause

A simple, all-purpose causative construction has the invariant verb klɛ̀ 'do, make' in the main clause. The complement is an infinitival clause with a subject preceding kō. In imperfective contexts the imperfective infinitive k-ā occurs (1355d). The fact that 'sheep' in (1355a) is the subject of the infinitival VP, rather than the object of main-clause klɛ̀, is shown by its proclitic subject form ɔ̀ⁿ in (1355b). Contrast nó klɛ̀ =yò or variant 'I made him/her/it (animate)'.

(1355) a. nó klɛ̀ [[Ø báⁿ] kō ʃìⁿʔìⁿ]
1Sg **do**.Pfv [[Art sheep] **Infin** run.Base]
'I made the sheep-Sg run.' (Fl)

b. nó klɛ̀ [ɔ̀ⁿ kō ʃìⁿʔìⁿ]
1Sg **do**.Pfv [3AnSg **Infin** run.Base]
'I made it (=sheep) run.' (Fl)

c. nó klɛ̌= [[Ø nà-bí] kō ɲɔ̄= [Ø sǔⁿ]]
1Sg **do**.Pfv [[Art child] **Infin** drink.Base [Art medication]]
'I made the child drink the medicine.' (Fl)

d. nó ā klɛ̀ [[Ø báⁿ] k-ā dī-à-ʃí]
1Sg Ipfv **do**.pfv [[Art sheep] **Infin**-Ipfv fall.Ipfv]
'I always make the sheep-Sg fall.' (Fl)

A textual example is (1356). The nasal is a filler for hesitations.

(1356) ɔ̀ⁿ yīʔē [kà= á-klɛ̌=
3AnSg go.Pfv [Infin go.Base-**do.Base**
[[Ø kɛ̌ⁿ] gō, ŋ̀ sūʔɔ̄ [Ø sǔⁿ]]
[[Art fellow] **Infin**, (nasal) give.Base [Art medication]]
'He went and had the fellow (=magician) give the magic potion.'
(Ji, 2017-09 @ 07:00)

klè in the sense 'cause' can also take an indicative clause as complement (§17.2.1).

17.4.2.5.2 té 'put (down)' as causative with infinitival clause

tīē/té/té 'put down', by extension 'determine, establish, set', has causal scope over an infinitival clause in textual example (1357).

(1357)

[ē	jàm—]	kò	ɲɔ̄=	[Ø	kɔ̄],
[Art	comm[unity]—]	Infin	look.Base	[Art	day,
kò	té,	[ò	kō	bà]	
Infin	**put**.Base,	[3Pl	**Infin**	come.Base]	

'The comm[unity]—, looks at (=considers) the date. They (=chiefly family) have them (=community) come.' (Ma, 2018-01 @ 01:39)

17.4.2.5.3 wē 'put in' as causative with infinitival clause

The 'put X in Y' verb wìè/wē/wī can also function as a kind of back-door causative, especially when the situation implies movement to a location by the subordinated agent. This is the case in (1358a-c), where 'put' has an infinitival clause as complement. In (1358b), ɔ̄ⁿ is clearly the subject of the infinitival VP. However, it is possible to also express the subordinated agent as the direct object of 'put' in the main clause. In (1358c), which was spoken slowly in elicitation, there is both a 3AnSg object of 'put' and a coindexed 3AnSg subject of 'cultivate.' This construction is favored by the Fl speaker for third person pronominals, but first and second person pronominals are not doubled.

(1358) a.

zàkí	wìè	[nó	kò	bá	[ɔ̄ⁿ	dɛ̀]]
Z	**put**.Pfv	[1Sg	**Infin**	cultivate.Base	[3AnSgRefl	field]]

'Zaki made (=had) me cultivate his field.' (Ji)

b.

nó	wìè	[ɔ̄ⁿ	kò	bá	[nó	dɛ̀]]
1Sg	put.Pfv	[**3AnSg**	**Infin**	cultivate.Base	[1Sg	field]]

'I made (=had) him cultivate my field.' (Fl)

c.

nó	wìè	=yò	[ɔ̄ⁿ	kò	bá	=nì]
1Sg	put.Pfv	**3AnSgObj**	[**3AnSg**	**Infin**	cultivate	3InanObj]

'I made (=had) him/her cultivate it.' (Fl)

In (1359), 'put' is again the verb, but the complement is reduced to a PP based on a verbal noun. This is a single-clause construction with the subordinated agent as direct object of 'put', as shown by the 3AnSg object enclitic in (1359b).

(1359) a.

nó	wìè	[Ø	báⁿ]	[[ē	ʃìⁿʔìⁿ-ní]	nī]
1Sg	**put**.Pfv	[Art	sheep]	[[Art	run-**VblN**]	Loc]

'I put the sheep-Sg to flight.' (Fl)

b. nó wìè =yò [[ē ʃì^{n}ʔì^{n}-ní] nī]
1Sg **put**.Pfv **3AnSgObj** [[Art run-**VblN**] Loc]
'I put-Past it (=sheep) to flight.' (Fl)

17.4.2.5.4 já 'leave (behind)' as 'let' with infinitival clause

In this construction, verb já 'leave (behind), leave (alone)' is followed by a different-subject complement with infinitive kō. The sense can be permissive 'let, allow' or weak causal 'have (sb do sth)'. Examples are in (1360). (1360c) is imperfective with k-ā. The verb já is invariant in most dialects but has a Pfv jɛ̄ for Bi dialect. The bracketing of the 1Sg pronoun in (1360b-d) is hard to pin down, since já as simple verb readily takes objects. In (1360a) the 3AnSg pronoun is a proclitic, therefore bracketed with the infinitival phrase. Howevr, (1360e) shows the Fl speakers predilection for doubling the third person pronoun as an object enclitic for já and as a subject proclitic for the infinitival clause.

(1360) a. ɔ̀^{n} mâ^{n} já
3AnSg Proh **leave**.Base
[ɔ̀^{n} ŋò tá^{n}-dà^{n} [bó n̄] tàʔà-kó] =ʔ
[3AnSg **Infin** return.Base-arrive.Base [LogoSg Loc] again] Neg
'(said:) "Don't let it come back to me again." ' (women, 2017-18 @ 00:39)

b. zàkí já nó [kō dɔ̄] (Fl)
" " " " dɔ̀] (Ji)
Z **leave**.Pfv 1Sg [**Infin** sleep.Base]
'Zaki let me sleep.' (Fl Ji)

c. [è bí-ʃìò] má já nó [k-ā dɛ̄]
[Art child.Pl] IpfvNeg **leave**.Ipfv 1Sg [**Infin**-Ipfv sleep.Ipfv]
'The children don't let me sleep.' (Fl Ji)

d. zàkí já nó [kò lɛ́^{n} [kà [Ø ɲɔ̀-ní]]]
Z **leave**.Pfv 1Sg [**Infin** stop.Base [with [Art drink.Base-VblN]]]
'Zaki had me stop drinking.' (Ji)

e. nó já =yò [ɔ̄^{n} kō dɔ̄]
1Sg leave.Pfv 3AnSgObj [3AnSg Infin sleep.Base]
'I let him/her sleep.' (Fl)

Another textual example is (Ji, 2017-04 @ 04:35), but its structure is made unclear by an interruption.

17.4.3 Hortative and jussive complements

Here we consider constructions with hortative and/or jussive (imperative or prohibitive) complements. See §17.4.1 above for the criteria used to distinguish hortative kò from infinitival kō.

17.4.3.1 kà-bàʔà ‘want’ plus jussive or hortative

‘Want it’ is normally pronounced kà-bàʔà (§11.2.5.2.1) and in this form it is morphologically opaque. Some speakers claim that it is analysable as kō [à bàʔà], literally “be [for it].” The k can weaken to g as in a number of grammatical morphemes (infinitival kō, hortative kò, preposition kà ‘with’). kà-bàʔà behaves as a stative predicate, and can therefore be negated (with má) and/or shifted to the past, but it cannot be aspectually modified.

In the sense ‘want to VP’ with same-subject complement, kà-bàʔà is followed by a hortative VP complement in some dialects; for a dialectal infinitival version see (1363c) below. The hortative VP has a verb in base form when denoting a single instance; and an Ipfv verb for habitual contexts. The examples in (1361) are elicited and refer to single instances.

(1361) a. zàkí kà-bàʔà [(k)ò tə̄rāⁿ]
Z **want** [**Hort** sit.Base]
‘Zaki wants to sit down.’ (Ji Ma)

b. zàkì má kà-bàʔà [(k)ò tə̄rāⁿ]
Z Ipfv**Neg** **want** [**Hort** sit.Base]
‘Zaki doesn’t want to sit down.’ (Ji)

c. zàkí kà-bàʔà [(k)ò ɲì mó]
Z **want** [**Hort** see.Base 2Sg]
‘Zaki wants to see you-Sg.’ (Ji)
(< /kò ɲī mó/)

d. zàkí kà-bàʔà
Z **want**
[kò ɲɔ̄ [Ø làⁿ] kúⁿʔúⁿ]
[**Hort** drink.Base [Art beer] today]
‘Zaki wants to drink (a) beer today.’ (Ji)

e. ɔ̀ⁿ má kà-bàʔà
3AnSg IpfvNeg **want.it**
[kò ɲɔ̀-ɲɔ̄= [Ø ɲū]]
[**Hort** drink.Base-look.Base [Art water]
‘Zaki doesn’t want to ever drink water.’ (Fl Ji)
[experiential perfect negative]

Textual examples are in (1362).

(1362) a. ó gà-bàʔà [ò gɔ̀ =nì],
1Pl **want.it** [**Hort** hit.Base 3InanObj],
[ē nàsə̀rá gò gbɛ̄ =nì]
[Art white.person.Sg Hort pick.up.Base 3InanObj]
‘We want to narrate (“hit”) it, for the white person to take it.’
(Bi, 2017-06 @ 00:11, hesitation omitted)

b. ó gà-bàʔà [kò— ǹ dò—]
1Pl **want.it** [**Hort**— (nasal) speak.Base—]
‘We want to speak—.’ (Bi, 2017-09 @ 00:02)

c. ó gà-bàʔà [wò dò [bè tóʔó]]
1Pl **want.it** [**Hort** speak.Base [Dem.Def Foc]]
‘That [focus] is what we want to talk about.’ (Bi, 2017-09 @ 00:16)

When the complement denotes multiple events at different times, the complement takes hortative imperfective form with kò plus Ipfv verb. For example, ɲùɔ̀/ɲɔ̄/ɲī ‘drink’ appears as base ɲɔ̄ in (1361d) above, but as Ipfv ɲī in (1363a) below. dɛ̄ ‘sleep’ is also Ipfv in (1363b). We have an example from Bo (dialect similar to Bi) with an imperfective infinitival complement with k-ā̀, suggesting a dialectal divergence in syntactic structure (1363c).

(1363) a. zàkí kà-bàʔà
Z **want.it**
[kò ɲī [Ø lǎ^{n}] [kɔ̀-kɔ̀ sú→]]
[**Hort** drink.**Ipfv** [Art beer] [Rdp-day all]]
‘Zaki wants to drink beer every day.’ (Ji)

b. zàkí kà-bàʔà [kò dɛ̄]
Z **want.it** [Hort sleep.**Ipfv**]
‘Zaki (often) wants to sleep.’ (Fl Ji)

c. bè fə́rá^{n}, kà-bàʔà [k-ā̀ bē
Dem.Def too, want.it [**Infin-Ipfv** come.Ipfv
[[[à bíɛ́] gblɛ̀-tɔ̀ʔɔ̀] nī] tàʔà-kó
[[[3Inan all] take.Pfv-place] Loc] again
‘That too wants to come in order to take everything again.’
(Bo, 2019-06 @ 00:49)

In the different-subject construction, the lower subject precedes hortative kò to create an hortative clause (1364a-d), or kò is omitted and the result is a jussive complement (1364e). Quotative dè is optionally present (1364c-e). The lower subject is bracketed with its clause as subject, and does not function as direct object of ‘want’. If it were direct object of ‘want’, the inanimate pronominal in (1364b) would be object enclitic =nì instead of subject proclitic à. (1364c) is imperfective.

(1364) a. nó kà-bàʔà [zàkí kò ɲɔ́ nó]
1Sg **want.it** [Z **Hort** look.at.Base 1Sg]
'I want Zaki to look at me.' (Ji)

b. nó kà-bàʔà [à kò dì-só]
1Sg **want.it** **[3Inan** **Hort** fall.Base]
'I want it to fall.' (Ji)

c. nó kà-bàʔà [(dē) zàkí kò bē]
1Sg want.it [(Quot) Z **Hort** come.Ipfv]
'I want Zaki to come (regularly).' (Ji)

d. [nó sè] má kà-bàʔà
[1Sg father] IpfvNeg **want**
[dè nó kò glú-à-yé]
[Quot 1Sg **Hort** exit(v).Ipfv-Ipfv-walk.Base]
'My father doesn't want me to travel.' (Ji)

e. [nó sē] kà-bàʔà
[1Sg father] **want**
[dè nó yíʔí [ē wàgá]]
[**Quot** 1Sg go.**Base** [Art Ouaga]]
'My father wants me to go to Ouagadougou.' (Ji)

There is one textual example (1365).

(1365) dē bùò =rɛ̄, má kà-bàʔà
say.Pfv LogoPl even, IpfvNeg **want.it**
[ò kò lɔ̆= [[Ø tɔ̀ʔɔ̀ jərɔ̀ⁿ] má káⁿ]
[3Pl **Hort** show.Base [[Art place Rel] IpfvNeg be.safe]
'(They) say that even they don't want them (=villagers) to show a place …'
(Fl, 2017-11 @ 04:29)

17.4.3.2 'Authorize/instruct' plus hortative or jussive clause

'Authorize/instruct' differs from 'want' and some other constructions in that the subject of the complement is always disjoint to the subject of the main-clause verb. Local Fr *autoriser* can mean either 'authorize' (i.e. allow) or 'instruct' (i.e. command). 'Authorize' in the normal English sense is expressed in Tiefo-D either by the phrase 'give the road', with ʃìʔɛ̀/sūʔɔ̄/sūʔū (or variant) 'give' plus noun (ē) klòʔó 'road', or by the verb láblà borrowed from Jula lá-blà.

The complement is usually hortative, occasionally a quoted imperative (jussive). Either of these may be preceded by quotative dè. If the authorization is for a single event or state, the complement is hortative kò plus the base stem (1366a-b), or just the base stem (1366c). The subordinated subject precedes kò.

(1366) a. ō   ʃìʔɛ̆=   [Ø   klòʔó]
3Pl   **give**.Pfv   [Art   **road**]
[nó   kò   kò   [Ø   bɔ́ⁿ]]
[1Sg   **Hort**   kill.**Base**   [Art   sheep]]
'They authorized me to slaughter a sheep.'   (Ji)

b. ɔ̄ⁿ   ʃìʔɛ̆=   [Ø   klòʔó]
3Pl   **give**.Pfv   [Art   **road**]
[dè   nó   kò   ʃìⁿʔìⁿ]
[Quot   1Sg   **Hort**   run.Base]
'He instructed/authorized me to run.'   (Ji)

c. ɔ̄ⁿ   ʃìʔɛ̆=   [Ø   klòʔó]   [dè   nó   bà/ɲɔ̄]
3AnSg   **give**.Pfv   [Art   **road**]   [**Quot**   1Sg   come.Base/drink.Base]
'He/She authorized me to come/drink.'   (Ji Fl)

If it is a blanket authorization or instruction, potentially covering multiple events, hortative kò is followed by the Ipfv of the verb (1367). The three-stem paradigms of the relevant verbs are shown in parentheses after the examples.

(1367) a. ō   ʃìʔɛ̆=   [Ø   klòʔó]
3Pl   **give**.Pfv   [Art   **road**]
[nó   kò   cɥ̀ì   [Ø   bɔ́]]
[1Sg   **Hort**   kill.**Ipfv**   [Art   sheep.Pl]]
'They have authorized me to slaughter sheep (whenever I want).'   (Ji)
(kùò/kò/cɥ̀ì)

b. ō   ʃìʔɛ̆=   [Ø   klòʔó]
3Pl   **give**.Pfv   [Art   **road**]
[dè   nó   kò   bē / ɲī]
[Quot   1Sg   **Hort**   come.**Ipfv** / drink.**Ipfv]**
'They authorized/instructed me to come/drink (any time).'   (Ji)
(bà/bà/bē, ŋùɔ̀/ɲɔ̄/ɲī)

c. ǒ=   Ø   sūʔɔ̄   [Ø   klòʔó]
3Pl   PfvNeg   **give**.Base   [Art   **road**]
[dè   nó   kò   ɲū̆=   [Ø   tìʔɛ́]]   =ʔ
[Quot   1Sg   **Hort**   look.at.**Ipfv**   [Art   hole]]   Neg
'They didn't authorize me to look at the hole (=grotto).'   (Ji)
(ɲūɔ̄/ɲɔ́/ɲú)

d.

[bù̀ò	dé]	á	sūʔɔ̄	[Ø	klòʔó]
[3Pl	however]	PfvNeg	**give**.Base	[Art	**road**]

[d=	ò	wò	cɥ̀ì	=wò]
[Quot	3Pl	**Hort**	kill.**Ipfv**	3PlObj]

‘They didn’t give the authorization for them to kill them (=elephants).’
(Ji, 2017-09 @ 07:54)
(kùò/kò/cɥ̀ì)

There is a textual example with láblà. The verb is followed by object enclitic ‘it’ resuming the subordinated clause, which is a quoted imperfective hortative in form.

(1368)

ò	kā=	à-láblà	=nì
3Pl	Infin	come.Base-**authorize**.Base	3InanObj

[d=	ò	kò	ɲú	=nì]
[Quot	3Pl	**Hort**	look.at.**Ipfv**	3InanObj]

‘They came and authorized it, that they (=visitors) see it.’
(Ji, 2017-11 @ 02:25)
(ɲūɔ̄/ɲɔ́/ɲú)

17.4.3.3 Obligational ká^{n} plus hortative VP

ká^{n} (< Jula) occurs in obligational and normative constructions in the texts. In simple predicates it can mean ‘be proper, right, normal, appropriate’, i.e. it describes socially approved behavior. It can also occur with a hortative VP with person-specific senses like ‘ought to’ or ‘must’. For the normative content see §8.5.4.2-3.

In positive contexts, the predicate either takes the simple form ká^{n} without inflectional (e.g. imperfective) marking, or this form occurs in a combination pronounced ká-ká^{n} or quasi-iterative ká^{n}-ká^{n} depending on speaker. For negative má(^{n}) ká^{n} see the end of this section.

Our elicited positive examples (Fl and Ji dialects) have simple ká^{n} (1369). The complement is normally hortative plus base of verb (1369a-b), but an Ipfv verb is also acceptable (1369c).

(1369) a.

nó	ká^{n}	[gò	klá-bà]
1Sg	**must**	[**Hort**	return.Base-come.Base]

‘I must come back (here).’ (Ji)

b.

mó	ká^{n}	[kò	bà]
2Sg	**must**	[**Hort**	come.Base]

‘You-Sg must come.’ (Fl)

c.

nó	ká^{n}	[kò	bē]
1Sg	**must**	[**Hort**	come.Ipfv]

‘I must (always) come.’ (Fl Ji)

The construction with hortative complement occurs repeatedly in text 2018-02 (Ma dialect), which details in general terms the reciprocal duties of the Tiefo chief and his subjects. (1370a-b) are among several examples. This spekaer uses the combination ká-káⁿ.

(1370) a. [yúó jə̀rɔ̀ⁿ] ká-káⁿ [wò tə̄rāⁿ]
[person Rel] **ought** [**Hort** sit.Base]
'The person who deserves to sit (=be installed as chief).'
(Ma, 2018-01 @ 00:36)

b. [ɔ̄ⁿ ká-káⁿ [kò klè—],
[3AnSg **ought** [**Hort** do.Base—],
[ē nà-bí-ó], [ē nà—] [è yúó]— [ɲámálɔ̀]-kàʔa,
[Art person-Pl], [Art per(son)—] [Art people]— [be.watchful]-Ppl.An,
'He must do—. The people— The people, watchful ones.'
(Ma, 2018-02 @ 00:16)

Passage (1371a) is a joint production by Bi and Ji speakers. (1371b) is from the Fl speaker.

(1371) a. Bi: [bè tóʔ=] =à, [è ná-bí] káⁿ-káⁿ [wò—]
[Dem.Def Foc] it.is, [Art person] **ought** [**Hort**—]
Ji: kò kə̀rɔ̀sí
Hort analyse.Base
Bi: kò ɲɔ̄ⁿ= [Ø kě],
Hort look.at.Base [Art matter],
kò bû= [Ø lóʔó] [à nī],
Hort get.Base [Art secret] [3Inan Loc],
Bi: 'That is, a person must …'
Ji: '… analyse'.
Bi: '… look at a matter, to find the secret in it.' (Bi/Ji, 2017-07 @ 09:36)

b. [ē bɛ̀ʔɛ̀-nɔ̀] káⁿ-káⁿ
[Art ruin.Pfv-Agent.Sg] **ought**
[kò lɛ̄ⁿ] bè-kà-tó
[**Hort** be.chased.away.Base] thus-Foc
'It's appropriate that one who ruins (things) be chased away like that.'
or: 'One who ruins (things) must be chased away like that.'
(Fl, 2017-02 @ 01:53)

There is one textual attestation of future nà káⁿ. Unlike the timeless obligations in the previous examples, this time the obligation is situation-specific and is bound to a future time.

(1372) mó nà káⁿ [kò yíʔî= [Ø tɔ̀ʔɔ̀ jə̀rɔ́ⁿ]]
2Sg **Fut** **must** [**Hort** go.Base [Art place Rel]]
[k= ó-ɲɔ́ =nì],
[Hort go.Base-look.at.Base 3InanObj],
ā pìɛ̀ⁿ [bè tɔ̀ʔɔ̀]
3Inan remain.Pfv [Dem.Def place]
'The place to which you have to go to look at it (=grotto), it remains that place.'
(Ji, 2017-11 @ 09:35)

The negative version ('must/should/ought not' or 'isn't proper, isn't right') is má káⁿ throughout our data. Obligation scopes over negation. Elicited examples are in (1373).

(1373) a. nó má káⁿ [gò klá-bà]
1Sg **IpfvNeg** **must** [**Hort** return.Base-come.Base]
'I must not come back (here).' (Ji)

b. mó má káⁿ [kò bà]
2Sg **IpfvNeg** **must** [**Hort** come.Base]
'You-Sg must not come.' (Fl)

Negative má káⁿ is also attested six times in the texts about the chiefhood (Ma dialect), including (1374a). (1374b) is another textual example from the Fl speaker.

(1374) a. ɔ̀ⁿ má káⁿ
3AnSg **IpfvNeg** **ought**
[kò klè [[kě jə̀rɔ̀ⁿ] má kò]]
[**Hort** do.Base [[thing Rel] IpfvNeg be.good.Ipfv]]
'He must not do anything that is bad.' (Ma, 2018-02 @ 00:12, edited)

b. [ē nā-dì-ɔ̀] má káⁿ [kò sɔ̀-sɔ́ [ò dígə̀-rɔ̀]
[Art old.man-Pl] **Neg** **ought** [**Hort** disagree.Base [PlRefl Recip]
'Old men should not contradict (=disagree with) each other.'
(Fl, 2017-03 @ 00:12)

There appears to be some dialectal mixing of káⁿ 'must' with what we have identified as subjunctive ká (§10.4.2.3.2). This may be the case in passage (1375). The Bi speaker echoes what the Ji speaker says almost verbatim except for switching ká to káⁿ.

(1375) Ji: ó nà sùʔɔ̀-ɲɔ́ =nì, jó= ò nà—,
1Pl Fut give.Base-look.Base 3InanObj, if 3Pl Fut—,
ò kò ká dò-ɲɔ̄= [Ø jī]
3Pl Hort **Sbjn** speak.Base-look.Base [Art something]
Bi: ò kò káⁿ dò= [Ø jī]
3Pl Hort **must** **speak**.Base [Art something]
Ji: 'We will turn it over, in case they— so they may try to say something.'
Bi: 'So they may say something.' (Ji & Bi, 2017-09 @ 08:43)

For a more strongly obligational construction with fó (Fr *il faut*), see §17.1.7. For another obligational, bá-kɔ̄ ‘must’, see §17.1.8.

17.4.3.4 ‘Forbid, block’ (tɔ̄^{n}) with prohibitive complement

This construction is phrased as main clause ‘X block Y’ with the verb cùɔ̀^{n}/tɔ̄^{n}/tī^{n} ‘block (v)’, followed by quotative dè ‘that’ and a prohibitive complement with a pronominal copy of Y as subject.

(1376) a.

zàkí	cùɔ̀^{n}	nó	[dè	nó	mâ	glú	=ʔ]
Z	**block**.Pfv	1Sg	[Quot	1Sg	**Proh**	exit.Base	Neg]

‘Zaki prevented/blocked me from going out.’ (Ji)

b.

nó	má	bè	cùɔ̀^{n}	[Ø	ná-bí]
1Sg	IpfvNeg	Fut	**block**.Pfv	[Art	child]
[d=	ɔ̀^{n}	mâ	kó	=ʔ]	
[Quot	3AnSg	**Proh**	weep.Base	Neg]	

‘I can’t prevent the child from crying.’ (Fl Ji)

17.4.4 Mixed infinitival and hortative-jussive complements

The main-clause verbs considered below mean ‘consent, agree (to)’. They occur in a range of constructions, with infinitival same-subject VP complements and with hortative-jussive different-subject clausal complements.

17.4.4.1 lɛ́^{n} ‘consent, accept’ plus infinitival, hortative, or jussive

The verb lɛ̄^{n}/lɛ́^{n}/lɛ́^{n} has a number of senses in different morphosyntactic frames (1377).

(1377)	sense	syntax
a.	‘stand up, stop, halt’	intransitive
b.	‘block (v), bar (v)’	transitive
c.	‘agree to, approve, consent’	with locative PP complement

The sense (1377c) is illustrated by (1378a), and also by e.g. (Fl, 2017-03 @ 03:10) and (women, 2017-13 @ 03:03). (1378b) shows that the complement may be a verbal noun in a locative PP.

(1378) a.

zàkí	lɛ̄^{n}	[à	nī]
Z	**accept**.Pfv	[3Inan	**Loc**]

‘Zaki accepted/approved it.’ (Ji)

b. ɔ̀^{n} lɛ̄^{n} [[Ø bà-ní] nī]
3AnSg **accept**.Pfv [[Art come-VblN] **Loc**]
‘He/She agreed to come.’ (Fl)

We note that the high-frequency Pfv verb plus PP combination whose idealized form is lɛ̄^{n} [à nī] is regularly pronounced [lɛ̰̄ɛ̰̀nī] or with downdrift [lɛ̰̄ɛ̰̄nì] as implied by our transcription of (1378). We initially mis-parsed [lɛ̰̄ɛ̰̀nī] ~ [lɛ̰̄ɛ̰̄nì] as a transitive verb #lɛ̄ɛ̄^{n} (with abnormal long vowel) plus 3Inan object enclitic =nì.

In the sense ‘agree to, approve, consent’ (1377c) the complement may also be an infinitival VP. In this case, the overall construction means ‘agree/consent [to VP]’, meaning that the subject of ‘accept’ commits to performing a same-subject action, following an invitation or request. The construction also includes the pronominal PP à nī ‘in it’ in the main clause. We could think of à nī as resuming the complement, i.e. ‘X agreed with/to it, namely to VP’. However, this syntactic phrasing is awkward in the context of Tiefo-D morphosyntax. Given its portmanteau-like quality mentioned above, we suspect that lɛ̄^{n}/lɛ́^{n} [=ɛ̀^{n} nī] is in the process of fusing into a lexical stem. In this case it is doubtful that any true syntactic resumption is happening here.

(1379a-b) have infinitival complements. (1379c) is imperfective with k-ā̀. The use of infinitival complements suggests that the complement is not conceptualized as a quotation (‘X consents that “X (will) VP” ’).

(1379) a. zàkí lɛ̄^{n} [à nī] [kō bà]
Z **accept**.Prv [3Inan **Loc**] [**Infin** come.Base]
‘Zaki agreed (=consented) to come.’ (Ji)

b. ɔ̌^{n} Ø lɛ́^{n} [à nī]
3AnSg PfvNeg **accept**.Base [3Inan Loc]
[kō jùò [ɔ̀^{n} bɔ́^{n}]]
[**Infin** sell.Base [3AnSgRefl sheep]]
‘He$_{x}$ didn’t accept (=he refused) to sell his$_{x}$ sheep-Sg.’ (Ji)

c. ɔ̀^{n}= Ø lɛ́^{n} [à nī] [k-ā̀ bē]
3AnSg Ipfv **accept**.Ipfv [3Inan Loc] [**Infin**-Ipfv come.Ipfv]
‘He/She agrees to come (regularly).’ (Fl Ji)

However, it is possible to use a hortative clause instead of an infinitival VP, so long as the coindexed subject is overt in the complement, in the form of a pronoun. For third-person main-clause subjects, the coindexed subject is logophoric. This construction is marginal, and it was initially rejected, then grudgingly accepted, by some speakers.

(1380) a. ɔ̀^{n}= Ø lɛ́^{n} [à nī]
3AnSg Ipfv **accept**.Ipfv [3Inan Loc]
[dè bó kò bē]
[**Quot** **LogoSg** **Hort** come.Ipfv]
‘He/She (regularly) agrees to come.’ (Ji)
(lit.: “He/She$_{x}$ agrees [that he/she$_{x}$ come]”)

b. ná= à lɛ́ⁿ [à nī]
3AnSg Ipfv **accept**.Ipfv [3Inan Loc]
[dè nó kò bē]
[**Quot** **1Sg** **Hort** come.Ipfv]
'I (regularly) agree to come.' (Fl)

By making the lower subject overt, speakers in effect treat this combination syntactically like the different-subject complements to which we now turn.

A hortative complement (with kò) as in (1381a) or a simple jussive complement (without kò) as in (1381b-d) is regular when the complement has a different subject. The quotative particle is usually present.

(1381) a. ɔ̃ⁿ= Ø lɛ́ⁿ [à nī] [dè nó kò bē]
3AnSg Ipfv **accept**.Ipfv [3Inan Loc] [**Quot** 1Sg **Hort** come.Ipfv]
'He/She agrees that I may come (regularly).' (Ji)

b. [nó sè] á lɛ́ⁿ [à nī]
[1Sg father] PfvNeg **accept**.Base [3Inan Loc]
[dè [nó yíʔĩ= [Ø lē]]] =ʔ
[**Quot** [1Sg go.**Base** [Art village]]] Neg
'My father did not accept that I (=refused to let me) go to the village.' (Ji)

c. nó lɛ̄ⁿ [à nī]
1Sg **accept**.Pfv [3Inan Loc]
[dē [zàkí bá [nó dɛ̀]]
[**Quot** [Z cultivate.**Base** [1Sg field]]
'I agreed that Zaki (=allowed Zaki to) cultivate my field.' (Ji)

d. nó nà lɛ́ⁿ [à nī]
1Sg Fut **accept**.Base [3Inan Loc]
[dē [zàkí bá [nó dɛ̀]]
[**Quot** [Z cultivate.**Base** [1Sg field]]
'I will agree that Zaki (will) cultivate my field.' (Ji)

17.4.4.2 sɔ̀ⁿ 'consent' plus infinitival and jussive complements

The invariant verb sɔ̀ⁿ, borrowed from Jula, means 'consent (to sth), accept (a proposal)' when followed just by a locative PP. This is similar to the morphosyntax of lɛ́ⁿ in simple clauses (see the preceding subsection). sɔ̀ⁿ can also mean 'think (about sth)' with the same morphosyntactic frame, or 'believe (that …)' with a quotative complement.

With an infinitival complement sɔ̀ⁿ means 'consent (to do sth), be willing (to do sth).' It presumably has a similar range of synctactic constructions as lɛ́ⁿ but without the locative PP à nī. Textual example (1382) has an imperfective infinitival VP with g-ā (for k-ā).

(1382) ó dè máⁿ sɔ̀ⁿ
1Pl IpfvPast IpfvNeg **consent**.Ipfv
[g-ā bē fāⁿʔāⁿ bè]
[**Infin**-Ipfv come.Ipfv here Dem.Def]
‘We didn’t use to consent (=be willing) to come here like that.’
(Bi, 2017-10 @ 06:32)

Elicited data confirm the infinitival construction for same subjects (1383). (1383b) is imperfective with k-ā.

(1383) a. ɔ̄ⁿ sɔ̀ⁿ [à nī] [kō bà]
3AnSg **agree**.Pfv [3Inan Loc] [**Infin** come.Base]
‘He/She agreed to come.’ (Ji)

b. ɔ̀ⁿ= Ø sɔ̀ⁿ [à nī] [k-ā bē]
3AnSg Ipfv **agree**.Ipfv [3Inan Loc] [**Infin**-Ipfv come.Ipfv]
‘He/She agrees to come (regularly).’ (Ji)

For different subjects, hortative (1384a) and simple jussive (1384b) complements occur.

(1384) a. ɔ̀ⁿ= Ø sɔ̀ⁿ [dè nó gò bē]
3AnSg Ipfv **agree**.Ipfv [**Quot** 1Sg **Hort** come.Ipfv]
‘He/She agrees that I come (regularly).’ (Ji)

b. ɔ̄ⁿ sɔ̀ⁿ [dè nó bà]
3AnSg **agree**.Pfv [**Quot** 1Sg come.**Base**]
‘He/She agreed that I come.’ (Ji)

17.5 Other clausal complements

17.5.1 ‘Begin to VP’ (súʔú ‘catch’ plus ɲùʔɔ́ ‘mouth’)

The verb sūʔō/súʔú/súʔú ‘catch’ combines with ɲùʔɔ́ [ɲùⁿʔɔ́ⁿ] ‘mouth’ in the construction “X catch [Y(’s) mouth]” meaning ‘X begin to Y’. Think of ‘mouth’ as ‘opening’. This phrasing occurs in other languages of the zone as well. Y is a deverbal nominal, and functions here as possessor (or compound initial). An incorporated object may occur before the verb in Y. For example, (1385a) is literally “Zaki caught [[his-sheep]-selling(’s) mouth].”

(1385) a. zàkí sūʔō [[[ɔ̀ⁿ bɔ́] jùò-ní] ɲùʔɔ́]
Z **catch**.Pfv [[[3AnSg sheep.Pl] sell.Base-VblN] **mouth**]
‘Zaki has begun selling his sheep-Pl.’ (Ji)

ab [è bí-sīō] sūʔō [[ē bàʔá] ɲùʔɔ́]
[Art child.Pl] **catch**.Pfv [[Art cultivation] **mouth**]
‘The children have begun to farm.’ (Ji)

c. ɔ̄ⁿ sūʔō [[è kóʔó] ɲùʔɔ́]
3AnSg **catch**.Pfv [[Art weeping] **mouth**]
'He/She began to weep.' (Ji)

d. ò súʔú [[è jɔ́ⁿʔɔ́ⁿ] ɲùʔɔ́]
Imprt.Pl **catch**.Base [[Art dancing] **mouth**]
'Begin-2Pl to dance!' (Ji)

This construction is distinct from "X put mouth [in Y]" which means 'X discuss Y' (e.g. Ma, 2018-02 @ 01:00).

A borrowing from Fr *commencer* 'begin' is now very common in all languages of the zone.

17.5.2 Cessation of action

These constructions indicate that an activity is terminated, either temporarily or permanently, without reaching a natural endpoint as with 'finish' (§15.1.3.6).

17.5.2.1 já 'leave, abandon' with verbal-noun complement

One cessation verb is já, which as simple transitive verb means 'leave (sb/sth somewhere), abandon'. In this sense it may be compounded with 'give' (§15.1.6.2) to form já-sūʔɔ̄/já-sūʔɔ̄/já-à-sūʔū 'cease (doing)'. The activity is expressed as a deverbal nominal such as a verbal noun. An object may be incorporated, preceding the verbal noun.

(1386) a. nó já-sūʔɔ̄ [Ø lāⁿ-ɲɔ̀-ní] mā
1Sg **abandon**.Pfv [Art beer-drink.Base-**VblN**] there.Def
'I have given up (=abandoned) drinking (sorghum) beer.' (Ji)

b. nó já-sūʔɔ̄ [Ø kàʔá-[kà-ní]] mā
1Sg **abandon**.Pfv [Art meat-[eat.meat-**VblN**]] there.Def
'I have abandoned (=permanently stopped) meat-eating.' (Ji)

A textual example of já-sūʔɔ̄ with NP object ('abandon something') is (Bi, 2017-10 @ 06:35). Uncompounded já is attested in the context of abandoning an activity, but again with NP rather than verbal-noun object, in (Bi, 2017-10 @ 00:33 & 03:14). There are no textual examples of either já-sūʔɔ̄ or já with verbal-noun object.

já is invariant in most dialects, but Bi has Pfv jē. já behaves somewhat like a causal postposition in the phrase [bè té] já and variants 'that [focus] is why …' (§8.1.3).

For superfluous final mā in (1386a-b), see §4.4.3.2. For já in the sense 'let, allow' with infinitival complement, see §17.4.2.5.4.

17.5.2.2 'Halt, cease (doing)' (lɛ́ⁿ)

The other cessation verb is lɛ̄ⁿ/lɛ́ⁿ/lɛ́ⁿ in the sense 'stop, block, prevent', followed by a PP consisting of preposition kà 'with' and a deverbal nominal. If the nominal is from a transitive verb, it may be preceded by an incorporated object (1387a).

(1387) a. nó lɛ̄ⁿ [kǎ= [(Ø lāⁿ) ɲɔ̀-ní]]
1Sg **stop**.Pfv [**with** [(Art millet.beer) drink.Base-**VblN**]]
'I have stopped (=ceased) drinking (millet beer).' (Ji)

b. zàkí já nó [kò lɛ́ⁿ [kà [Ø ɲɔ̀-ní]]
Z leave.Pfv 1Sg [Infin **stop**.Base [**with** [Art drink.Base-**VblN**]]
'Zaki had me stop drinking.' (Ji)

This is of course quite distinct from lɛ́ⁿ [à nī] 'consent (to it)' (§17.4.4.1).

17.5.3 tèʔè 'be accustomed to' with PP of verbal noun

Invariant tèʔè 'be accustomed' takes a complement in the form of a locative PP. The complement of the postposition itself may be an ordinary NP (1388a). It may also be a verbal noun (1388b), which may include an incorporated object.

(1388) a. zàkí tèʔè [nó nī]
Z **be.accustomed**.Pfv [1Sg Loc]
'Zaki is accustomed (=has become accustomed) to me.' (Fl)

b. mó tèʔē= [[Ø bɔ̌-[ɲì-ní]] nī] =à
2Sg **be.accustomed**.Pfv [[Art elephant-[see.Base-VblN] Loc] Q
'Are you-Sg accustomed to seeing elephants?' (Fl)

-tèʔè may alternatively be compounded to a preceding verb (§15.1.3.7), forming a monoclausal construction.

17.6 Causal and purposive clauses

In causal constructions 'X, because Y', the eventuality Y causes or strongly favors a subsequent eventuality X. In purposive constructions 'X, in order to Y', eventuality X is carried out with the intention of producing eventuality Y. The chronological order of eventualities X and Y differs between the two constructions, although the linguistic order is usually X before Y in both cases. Intentionality by animate beings is always present in purposives, but is not required in causals. In purposives, the realization of the intended consequence Y is not asserted.

Causals are more straightforward and we present them first.

17.6.1 Causal (‘because’) clauses

17.6.1.1 French *parce que* and *comme*

Nowadays, both clause-initial *parce que* and *comme* from French are common in the sense ‘because’. They are followed by regular main clauses.

parce que, often pronounced pásə̀gí, occurs commonly in the speech of our Ji and Bi speakers. Ji examples are 2017-01 @ 00:57 & 01:29, 2017-04 @ 00:28, 2017-08 @ 10:53, and 2017-11 @ 01:11 & 01:47 & 04:12 & 06:04 & 06:30 & 08:00. Bi examples are 2017-07 @ 08:34 & 10:06, 2017-08 @ 06:20), and 2017-09 @ 05:23 @ 05:59.

comme pronounced [kómì] or the like, has a range of senses as in standard French, from causal ‘since’ to ‘as’, in addition to ‘like, similar to’ (§8.5.1.2). In some passages it is merely a discourse marker or hesitation filler that can be disregarded in translation. One example with causal sense is (Ma, 2017-04 @ 03:54).

17.6.1.2 kàtə̀gú ‘because’ (< Jula)

The other attested ‘because’ forms is kàtɔ̀gú ~ kàtə̀gú, borrowed from Jula. (1389a-b) are elicited. There are no textual examples.

(1389) a. ó á yīʔí [kàtə̀gū= [Ø klòʔó] kèʔè]
1Pl PfvNeg go.Base [**because** [Art road] be.ruined.Pfv]
‘We didn’t go, because the road was ruined (=in bad shape).’ (Fl)

b. ó á yīʔí [kàtə̀gú [nó dɛ́] má dá^{n} =ʔ]
1Pl PfvNeg go.Base [**because** [1Sg body] IpfvNeg be.sweet Neg]
‘We didn’t go, because I am sick.’ (Fl)

17.6.2 Purposive ‘in order (to VP)’

A number of constructions may function at least loosely as purposives. Some involve simple infinitival VPs (see the following subsection). These should be distinguished from ‘something to eat’ constructions, one of which is infinitival (§17.7.2 below. Quotative complements can be construed as purposive when they indicate an individual’s intentions. There are also some constructions with a dedicated purposive marker: yà^{n}gó ~ jà^{n}gó ~ já^{n}kò ~ sàŋó from Jula (§17.6.2.4), tɔ̀ʔɔ̀ nī (§17.6.2.5), and ká (§17.6.2.6).

17.6.2.1 Same-subject infinitival VP in purposive function

In this type, a volitional agent performs an action (main clause) that is intended to bring about a resulting eventuality with the same agent as subject (infinitival VP). There are many examples in the texts, but it is not always clear whether the infinitival VP is specifically purposive or merely specifies chronological sequencing. There can be no doubt about the purposive element in the interrogative construction (1390a).

(1390) é!   bó   nà^{n} klè   á^{n} bè
oh!   LogoSg   Fut   do.Base   how?   Dem.Def
[kò   bú   bè]   tē
[**Infin**   get.Base   Dem.Def]   Q
'(said:) "Oh! What will (=can/must) I do, in order to get that?" '
(Bi, 2017-08 @ 01:22)

Example (1391) from other dialects has the same structure. The combinations with different verbs confirm that infinitival kō rather than hortative kò is present.

(1391) nó   nà   klè   bè-kè / mlɛ̀^{n}-kā
1Sg   Fut   do   what?/how?
[kò   bú   =nì]
[kō   ɲī/ɲɔ̄   =nì]
Infin   get.Base   see.Base/drink.Base   3InanObj
'What will I do, to get/see/drink it?'   (Fl Ji)

When the overall context is imperfective (habitual), denoting multiple events or an extended negative time interval, the infinitival VP takes the imperfective form k-ā followed by Ipfv verb. This is the case in (1392), where the verb is cìɛ̀/kà/kɛ̀ 'eat (meat)', here clearly Ipfv. 'Kill' in the first clause implies acquisition.

(1392) a. [mó^{n} tóʔó]   ā   cṳ̀ĭ=   [Ø   kàʔá]   *mais*
[2Sg   Foc]   Ipfv   kill.Ipfv   [Art   meat]   but
mó^{n} má^{n} ɲɛ̆^{n}=   [Ø   kàʔá]   [g-ā   kɛ̀]   =ʔ
2Sg   IpfvNeg   see.Ipfv   [Art   meat]   [**Infin-Ipfv**   eat.meat.**Ipfv**]   Neg
'It was you-Sg [focus] who would kill the animal, but you wouldn't see (=end up with) any meat (for you) to eat.'   (Bi, 2017-10 @ 03:35)

b. mó   má   bî=   [Ø   súá^{n}-klàʔà]   [k-ā   dí]
2Sg   IpfvNeg   get.Ipfv   [Art   maize]   [**Infin-Ipfv**   eat.**Ipfv**]
'You-Sg won't get any maize to eat.'   (Bo, 2019-04 @ 00:52)

Some other similar passages might really have kā= à-Vb2.Base including à- 'come', rather than imperfective infinitival k-ā, so it is important to check the form of the verb.

These infinitival purposives are closely related to the motion-verb examples in the following subsection, and can occur in the '(something) to eat' construction (§17.7.2).

17.6.2.2 Main clause with motion verb plus infinitival VP

Perhaps the most common type of main clause in purposives is motion by animate entities ('went there to eat', 'came here to talk to us'). In Tiefo-D, unlike English, combinations like 'go [to VP]' and 'come [to VP]' are complicated by the repetition of the motion verb as a verbal compound initial (often reduced or suppletive) inside the infinitival VP. Therefore 'go-' and 'come-' function as Vb1 - in verb-verb compounds with the primary verb (-Vb2) of the infinitival VP: ‘*go* [Infin *go*-Vb2 …]’ and ‘*come* [Infin *come*-Vb2 …]. This construction, very typical of Tiefo-D discourse, is described in §15.2.3.2-3 above. It is not always purposive, as shown by such cases as ‘he went and fell down’ or ‘she came and got attacked’. However, in more benign contexts there is at least a suggestive of purposeful motion.

A few elicited examples are in (1393).

(1393)	a.	zàkí	bà	[kā=	à-kò / -ɲì	nó]
		Z	**come**.Pfv	[**Infin**	**come**.Base-kill/see.Base	1Sg]

‘Zaki came and saw me.’ or ‘Zaki came to see me.’ (Ji)

b.	zàkì	á	yīʔí	[kò	tì	dí / dɔ̄]
	Z	PfvNeg	**go**.Base	[**Infin**	**go.Base**	eat/sleep.Base]

‘Zaki didn’t go and eat/sleep.’ or ‘Zaki didn’t go (there) to eat/sleep.’ (Fl)

A textual example is (1394). A hesitation has been emended out.

(1394)	kò	yíʔĩ=	[[Ø	nī^n]	bàʔà],
	Infin	**go**.Base	[[Art	mother]	chez],
	kō	rà-sū^{n}ʔɔ̄^{n}	[à	rō]]	
	Infin	**go**.Base-do.cooking.Base	[with	3Inan]]	

‘(They) then went to their mother’s place, to do cooking with it (=song).’ or ‘… and did cooking with it’ (Bi, 2017-07 @ 06:20, hesitation omitted)

17.6.2.3 Quotative future clause as purposive

Quotative verb or particle dè can precede thought as well as speech quotations. Thought quotations can describe knowledge, beliefs, and observations, but also intentions. The latter requires future tense marking, and strongly favors LogoSg (i.e. original 1Sg) subject.

In (1395), a quotative clause is directly added to a motion verb, describing the individual’s intention. A more literal translation would be ‘Zaki came, (thinking) “I will eat”.’

(1395)	zàkí	bà	[dè	bó	nà	dí]
	Z	come.Pfv	[**Quot**	**LogoSg**	**Fut**	eat.Base]

‘Zaki came in order to eat.’ (Fl)

17.6.2.4 Purposive yà^{n}gó ~ já^{n}gò ~ sàŋó ‘so that’

A clause-initial purposive word (‘so that, in order that’) is attested in our texts in the forms shown in (1396).

(1396)

form	text reference
jáⁿgò	(Ma, 2017-04 @ 04:17)
yàⁿgó ~ jàⁿgó	(Ji, 2017-01 @ 00:28 & 03:19)
sàŋó ~ sàⁿgó	(Fl, 2017-05 @ 02:24)

This word is borrowed from Jula jàŋgó (and variants) 'so that, in order to'. It is followed by an infinitival phrase when positive. Unlike other purposive constructions, this one also allows negative purposives ('so that X does not VP'). In this case the clause takes prohibitive form.

(1397) has a positive clause.

(1397) ó kò dò-wē— [[ó wì-ɛ̀ʔɛ̀] nī],
1Pl Hort speak.Base-put.Base— [[1Pl put-Nom] Loc],
[yàⁿgó kō—, kō gɔ̄= [Ø dəràʔá]
[**so.that** **Infin**—, **Infin** narrate.Base [Art tale]
'Let's speak into our recorder, in order to tell a tale.'
(Ji, 2017-01 @ 00:23 to 00:28)

jáⁿkò is combined with subjunctive kò ká in (1402) in §17.6.2.6.

(1398) is a negative example with prohibitive morphosyntax (§10.4.1.2).

(1398) [kò bà-dò [bó bàʔà]]
[Infin come.Base-say.Base [LogoSg Dat]]
[sàŋó bó mâ wú]
[**in.order.that** LogoSg **Proh** die.Base]
'(said:) "(you-Pl) should come and tell it to me, so that I do not die.' "
(Fl, 2017-05 @ 02:24)

Textual passage (1399) has two jàⁿgó clauses, one negative and one positive.

(1399) … [k= ó-dúʔú =nì [ē jɛ̀ʔɛ́-cīⁿ]
… [Infin go.Base-hide.Base 3InanObj] [Art top],
jàⁿgô= [Ø yúó] mā kɔ̄ⁿ— kɔ̄ⁿ =nì,
so.that [Art people] **Proh** know.Base—, know.Base 3nanSgObj,
ká nó, wálà→,
like 1Sg, right!,
jàⁿgó [nó tóʔó] kō jī =nì
so.that [1Sg Foc] **Infin** know.Base 3InanObj
'(said:) "… (I will) go and hide it at the top. So that people don't know it like me. There! So that (only) I [focus] know it." ' (Ji, 2017-01 @ 03:15 to 03:23)

17.6.2.5 Purposive with -tɔ̀ʔɔ̀ nī 'in Vb-place'

An alternative to motion verb plus infinitival VP or motion verb plus quotative complement (preceding sections) is motion (or other) verb plus a locative PP based on a nominal compound with a verb (in Pfv form) followed by -tɔ̀ʔɔ̀ 'place' (or more abstractly 'position, situation'). If the verb has an object, it appears as a "possessor" or nominal compound initial before the compound (1400b), cf. (1402a-c). Elsewhere, 'place' compounds may simply denote a physical location associated with the indicated activity, e.g. 'sell.Pfv-place' = 'shop (n), store (n)' (§5.1.7.3). Taken out of context, many examples could be interpreted either abstractly (as purposives) or literally. If the action is carried out in a dedicated space, the two readings merge into one.

Elicited examples are in (1400).

(1400) a. zàkí bă= [[Ø dīē- / dɛ̀- -tɔ̀ʔɔ̀] nī]
Z come.Pfv [[Art eat.Pfv/sleep.Pfv] -**place**] **Loc**]
'Zaki came in order to eat/sleep.' (Fl Ji)

b. zàkí bà [[nó kùò-tɔ̀ʔɔ̀] nī]
Z come.Pfv [[1Sg kill.Pfv-**place**] **Loc**]
'Zaki came in order to kill me.' (Ji)

Textual examples are in (1401).

(1401) a. [è bí-ʃìò] á yíʔī=
[Art child-Pl] PfvNeg go.Base
[[[Ø [fɛ̂ʔɛ̀-lɛ̄ⁿ]-tɔ̀ʔɔ̀] nī] =ā
[[[Art [garment-wash.Pfv]-**place**] **Loc**] Q
'Did not the children go (there) in order to wash clothes?'
(Bi, 2017-07 @ 05:29)

b. [úⁿʔúⁿ yá bíɛ́] [[Ø sə̀rɛ̀-tɔ̀ʔɔ̀] nī]
[head Dem.InanSg all] [[Art carve.Pfv-**place**] **Loc**]
'in order to carve that whole head?' (Ji, 2017-07 @ 08:34)

c. kà-bàʔà [k-ā bē
want [Infin-Ipfv come.Ipfv
[[[à bíɛ́] gblɛ̀-tɔ̀ʔɔ̀] nī] tàʔà-kó
[[[3Inan all] take.Pfv-**place**] **Loc**] again
'… wants to come in order to take everything again.'
(Bo, 2019-06 @ 00:49)

17.6.2.6 Purposive with subjunctive (kò) ká

We have shown that kò ká, with hortative kò and what we call subjunctive ká, occurs in wishes like 'May God help X!' (§10.4.2.3.2). Here we present examples with kò ká that function as purposive clauses. The connection is, of course, that a purposeful action is carried out in order to achieve a wished-for result.

As in the earlier section of wishes, we note that ká- as Vb1 in verb-verb compounds means 'repeat, do again' (§15.1.3.2).

In (1402), the first clause is a simple hortative clause in purposive function. It is followed by an echo-like clause with the same verb, but with full-scale hortative-subjunctive weaponry including já^{n}kò 'so that' (§17.6.2.4 above) and subjunctive ká.

(1402) [bùò fə́rá^{n}] kò bú [ò mìàʔá],
[3Pl too] Hort get.Base [PlRefl Refl],
[já^{n}kò kò ká bû= — [è ní] dɔ́n]
[**so.that** **Hort** **Sbjn** get.Base — [Art life] a.little]
'So they too could be free, in order to get (=have) some life, …'
(Ma, 2017-04 @ 04:17)

In (1403), kò ká by itself occurs in a purposive context. The act of turning over the floor to other speakers is designed to elicit more recorded material.

(1403) ó nà sùʔɔ̀-ɲɔ́ =nì —,
1Pl Fut give.Base-look.Base 3InanObj —,
ò kò ká dò-ɲɔ̄= [Ø jī]
3Pl **Hort** **Sbjn** speak.Base-look.Base [Art something]
'We will turn it (=recording) over so they may try to say something.'
(Ji, 2017-09 @ 08:43, hesitation omitted)

17.7 '(Something) to eat'

Three constructions express 'X [to V]' in the fashion of 'something to eat'.

17.7.1 With future nà

This construction combines an NP denoting an entity, especially a quantity thereof ('something', 'a little', 'a lot', etc.) with a reduced small clause consisting of future nà and either a verb in passive function ('something/nothing to be eaten') as in (1404a-c) or an active verb ('someone/nobody to strip …') as in (1404d). The agent of the verb is often impersonal.

(1404) a. [ē ɛ̀ʔɛ́ jì] ní-mā [nà dí] =ʔ
[Art thing Indef] not.be.Loc **[Fut** **be.eaten.Base]** Neg
'There is nothing left to eat.' (Fl)

b. [ē ə̀-rɛ́ kə̀-rɛ̀^{n}-ʔɛ̀^{n}] Ø-mā [nà ɲɔ́] fā^{n}ʔā^{n}
[Art thing-Pl many] be.Loc [**Fut** **be.looked.at.Base**] here
'There are many things to see here.' (Fl)

c. [ē dìɛ̀] ní-mā [nà tɔ́] =ʔ
[Art sauce] not.be [**Fut** **sauce.be.cooked.Base**] Neg
'There was no sauce (dìɛ́) to cook.' (Fl, 2017-05 @ 00:57)

d. [bùò má bū̀ō= [Ø yúó]
[2Pl IpfvNeg get.Pfv [Art person]
nà kùʔɔ̄= [Ø dìɛ́] [kō sūʔ= [ɔ̄ⁿ bùò]
Fut **strip.Base** [Art sauce] [Infin give.Base [Dat 2Pl]
'You-Pl won't get anyone to strip off (leaves for) sauce and give (them) to you-Pl.' (Fl, 2017-05 @ 03:18)

The predicate of the main clause in this construction is either an existential as in (1404a-c), see also (869b), or a verb of acquiring as in (1404d). For 'give' see the following subsection.

17.7.2 Infinitival VP complement

With 'give' in the first clause, as in 'X give Z to Y [(Y) eat (Z)]', the phrasing here is 'X give Z to Y [Infin eat]', ending with a subjectless infinitival VP. The logical subject of 'eat' is coindexed with the dative (Y) in the first clause. This distinguishes the present construction from ordinary same-subject infinitival VPs that can be interpreted as purposive (§17.6.2.1-2). The two events ('give' and 'eat') are presented as an event sequence, with no overt purposive marking. In (1405a-c) the infinitival morpheme kō (subject to tone sandhi and lenition of k) is aspectually unmarked, so the infinitival VP is understood to denote a single event. In imperfective (i.e. habitual) contexts it is also possible to use an imperfective infinitival VP (1405d).

(1405) a. gō sūʔɔ̄ [Ø cə̀rú] ɔ̀ⁿ
Infin give.Base [Art tô] Dat.3AnSg
[wò dí]
[**Infin** eat.**Base**]
'Then (she) gave her$_x$ some tô (for her$_x$) to eat.' (Bi, 2017-07 @ 08:39)

b. [ɔ̄ⁿ gō sūʔ= [ɔ̄ⁿ [ɔ̄ⁿ yǒ]]]
[3AnSg Infin give.Base [Dat [3AnSg woman]]]
[gò bɔ́]
[**Infin** tie.**Base**]
'And then he gave (a wrap) to his wife, to tie on (=wear).'
(Bi, 2017-08 @ 02:19)

c. ɔ̄ⁿ ŋ-ā sūʔ= [ɔ̄ⁿ kɔ̄-yùò] [wò dí]
3AnSg Infin-Ipfv give.Ipfv [Dat Dem.AnPl] [**Infin** eat.**Base**]
'She would bring and give (it) to those (others) to eat.'
(Bi, 2017-07 @ 00:24)

d. mɔ́ⁿ máⁿ ɲɛ̄ⁿ= [Ø kàʔá] [Ø-ā kɛ̀] =ʔ
2Sg IpfvNeg see.Ipfv [Art meat] [**Infin-Ipfv** eat.meat.**Ipfv**] Neg
'You wouldn't see (=end up with) any meat (for you) to eat.'
(Bi, 2017-10 @ 03:35)

17.7.3 Participial construction with -ɛ̀ʔɛ̀

A different construction is observed in (1406). Here ‘thing (for) sale’ is a compound noun consisting of a Pfv verb plus ‘thing’, appositional to ‘a/some house’. dè-ɛ̀ʔɛ̀ has the form of an inanimate participle (§4.5.4).

(1406) nó búō [Ø wùʔú jī] [ē dè-ɛ̀ʔɛ̀]
1Sg get.Pfv [Art house Indef] [Art sell.Pfv-**Ppl.Inan**]
‘I found a house (that is) for sale.’ (Fl)

18 Anaphora

In this chapter we discuss nominal elements that are coindexed to an antecedent (clause-mate subject, author of quotation, etc.), or that are specifically noncoindexed (obviative).

18.1 Reflexive

18.1.1 Reflexive possessor

A possessor of a nonsubject NP usually takes reflexive form when it is coindexed to the clausemate subject. Therefore ‘my sheep’ has a different form in (1407a) and (1407b). However, distinctive reflexive possessor forms are not obligatory, as shown by the alternative version of (1407a) with 1Sg nó instead of reflexive 1Sg ŋ̀.

(1407) a.

nó(^{n})	dè	[ŋ̀	bá^{n}]
1Sg	sell.Pfv	[1SgRefl	sheep]

‘I sold my sheep-Sg.’ (Fl Ji)
(alternatively: nó dè [nó bá^{n}])

b.

ɔ̄^{n}	dè	[nó(^{n})	bá^{n}]
3AnSg	sell.Pfv	[1Sg	sheep]

‘He/She sold my sheep-Sg.’ (Fl Ji)

The full set of pronominal reflexive possessors, shown next to their regular pronominal forms, is (1408) below. For 1Sg, the optional reflexive possessor form is reduced to a nasal consonant and has L-tone, contrasting with optional 1Sg subject proclitic ŋ́ with H-tone (§4.3.1.6.1). For 2Sg, suffixal -à (§4.3.1.2) is usual in reflexive possessor function, but there are a few attestations in other positions (e.g. subject), so we do not label it as specifically reflexive. It is the only pronominal suffix in any function, if object enclitics are excepted. 3Sg possessor has the same proclitic form ɔ̀^{n} as in nonreflexive possession, raising to ɔ̄^{n} before L-tone by tone sandhi. The various singular reflexive possessor forms are also part of singular reflexive objects, like 3AnSg ɔ̀^{n} míʔá ‘him-/her-self’ (§18.1.2 below).

For all plural pronominals, the usual reflexive possessor form is ò, raising to ō before L-tone by tone sandhi. Confusion with regular 1Pl ó and regular 3Pl ò makes elicitation difficult. The fact that ò also replaces regular 2Pl shows that this is a transpersonal plural reflexive possessor. It is also part of transpersonal reciprocal ò dígə̀-rɔ̀ ‘each other’ (§18.4.1) or ō gě (§18.4.3), and part of plural reflexive object ò míʔá ‘our-/your-/them-selves’ (§18.1.2 below).

(1408)

	category	reflexive possessor	regular possessor
a.	1Sg	ŋ̀ (or nó)	nó (Bi nóⁿ)
	2Sg	-à (or mó)	mó (Bi móⁿ), less often -à
	3AnSg	ɔ̀ⁿ	ɔ̀ⁿ
b.	1Pl	ò (or ó)	é-yùò (Bi í-yùò) or ó ~ é
	2Pl	ò	bùò
	3Pl	"	ò

Textual examples are (1409a-b).

(1409) a.

[wō	sūʔɔ̄	[ŋ̀	kɛ̀-tɛ̀ʔɛ̀]
[Infin	give.Base	[**1SgRefl**	hand]

‘… (I) gave (=reached out) my hand’ (Bi, 2017-10 @ 04:23)

b.

[è→	nāⁿ-bɛ̀ʔɛ̀]	wō	bà
[Art	hyena]	Infin	come.Base
é→	ló	[ɔ̀ⁿ	mǔ]]
(hesitation)	turn.Base	[**3AnSgRefl**	voice]]

‘Bouki (=hyena) came, he changed his voice.’ (Bi, 2017-07 @ 00:48)

c.

ŋ̀	būō	yō-à	dɛ̀-dɛ̀
2Sg	get.Pfv	woman-**2SgPoss**	now

‘You have now gotten your woman.’ (Bo, 2019-10 @ 02:51)

d.

jí	bùò	á—	tə̄rāⁿ	[kō	klɛ̌=	[Ø	gɛ̌-ɲì-ní]]
if	2Pl	PfvNeg—	sit.Base	[Infin	do.Base	[**PlRefl**	Recip-see.Base-VblN]]

‘if you-Pl don’t sit down and see each other (=meet)’ (Ji, 2017-04 @ 01:38)

e.

ò	mà	á-wē	[ō	kè-tɛ̀ʔɛ̀]	[à	nī]
3Pl	if	go.Base-put.Base	[**PlRefl**	hand]	[3Inan	Loc]

‘if they go and put their hand(s) on it’ (Ji, 2017-04 @ 06:03)

f.

ó	dè	bè	glō	[[Ø	pìɛ̀ⁿʔɛ̀ⁿ]	nī]
1Pl	IpfvPast	Fut	exit.Pfv	[[**PlRefl**	foot]	Loc]

‘We would be about to go out on our own feet.’ (Bo, 2019-03 @ 03:15)

Additional elicited examples with plural pronominals are in (1410).

(1410) a.

é-yùò	dè	[ò	nɔ́]
1Pl	sell.Pfv	[**PlRefl**	cow.Pl]

‘We sold our cows.’ (Fl Ji)

b. bùò dè [ō sàkpèʔè]
2Pl sell.Pfv [**PlRefl** donkey]
'You-Pl sold your-Pl donkey.' (Fl Ji)

c. ō dè [ō dɛ̀]
3Pl sell.Pfv [**PlRefl** field]
'They$_x$ sold their$_x$ field.' (Fl Ji)

An emphatic reflexive possessor mó blé 'your very own' occurs in mɔ́ⁿ blé ʃìè-[bì-ʃìò]] 'your own birth children' in (Bi, 2017-07 @ 09:43).

When the subject is logophoric singular, a reflexive possessor coindexed with it may appear in 3AnSg reflexive form ɔ̀ⁿ (1411a,c), or in 1Sg reflexive form ŋ̀ (1411b). The two are difficult to distinguish in rapid speech due to phonetic desyllabification of ɔ̀ⁿ which is always preceded by a vowel. In any event, reflexivity clearly trumps logophoricity, since the reflexive possessor in these cases cannot be expressed by LogoSg bó.

(1411) a. [dè bó bà yīʔí [[ɔ̄ⁿ dɛ̀] nī] kūⁿʔúⁿ]
[say.Pfv LogoSg if go.Base [[**3AnSgRefl** field] Loc] today]
'… said, "if I go to my field today, …" ' (Fl, 2017-03 @ 00:26)

b. é→ dè ɲánɔ̀, é→ [ē kàʔá-kà-kàʔà jī],
hey Quot friend, hey [Art plump.game.animal Indef],
gà= á-glú [ŋ̀ nī]
when go.Base-exit(v).Base [**1SgRefl** Loc]
'(He said:) "hey, my friend, a plump game animal appeared to me, …" '
(Fl, 2017-03 @ 02:31)

c. zàkí dè dè [bó dè [ɔ̀ⁿ/ŋ̀ ná]]
Z say.Pfv Quot [LogoSg sell.Pfv [**3AnSgRefl/1SgRefl** cow]]
'Zaki$_x$ said that he$_x$ sold his$_x$ cow.'

Logophoric plural bùò likewise binds plural reflexive possessor ò (1412).

(1412) a. [è bí-ʃīō] dè dē [bùò dè [ò nɔ́]]
[Art children] say.Pfv Quot [LogoPl sell.Pfv [**PlRefl** cow.Pl]]
'The young people$_x$ said that they$_x$ sold their$_x$ cows.' (Fl Ji)

b. bùò á ɲī [ò jū-dɔ̌] tàⁿ =ʔ
LogoPl PfvNeg see.Base [**PlRefl** eye-man] yet Neg]
'(said:) "we have not seen (=gotten) our husbands of choice yet." '
(Fl, 2017-05 @ 00:29)

18.1.2 Reflexive object (míʔá)

For reflexive object, the reflexive possessor forms described above are preposed to the noun míʔá [mḭ́ʔá̰ⁿ] (Ji), míⁿʔáⁿ (Bi), mìàʔá (Ma), or mīāʔá (Fl). The vowels are phonetically nasalized in all variants; the transcription reflects the phonemic status of nasalization after nasal consonants in Bi dialect, and the usual tonal effects of glottal stop in Ma and Fl.

The presence of pronominal possessors identifies míʔá as a noun syntactically, like *-self* in English reflexives. It is not attested outside of the reflexive construction, but it may be etymologically related to mɛ́ 'apart' (§18.2.2). míʔá does not have a morphological plural, rhotic or otherwise. Some elicited examples are in (1413).

(1413) a. ɔ̄ⁿ   kùò / bɛ̀   [ɔ̀ⁿ   míʔá]
3AnSg   kill/burn.Pfv   [**3AnSgRefl**   **Refl**]
'He/She killed/burned him-/herself.' (Ji)

b. ō   kùò / bɛ̀   [ò   míʔá]
3Pl   kill/burn.Pfv   [**PlRefl**   **Refl**]
'They killed/burned themselves.' (Ji)

c. nó   nà   kò/bɔ̀   [ŋ̀   míʔá]
1Sg   Fut   kill.Base/burn.Base   [**1SgRefl**   **Refl**]
'I will kill/burn myself.' (Ji)

e. é-yùò   nà   kò   [ò   míʔá]
1Pl   Fut   kill.Base   [**PlRefl**   **Refl**]
'We will kill ourselves.' (Ji)

f. bùò   bɔ̀   [=ɔ̀   míʔá]
2Pl   burn.Base   [**PlRefl**   **Refl**]
'You-Pl, burn yourselves!' (Ji)

The 2Sg reflexive object is míʔ-â [mḭ́ʔâ̰], containing 2Sg possessor suffix -à (1414).

(1414) a. mó   bɔ̀   míʔ-â
2Sg   burn.Base   **Refl-2SgRefl**
'Burn yourself!' (Ji)

b. dè   mó   já   míʔ-â
say.Pfv   2Sg   leave.Base   **Refl-2SgRefl**
'… told you to control yourself' (Ji, 2017-08 @ 10:53)

The alternative form mó míʔá with regular 2Sg pronoun mó is also attested. This is consistent with the respective distributions of suffixed -à and preposed mó in reflexive and nonreflexive possessor function (preceding section).

Textual examples (1415a) and (1415b) show the two options for 2Sg reflexive object.

(1415) a. [mó úⁿ té] =à, mó wīʔɛ̄-tɔ̀ⁿ [mó míʔá]
[2Sg village Foc.Inan] it.is, 2Sg shut.Pfv [**2Sg** **Refl**]
'It's your-Sg village [focus]. You have shut yourself out.'
(Ji, 2017-11 @ 02:51)

b. mó nà— mó nà bú míⁿʔ-âⁿ mè-yá= =ā
2Sg Fut— 2Sg Fut find.Base **Refl-2SgRefl** how? Q
'How will you find (=save) yourself?' (Bi, 2017-09 @ 02:24)

c. ɔ̀ⁿ kò wɔ́ʔɔ́ [ɔ̀ⁿ míⁿʔáⁿ]
3AnSg Infin open.Base [**3AnSgRefl** **Refl**]
'Then it opened itself.' (Bi, 2017-08 @ 01:43)

d. kò klá [kò ló [ò míⁿʔáⁿ]]
Infin return.Base [Infin turn.Base [**PlRefl** **Refl**]]
'(for them) to be transformed (back).' (Bi, 2017-09 @ 07:12)

In (1416), inanimate à míⁿʔáⁿ is not strictly reflexive. It means something like 'its own unique entity'. The point is to distinguish it from other entities. The context is reminiscence about how boys were raised in the past.

(1416) *mais* *comme* [dɛ̀-dɛ̀ dó],
but as [now Poss.Inan],
[bè díⁿ] ŋā= [à míⁿʔáⁿ]],
[Dem.Def manner] be [**3Inan** **Refl**]],
'But nowadays, the manner of (doing) that has become different.'
(Bi, 2017-10 @ 00:30)

Possessed míʔá can have adverbial function in the sense 'by oneself, alone, unaccompanied' (1417). The context is that elephants pose dangers to people out in the bush.

(1417) [è yé-ní] [ò míʔá] də̀-rɛ̀,
[Art walk.Base-VblN] [PlRefl **Refl**] now,
kò yé míʔá də̀-rɛ̀ ní-mā
Infin walk.Base **Refl** now not.be.Loc
'There is no walking alone (in the bush) now.' (Ji, 2017-09 @ 08:18)

18.1.3 Reflexive PP complement

míʔá (preceding section) does not occur before postpositions in our data. Instead, either the simple reflexives or the regular pronominals occur before postpositions when the referent is coindexed with the clausemate subject. This combination is fairly uncommon. In elicitation, our speakers initially produce forms with regular (nonreflexive) pronominals. They accepted reflexive forms (1Sg ŋ̀, 2Sg suffixed -à, Pl ò), which we suspect are more common in natural speech. Each of (1418a-c) has two options, one with regular pronominal and the other with reflexive pronominal. There is no difference in form for 3AnSg (1418d) or for 3Pl. For 1Pl, there is likely a choice between ó and ò but they are difficult to disentangle in elicitation.

(1418) a. nó tīē =nì [nó/ŋ̀ ʃīɛ̄]
1Sg put.down.Pfv 3InanObj [**1Sg/1SgRefl** behind]
'I put it down behind me/myself.' (Fl Ji)

b. tē =nì [mó ʃīɛ̄] / ʃī-à
put.down.Base 3InanObj [**2Sg** behind] / behind-**2SgPoss**
'Put-2Sg it down behind you!' (Fl Ji)

c. ò tē =nì [bùò / ò ʃīɛ̄]
Imprt.Pl put.down.Base 3InanObj [**2Pl / PlRefl** behind]
'Put-2Pl it down behind you!' (Fl)

b. zàkí tīē =nì [ɔ̀^{n} ʃīɛ̄]
Z put.down.Pfv 3InanObj [**3AnSg/3AnSgRefl** behind]
'Zaki put it down behind him(-self).' (Ji)

In addition to ʃīɛ̄ 'behind', the morphosyntax illustrated above is valid for other noncomposite postpositions like bàʔà 'chez', tɔ̄^{n} 'under', and locative nī. The suffixed 2Sg forms are bàʔ-à, (pɔ̀^{n}-)tɔ̄^{n}-à, and nī-à. As usual, the 2Sg suffix is not limited to reflexive contexts, and we have a textual example of nī-à (Bi nī^n-à^n) in the sense 'at your place' in (Bi, 2017-08 @ 04:56).

A special case is a locative reflexive PP with míʔá in the sense 'by X-self' (1419).

(1419) [ɔ̀^{n} kō glō [Ø kɛ̀-tɛ̀ʔɛ̀] [[ɔ̀^{n} mīāʔá] nī]
[3AnSg Infin remove.Base [Art hand] [[3AnSgRefl **Refl**] **Loc**]
'It (=hare) took (its) hand away (from the tree) by itself (=deliberately).'
(Fl, 2017-05 @ 01:34)

18.1.4 Possessor of right conjunct

Reduced reflexive pronominals optionally replace regular pronominals as as possessors of right conjuncts when coindexed to the left conjunct (1420).

(1420) a. nó kà [ŋ̀ / nó bá^n]
1Sg with [**1SgRefl / 1Sg** sheep]
'me and my sheep-Sg' (Fl Ji)

b. é-yùò kà [ò / ó / é-yùò sē]
1Pl with [**PlRefl / 1Pl / 1Pl** father]
'we and our father' (Fl Ji)

c. mó kà ʃī-à / [mó sē]
2Sg with father-**2Sg** / [**2Sg** father]
‘you-Sg and your father’ (Fl)

d. bùò kɔ̄̆= [Ø ʃì-ó]
" kā [/ bùò "]
2Pl with [**PlRefl** / **2Pl** father-Pl]
‘you-Pl and your-Pl fathers’ (Fl Ji)
(first variant < /kà ò ʃì-ó/)

18.2 Emphatic pronouns

18.2.1 Regular emphatics (tóʔó, míʔá, nā-dɔ̀ʔɔ́ⁿ)

Pronouns may be emphasized contrastively in any of three ways, which can be combined. One is to focalize the pronoun with animate singular tóʔó (1421a-b) or animate plural tə́-ró. The second is to add a reflexive form with míʔá or dialectal variant (1421a,c). The third is to add an individuating singular form nā-dɔ̀ʔɔ́ⁿ ‘one person’ (i.e., ‘alone, unassisted’), in adverbial function (1421b).

(1421) a. [nó tóʔó] nà mē [wùʔ= á] [nó míʔá]
[1Sg **Foc**] Fut build.Base [house Dem.InanSg] [1Sg **Refl**]
‘I will build this house by myself.’ (Ji)

b. [nó nā-dɔ̀ʔɔ́ⁿ tóʔó] nà yíʔí
[1Sg **one.person** **Foc**] Fut go.Base
‘I will go (there) alone.’ (Ji)

c. ná= à yīʔí [ŋ̀ mīāʔá]
1Sg Ipfv go.Ipfv [1SgRefl **Refl**]
‘I will go alone.’ (Fl)

18.2.2 ‘Apart, separate’ (mɛ́, mɛ́-mɛ̀)

‘X is apart (separated, alone)’ is expressed by copula ‘be’ plus a pronominally inflected form of mɛ́ (1422), which can be taken as either a noun or a postposition.

(1422) nó kō [ŋ̀ mɛ́]
1Sg be [1Sg **apart**]
‘I am apart (alone).’ (Fl)

The reduced reflexive possessor forms are common this construction. As usual, the regular possessor pronouns are also possible.

(1423)

1Sg	ŋ̀	~ nó	mɛ́	
2Sg			mɛ́	-à
"		~ mó	mɛ́	
3AnSg	ɔ̀^{n}		mɛ́	
1Pl	ò	~ ó	mɛ́	
2Pl	ò	~ bùò	mɛ́	
3Pl	ò		mɛ́	

Distributive iteration (§4.6.1.6) mɛ́-mɛ̀ occurs when the subject denotes a set that is internally separated, and in parallelistic constructions with nonoverlapping subjects. The predicative element may be the locational 'be' verb (1424a) or the copula 'be' (1424b).

(1424) a. ò Ø-mā [ò mɛ́-mɛ̀]
3Pl be.Loc [PlRefl Rdp-**apart**]
'They are separate.' (Fl)

b. [ē də̀-rɔ́] (k)ō [ò mɛ́-mɛ̀]
[Art man-Pl] be [PlRefl Rdp-**apart**]
[ē yə̀-ró] (k)ō [ò mɛ́-mɛ̀]
[Art woman-Pl] be [PlRefl Rdp-**apart**]
'Men and woman are separated.' (Fl)

It is likely that mɛ́ is diachronically related to reflexive míʔá. The two have semantic, phonological, and morphosyntactic similarities.

18.3 Logophorics

Warnings: a) logophoric bó (singular) and bùò (plural) can also function as optional nonlogophoric 3AnSg and 3Pl pronouns, for example under focalization; b) bùò doubles as 2Pl pronoun; c) bó and bùò at the end of a NP are topicalization markers (§19.1.2.1)

18.3.1 Logophoric pronouns (bó, bùò)

When a 3AnSg pronominal inside an indirect quotative complement (§17.1) is coindexed with the ascribed author of the quotation, i.e. when it represents an original 1Sg pronoun, it is expressed as logophoric bó. There are no restrictions on what syntactic function it carries out within its clause (subject, object, adpositional complement, possessor), unless it is pre-empted by a reflexive whose antecedent is inside the quotation, see (1411-1412) above. bó may contract with following vocalic inflectional particles (Ipfv à, PfvNeg á). For example, bó á in (1425b) can be pronounced [bóá], [bɔ́á], or [bó:]. Free translations below present both the original utterance in "…" and the indirect quotation.

(1425) a. zàkí dè [bó nà bà]
Z say.Pfv [**LogoSg** Fut come.Base]
‘Zaki said, “I will come.” ’
= ‘Zaki$_x$ said that he$_x$ will/would come.’ (Ji)

b. zàkí dè [bó á bà =ʔ]
Z say.Pfv [**LogoSg** PfvNeg come.Base Neg]
‘Zaki said, “I didn’t come.” ’
= ‘Zaki$_x$ said that he$_x$ didn’t/hadn’t come.’ (Ji)

c. zàkí dè dè [bó bē bà]
Z say.Pfv Quot [**LogoSg** Fut come.Pfv]
‘Zaki said “I will come”.’
= ‘Zaki$_x$ said that he$_x$ will/would come.’ (Fl)

d. dè [bó lóʔó] ɲɔ̀ɣɔ̀ ní-mā =ʔ
Quot [**LogoSg** intelligence] equal(n) not.be.Loc Neg
‘(Hare) said: “There is no equal to my cleverness (=skill in magic).” ’
(Ji, 2017-01 @ 01:09)

Third plurals in the same construction, i.e. corresponding to original 1Pl, are expressed with bùò.

(1426) a. [è bí-sīō] dè [bùò nà bà]
[Art child.Pl] say.Pfv [**LogoPl** Fut come.Base]
‘The children said, “We will come”.’
= ‘The children$_x$ said that they$_x$ will/would come.’ (Ji)

b. [è bí-sīō] dè dē [bùò bē bà]
[Art child.Pl] say.Pfv Quot [**LogoPl** Fut come.Base]
‘The children said, “we will come”.’
= ‘The children$_x$ said that they$_x$ will/would come.’ (Fl)

c. [è bí-sīō] dè [bù= á bà]
[Art child.Pl] say.Pfv [**LogoPl** PfvNeg come.Base]
‘The children said, “we didn’t come”.’
= ‘The children$_x$ said that they$_x$ didn’t/hadn’t come.’ (Ji)

d. ō dè dē [bùò bà]
3Pl say.Pfv Quot [**LogoPl** come.Pfv]
‘They$_x$ said that they$_x$ came.’ (Ji)

18.3.2 Speech-act participant pronouns trump logophorics

Logophorics are only used when the quoted speaker (author) is third person from the perspective of the current speech event. When the quoted speaker is also the current speaker or addresssee, no logophoric is used in the quotation. Instead, the updated current pronominal categories are used (1427). If the current speaker was also the quoted author, the change is covert since 1Sg and 1Pl remain 1Sg and 1Pl when updated.

(1427) a. nó dè [nó nà bà]
1Sg say.Pfv [**1Sg** Fut come.Base]
'I said, "I will come".'
= 'I said that I will/would come.' (Ji)

b. nó dè [dè nó bè bà]
1Sg say.Pfv [Quot **1Sg** Fut come.Pfv]
'I said "I will come".'
= 'I said that I will/would come.' (Fl)

c. é-yùò dè [(dò=) ó nà bà]
1Pl say.Pfv [(Quot) **1Pl** Fut come.Base]
'We said, "we will come".'
'We said that we will/would come.' (Ji)

d. mó dè [(dè) mó nà bà]
2Sg say.Pfv [(that) **2Sg** Fut come.Base]
'You-Sg said, "I will come".'
= 'You-Sg said that you will/would come.' (Ji)

18.3.3 Logophorics in doubly embedded clauses

Logophoric pronouns are not limited to the sole or highest quoted clause. In (1428), the first bùò is the possessor of 'work (n)' in a relative clause, subordinated to the following clause (which also contains an instance of bùò). A hesitation has been edited out.

(1428) [è flí-kɔ̀] dè á!, á^{n}ʔà^{n},
[Art termite-Pl] say.Pfv ah!, nope!,
[bùò kē-sù^{n}ʔɔ̀^{n} á jərɔ́^{n}] bùò sùɔ̀^{n} =rɛ̄ =ɛ̄
[**LogoPl** work(n) Dem.InanSg Rel] **LogoPl** work(v).Pfv even Q
'The termites said: "Ah, nope! This work of ours that we did?" '
(Ji, 2017-04 @ 05:25)

Likewise, the first part of (1429) below is a quote within a quote, showing a logophoric (the one modifying 'leaf') whose author-antecedent is two clauses up, overstepping a syntactically closer quoted author in the intervening clause. Only context tells us that the first bó is coindexed with the higher author-antecedent (the tree) rather than with the intermediate one (hare). As a reminder, an original 'you' (addressee) is regularly expressed as third person in indirect quotations.

(1429) áywà, dè ɔ̀^{n} mā rè [[bó bì^{n}ʔɛ́^{n}] =à^{n} dá^{n},
well, Quot 3AnSg if say.Base [[**LogoSg** leaf] Ipfv be.pleasant.Ipfv,
é! d= ɔ̀^{n} pìɛ̀-ɲɔ́^{n} [bó bíó bè] tē
oh! Quot 3AnSg taste.Pfv [**LogoSg** fruits Top.Inan] Q
' "Well," (the tree) said, "if you say that my leaves are pleasant, have you tasted my fruits?" ' (Bi, 2017-08 @ 01:04)

Elicited example (1430) has three instances of bó. In the highest quotative clause, LogoSg bó coindexed to Zaki is the possessor of 'father'. In the lower quotative clause (a jussive), the first LogoSg is the subject and is again coindexed to Zaki. The second LogoSg in that clause, as possessor of 'house', is coindexed with 'his father'. If it were coindexed with Zaki it would take reflexive rather than logophoric form.

(1430) zàkí dè dè [[bó sē] dè
Z say.Pfv Quot [[**LogoSg** father] say.Pfv
[bó mɛ̀ [bó wùʔú]]]
[**LogoSg** build.Base [**LogoSg** house]]]
'Zaki$_{x}$ said that [his$_{x}$ father]$_{y}$ told him$_{x}$ to build his$_{y}$ house.' (Fl)

In (1431), the logophoric is separated from its antecedent by an intervening quotative clause with a different author. Since this author is 2Sg (i.e., the current addressee), there is no possibility of confusion.

(1431) zàkí dè dè [mó dè dè
Z say.Pfv Quot [2Sg say.Pfv Quot
[bó ā kɛ̌= [Ø būɔ̄^{n}ʔɔ̄^{n}]]]
[**LogoSg** Ipfv eat.meat.Ipfv [Art dog]]]
'Zaki said that you-Sg said that he eats dog (meat).' (Fl)

18.4 Reciprocal

As in other languages, reciprocals occur prototypically in transitive clauses of the type 'X-Pl Vb Y-Pl', where both the subject X and the object Y denote sets of individuals, and where either there is a single global event involving X and Y as groups (as in 'the men and the women confronted each other'), or there is some critical mass of subevents of the type 'X$_{n}$ Vb Y$_{n}$'. A slightly distinct but closely related construction is 'X-Pl Vb together'.

18.4.1 Simple reciprocals (ò dígə̀-rɔ̀)

Reciprocals are formed with ò dígə̀-rɔ̀ in nonsubject (often direct object) position. dígə̀-rɔ̀ is the rhotic plural of dígɔ̀ʔɔ̀ 'other'. Taking ò as the transpersonal plural reflexive possessor (§18.1.1), ò dígə̀-rɔ̀ means '(our/their/your-Pl) others'.

(1432)	[è	bí-sīō]	kùò	[ò	dígə̀-rɔ̀]
	[Art	child.Pl]	hit.Pfv	[**PlRefl**	**Recip**]

‘The children hit each other (=had a fight).’ (Ji)

For 1Pl subject, in elicitation we found some spillage between ò dígə̀-rɔ̀ and ó dígə̀-rɔ̀, the latter with specifically 1Pl possessor ó. However, in texts we heard only ò dígə̀-rɔ̀ for 1Pl as well as other plural subjects (2Pl, 3Pl). 2Pl subject is illustrated in (1433).

(1433)	bùò	gò	ɲɔ́	[ò	dígə̀-rɔ̀]
	2Pl	Hort	look.at.Base	[PlRefl	**Recip**]

‘You must look at each other!’ (Ji)

Representative textual examples of simple transitive reciprocals are in (1434).

(1434) a.	ó	kō	lā^n =	[Ø	dígə̀-rɔ̀]
	1Pl	Infin	advise.Base	[**PlRefl**	**Recip**]

‘(and) we advise each other.’ (Bi, 2017-07 @ 10:02)

b.	ō	ɲà	[ò	dígə̀-rɔ̀]
	3Pl	see.Pfv	[**PlRefl**	**Recip**]

‘They saw each other (=met).’ (Ma, 2017-04 @ 01:56)

c.	[ē	nā-dì-ɔ̀]	má	ká^n	[kō	sɔ̀-sɔ́	[ò	dígə̀-rɔ̀]
	[Art	old.man-Pl]	Neg	ought	[Hort	contradict.Base	[**PlRefl**	**Recip**]

‘Old men should not contradict (=disagree with) each other.’
(Fl, 2017-03 @ 00:12)

d.	jǎ→	ò	ká	wō	[[ò	dígə̀-rɔ̀]	sɛ̀gɛ́	nī]	=dɛ̄ʔ
	lo!	3Pl	Past	be	[[**PlRefl**	**Recip**]	weary(v).Prog	Prog]	Emph

‘Lo, they were wearing each other out!’ (Ji, 2017-04 @ 02:40)

Although direct object position is usual for ò dígə̀-rɔ̀, it can occur in other nonsubject positions. In (1435), it is the complement of a dative postposition. A hesitation has been emended out.

(1435)	ò	jíjà	[kō	wē	[Ø	kè-tə̀-rè]	[[ò	dígə̀-rò]	bàʔà]
	3Pl	strive.Base	[Infin	put.Base	[Art	hand-Pl]	[[**PlRefl**	**Recip**]	**chez**]

‘They should strive to give a hand to each other.’ (Ji, 2017-11 @ 10:54, edited)

See also the following section on ‘together’ expressions.

18.4.2 ‘Together’

English adverbial *together* is expressed as a locative PP with reciprocal ò dígə̀-rɔ̀ as complement. Ji example (1436) was confirmed for Fl with minor phonetic differences.

(1436) ó nà sɔ̄ⁿ [Ø kē-sùⁿʔɔ̄ⁿ]
1Pl Fut work.Base [Art work(n)]
[[ò dígə̀-rɔ̀] nī]
[[PlRefl **Recip**] **Loc**]
'We will work together.' (Ji)

There are some textual examples. In (1437a) ò is the transpersonal plural reflexive. In (1437b) it is replaced by a marked 1Pl pronoun (§4.3.1.5).

(1437) a. ó kō [[ò dígə̀-rɔ̀] nī]
1Pl be [[**PlRefl** **Recip**] **Loc**]
'We are together (=solidary).' (Ji, 2017-04 @ 05:30)

b. ó kō ɲɔ̄ =nì, [ó-bé dígə̀-rɔ̀] nī
1Pl Infin drink.Base 3InanObj, [1Pl **Recip**] **Loc**
'We drink it, together.' (women, 2017-17)

In (1438), dígə̀-rɔ̀ is an incorporated noun in a verbal noun. The speaker's point is that a tale should have a moral that is explained on its completion.

(1438) [è [dígə̀-rɔ̀]-làⁿ-ní té] à-mā [à nī]
[Art [**Recip**]-advise-VblN Foc.Inan] be.Loc [3Inan Loc]
'Advice for each other is in it (=is part of it).'

18.4.3 Alternative reciprocal gě ~ gə̀rɛ́

An alternative to reciprocal ò dígə̀-rɔ̀ (preceding section) as NP is ō gě or ō gə̀-rɛ́. The latter form is overtly marked as plural, but the two forms have similar functions and distributions. ō is the same plural reflexive possessor seen above in ò dígə̀-rɔ̀, here raised to M-tone before an L-tone.

All speakers recognized and produced examples with gě ~ gə̀-rɛ́, but in texts it occurred only in a few passages with our Ma speaker.

A simple reciprocal object construction is (1439a). (1439b) shows gě as incorporated object in a verbal-noun compound.

(1439) [è jə̀ríⁿ-ní] á ɲī [ō gə̀-rɛ́]
[Art djinn-Pl] PfvNeg see.Base [PlRefl **Recip**-Pl]
'The djinns did not see each other.' (Fl)

In textual example (1440), the clause with gě is syntactically parallel to the immediately preceding clause with dígə̀-rɔ̀. Both are complements of locative postpositions.

(1440) [à bíɛ́] à fə̄rū [[ò dígə̀-rɔ̀] nī],
[3Inan all] Ipfv marry.Ipfv [[**PlRefl** **Recip**] **Loc**],
[ē nà-bí-ó] tə̀rɛ̀ⁿ-ɲáŋámí [[ō gɛ̌] nī]
[Art person.Pl] sit.Pfv-mix.Base [[**PlRefl** **among**] **Loc**]
‘They all marry each other. They are settled (=married) mixed among each other.’
(Ma, 2018-07 @ 01:04)

In (1441), gɛ̌ is an incorporated object in a verbal noun.

(1441) jí bùò á tə̄rāⁿ [kō klɛ̄̀= [Ø gɛ̌-ɲì-ní]]
if 2Pl PfvNeg sit.Base [Infin do.Base [PlRefl **Recip**-see.Base-VblN]]
‘If you-Pl don’t sit down and see each other (=meet), …’
(Ma, 2017-04 @ 01:38)

18.5 Additional reference-tracking devices

The elements discussed below are helpful in reference tracking across stretches of narrative and expository discourse, as opposed to clause- and quotation-internal anaphoric devices described above.

18.5.1 Reactivation of previously introduced discourse referent

Each of these expressions refers to a previously introduced discourse referent that has no specific name or that is generic. The initial introduction may take a form like ‘a (certain) person’ or other general description. In narratives involving more than one protagonist, a simple 3AnSg pronoun may be inadequate, and a noun-based phrase like ‘the fellow’ is more appropriate.

18.5.1.1 kɛ̌ⁿ ~ kɛ̂ⁿ ~ kɛ̄mɛ̀ ‘fellow, guy’

In contexts other than narrative, the noun kɛ̌ⁿ occurs in all dialects with a possessor X in the sense ‘X’s pal, buddy’, with plurals kə̀-rɛ́ⁿ (Ji), kə̀-rɛ́ⁿ-ní (Fl Ma), and kə̀-rɛ̀ⁿ-níⁿ (Bi). The referent is always male. A final -kɛ̀ⁿ occurs in compounds denoting male persons. For these forms and senses, see §4.1.4.1 and §5.1.6.8.

The noun may be used to introduce a generic or unnamed discourse referent, for example as indefinite ē kɛ̌ⁿ jī or ē kɛ̄mɛ̀ jī ‘a (certain) fellow’. The initial introduction may be in this form, but it can also be with another noun like è yúó jī ‘a (certain) person’. This referent may be evoked in subsequent discourse as ē kɛ̌ⁿ or with tonal inversion è kɛ̂ⁿ ‘the fellow’. A demonstrative may be added, as in kɛ̀ⁿ yá or kɛ̀ⁿ =áⁿ ‘this/that fellow’.

The forms attested in the texts are listed in (1442). We take ē kɛ̀ⁿ before H-tone and level-toned ē kɛ̄ⁿ as variants of ē kɛ̌ⁿ (1442a-b). This still leaves several instances of è kɛ̂ⁿ with clearly falling pitch (1442c).

(1442) a. kɛ̌^{n} without demonstrative

ē kɛ̌^{n}	Ji (2017-01 @ 02:45)
	Ji (2017-09 @ 07:00)
	Fl (2017-03 @ 01:10)
ē kɛ̀^{n} (before H)	Ma (2017-04 @ 04:02)
ē kɛ̄^{n}	Ma (2017-04 @ 03:49)

b. kɛ̀^{n} before demonstrative

kɛ̀^{n} yá	Ji (2017-01 @ 02:43)
kɛ̀^{n} =á^{n}	Ji & Ma (2017-04 @ 01:42)

c. kɛ̂^{n} without demonstrative

ē kɛ̂^{n}	Ji (2017-04 @ 03:08 & 03:32 & 03:36)
	Ma (2017-04 @ 01:17)

Several of the examples are from text 2017-04 where ‘the fellow’ became the regular way of referring to a protagonist. Near the beginning, francolin (partridge) is watching from a hidden position when hare comes into view. The animal characters are personified but lack personal names. Francolin wonders what hare is up to. The second line in (1443) has been slightly edited.

(1443) dè [kɛ̀^{n} yá bó =rɛ̄ʔ]
Quot [**fellow** Dem.InanSg Top Emph]
kō [[Ø ʃìʔɛ́-[kē-sù^{n}ʔɔ̀^{n}] nī] [[tɔ̀ʔɔ̀ yá] nī],
be [[Art which?-[work(n)]] Loc] [[place Dem.InanSg] Loc],
‘(Francolin) “this fellow [topic] is engaged in what (sort of) activity here?” ’
(Ji, 2017-01 @ 02:43)

In (1444), a referent previously introduced in another tale as an old farmer goes to his field and encounters warthog.

(1444) [ē kɛ̌^{n}] tà á-dà^{n} [[Ø gblì-lɛ̀-tɔ̀ʔɔ̀] nī]
[**Art** **fellow**] Past come.Base-arrive.Base [[Art ridge-tear.Pfv-place] Loc]
[dāʔá jə̀ré lò], [ē sɔ̋=] Ø-mā gō kǎ^{n}
[time Rel.InanPl after], [Art pig] be.Loc be Dem.AnSg
‘When(-ever) the fellow (=the farmer) arrived at the outer edge (of the field), there was the warthog!’ (Fl, 2017-03 @ 01:10-13)

18.5.1.2 ɔ̀^{n} wí, bò-wí (plural bò-yúo), è wí jī ‘fellow, individual’

wí ‘owner’ has a broad sense as compound final (§5.1.9). Such compounds describe defining associations, not necessarily ownership. Here we consider noncompound expressions containing wí that denote a nonspecific, indefinite individual, cf. Eng *the guy* and *the fellow*, and Fr *l’intéressé(e)* or *le mec*.

In the combinations ɔ̀ⁿ wí and the rather fused bò-wí, 3AnSg ɔ̀ⁿ and 3AnSg bò (tone-dropped from the usual bó) directly denote the referent, not a distinct 'owner' or associated person. The plural of bò-wí is bò-yúó. Indefinite è wí jī 'someone' (lit. "an owner") is less common than ɔ̀ⁿ wí or bó wí. It occurs once in the texts, as a synonym of the more common è yúó jī 'someone'.

(1445) [è wí jī] bà [wā= à-gbɛ̄ =wò]
[**Art owner Indef**] come.Pfv [Infin come.Base-pick.up.Base 3PlObj]
'Somebody came and took them.' (Bi, 2017-07 @ 04:33)

ɔ̀ⁿ wí and bò-wí function in narrative like ē kɛ̌ⁿ ~ è kɛ̂ⁿ (preceding section), but are not limited to male referents. In (1446), dog as character in a tale lies in wait to catch an unknown individual who has been drinking from dog's well. The mystery referent is initially introduced in a relative construction with 'person' as head, and is then referred to twice as ɔ̀ⁿ wí.

(1446) dè [yúó jərɔ́ⁿ] à cáⁿʔ-àⁿ-kèʔè [bó blù-ɲū],
Quot [**person** Rel] Ipfv fight.Ipfv-Ipfv-ruin.Ipfv [LogoSg well(n)-water],
[cógó-cògò, [ɔ̀ⁿ wí] bā bà],
[anyway, [**3AnSg owner**] if come.Base],
[bó nà fùʔú [ɔ̀ⁿ wí] kùⁿʔúⁿ bè
[LogoSg Fut get.together.Base [**3AnSg owner**] today Dem.Def
'(dog thinks:) "the person who disturbs my well water, anyway, when the fellow comes, I will meet (=confront) the fellow even today." '
(Ma, 2017-02 @ 01:22 to 01:26)

A list of textual examples is in (1447).

(1447) a. ɔ̀ⁿ wí
Ma (2017-02 @ 01:22 to 01:26)
Ma (2017-04 @ 03:56)
Fl (2017-05 @ 00:02)
Ji (2017-11 @ 06:38 & 08:46)
Bi (2017-11 @ 06:35)
women (2017-12 @ 00:55)
women (2017-13 @ 01:22)

b. bò-wí
Ji (2017-08 @ 10:58, twice)
Bi (2017-09 @ 05:19 & 05:42)
Ma (2017-10 @ 06:21)
women (2017-13 @ 01:11 & 01:17)

Focalizer tóʔó may immediately follow bó rather than following wí (1448). Proclitic 3AnSg ɔ̀ⁿ is always replaced by bó when focalized.

(1448)

[bó	tóʔó	wí]	à	fó	[ānà^{n}ʔà^{n}	nī^{n}]
[**3AnSg**	**Foc**	**owner**]	Ipfv	pass.Ipfv	[face	Loc]

‘It’s he [focus] who goes ahead (of others).’ (Bi, 2017-10 @ 02:07)

For bò-wí and relative wí jə̀rɔ́^{n} together in a correlative construction, see §14.1.10.

18.5.1.3 díklè ‘so-and-so’

The noun (è) díklè ‘so-and-so’ can be used as a variable over personal names. It has no morphological plural but it can take a plural demonstrative: è díklè kō-yùò ‘those so-and-so’s’ (Ji).

18.5.2 Obviative expressions

By obviative we mean expressions that introduce or refer back to a secondary protagonist who is distinct from a primary protagonist or the main topic of a narrative section. For example, in a narrative about a man (primary protagonist) and his companion (secondary protagonist), the latter may referred to periodically as ‘the/his counterpart’.

All terms for ‘other, distinct’ are relevant here.

18.5.2.1 dígɔ̀ʔɔ̀ ‘other’

We have seen plural ò dígə̀-rɔ̀ as the main reciprocal marker (§18.4.1). Singular dígɔ̀ʔɔ̀ is an adjective meaning ‘other, distinct’.

The primary protagonist of the tale in text 2017-03 is an old farmer who brags to another old man about how fast he can complete his farm work. The secondare referent is introduced as ‘another old man’ (1449a), where ‘another’ indicates referential distinction rather than addition. Much later in the story, the same second old man is reintroduced as ‘his old man’ (1449b). After the narrative, its takeaway moral is expressed in generic terms by the speaker as (1449c).

(1449) a.

kō	dò	[bè	tòʔō=]	[[Ø	nā-dɛ̀	dígɔ̀ʔɔ̀]	bàʔà],
Infin	say.Base	[Dem.Def	Foc]	[[Art	old.man	**other**]	Dat],

[ē	nā-dɛ̀	dígɔ̀ʔɔ̀]	dè	é
[Art	old.man	**other**]	say.Pfv	huh?

‘(the old man) said that [focus] to another (=a different) old man. The other old man said, “huh?” ’ (Fl & Ma, 2017-03 @ 00:34 to 00:37)

b.

ɔ̀^{n}	á-ɲī	[ɔ̄^{n}	nā-dɛ̀	dígɔ̀ʔɔ̀]
3AnSg	go.Base-see.Base	[3AnSg	old.man	**other**]

‘(and) went and saw his (=the) other old man, …’ (Fl, 2017-03 @ 02:25)

c.

mâ	dò	dè	[mó—	kō	nā-dɛ̀],		
Proh	say.Base	Quot	[2Sg—	be	old.man],		
dè	[ē	nā-dɛ̀	dìgɔ̀ʔɔ̀	jì]	má	wìè-tàʔà	mó]
Quot	[Art	old.man	**other**	Indef]	IpfvNeg	help.Pfv	2Sg
[kà,	[ē	cè-cīʔé]]					
[with	[Art	intelligence]]					

‘‘Don’t say (=think) that you being an old man, another old man doesn’t (=can’t) help you with (his) intelligence (=wisdom).’
(Fl, 2017-03 @ 03:00 to 03:05)

18.5.2.2 tɔ̀ ‘the others, the remaining ones’

Another term for ‘other’ is tɔ̀, a Jula borrowing. It functions as a possessed noun, with a pronominal possessor. However, in ō tɔ̀ ‘the others’ the 3Pl pronominal ò (raised to ō) specifies the plurality of the referent, usually not that of a distinct “possessor.” ō tɔ̀ means ‘the others, those that are left’, not ‘their remainder’ (e.g., what they have left to eat). In other words, the pronominal has partitive rather than true possessive function.

The Tiefo-D forms are in (1450).

(1450) ā tɔ̀ ‘the others, those that are left’ (inanimate)
ō tɔ̀ ‘the others, those that are left’ (animate)

This paradigm is a good example of how the 3Pl pronoun ò is not easily extended to inanimates.

The forms in (1450) can be combined with bíɛ́(ʔ) ‘all’ as in ā tɔ̀ bíɛ́ʔ ‘all the others, all the remaining ones’ (inanimate).

Only plural ō tɔ̀ is attested in the texts (1451).

(1451) a.

jí	[jə̀rɔ́^{n}	jù]	á	wùɔ̀ʔɔ́,	
if	[Rel	eye(s)]	PfvNeg	be.open.Base,	
[ō	tɔ̀	bíɛ́]	nà	ɲī	bùò
[**3Pl**	**others**	all]	Fut	see.Base	2Pl

‘If (there is/you are) one whose eye has not opened (=is blind), all the others will see you-Pl.’ (Ma, 2017-04 @ 02:05)

b.

ɲɔ́	[bó	yīʔē	=rò],			
look.Base	[3AnSg	go.Pfv	Emph],			
bó	gò	yíʔí	[gō	rà-súʔ=	[ō	tɔ̀]]
3AnSg	Infin	go.Base	[Infin	go.Base-catch.Base	[**3Pl**	**others**]]

‘Look! It (=elephant) went away, and it went in order to collect the others.’
(Bi, 2017-09 @ 01:18)

c. [bó tòʔó wí] à fó [ānàⁿʔàⁿ nīⁿ],
[3AnSg Foc owner] Ipfv pass.Ipfv [face Loc],
[ō tɔ̀] wō jùʔɔ̀,
[3Pl **others**] Infin follow.Base,
'It's he (the chief) [focus] who goes ahead. The others then follow.'
(Bi, 2017-10 @ 02:07)

tɔ̀ can combine with other nonsingular pronouns, again in partitive function, as in é-yùò tɔ̀ 'the rest of us'.

While ā tɔ̀ is parsable in Tiefo-D with 3Inan à, substantially the same combination (à tɔ̀) means 'the other' or 'the remainder' in Jula.

18.5.2.3 bàⁿʔàⁿ 'other'

Another adjective for 'other, distinct' is bàⁿʔàⁿ, which occurs in a single text. (1452a) is repeated almost verbatim after a brief digression as (1452b). Focalizer tóʔó follows the adjective.

(1452) a. [è wúⁿ-dìⁿ bàⁿʔàⁿ tòʔá=] à glǖ=
[Art chief **other** Foc] Ipfv exit.Ipfv
[[Ø tɔ̀ʔɔ̀ jī] n̄] [kō à-té =ò],
[[Art place Indef] Loc] [Infin come.Base-put.Base 3AnSgObj],
'Another chief [focus] goes out to a certain place, and installs him.' (Ma, 2018-01 @ 01:57)

b. [è wúⁿ-dìⁿ bàⁿʔàⁿ tòʔá=] à glǖ= [[Ø tɔ̀ʔɔ̀] nī]
[Art chief **other** Foc] Ipfv exit.Ipfv [[Art place] Loc]
[kò =ʔó-té =ò],
[Infin go.Base-put.Base 3AnSgObj],
'Another chief [focus] goes out to the place and goes and installs him.'
(Ma, 2018-01 @ 02:03)

19 Grammatical pragmatics

19.1 Topic and setting

We distinguish spatiotemporal settings from referential topics. The latter are entities that are established as the conceptual starting point for the following discourse.

19.1.1 Temporal settings

In the texts, the majority of occurrences of temporal expressions are postverbal within clauses, rather than being preposed to clauses. We verified this by searching our texts for ‘today’ and ‘now’, the two most common temporal adverbs. When they are fronted to preclausal position, often set off by a prosodic boundary, it is usually because of emphasis or because of a contrast with another time (including jumps across time in narratives).

In (1453), ‘today’ is added to the first clause as a kind of postposed topic, anticipating the contrast with ‘tomorrow’. The latter immediately follows and is set off prosodically from the second clause whose setting it provides.

(1453)	nó	nà	fūɔ̄^{n}	[Ø	cī],	kú^{n}ʔú^{n},
	1Sg	Fut	soak.Base	[Art	grain]	**today**,
	ē	cɔ̄^{n},	nó	kò	júá^{n}	=nì
	Art	**tomorrow**,	1Sg	Infin	strain.Base	3InanObj

‘I will soak (sorghum) grain, today. Tomorrow, I will strain it (=drain off the water).’ (women, 2017-17 @ 00:12)

A similar contrast, this time between ‘every day’ (i.e. ‘usually’) and ‘today’ in (1454).

(1454)	[è	blí-kɛ́]	dè	áy!,			
	[Art	hare]	say.Pfv	oh!,			
	[kɔ̀-kɔ̀	sú→]	má^{n}=	à^{n}	fó	mɔ̂→,	
	[**Rdp-day**	**all**]	2Sg	Ipfv	pass.Ipfv	concerning,	
	kú^{n}ʔú^{n}	mó^{n}	ŋ=	à-rè	[nó^{n}	fó]	tē
	today	2Sg	Infin	come.Base-say.Base	[1Sg	pass.Base]	Q

‘Hare (woman) said, “oh! Every day you go (=have been going) ahead, (but) today you (come and) tell me to go ahead?” ’ (Bi, 2017-08 @ 02:42)

The emphatic expression álè kú^{n}ʔú^{n} ‘even today’ (i.e., ‘even now’, with reference to a formerly common eventuality that still exists or takes place) is regularly preposed as in (1455), see also (Bi, 2017-10 @ 00:02) and (Fl, 2017-11 @ 11:16).

(1455) [álɛ̀ kú^{n}ʔú^n] à Ø-mā^n dō
[**even** **today**] 3Inan be.Loc Emph
'Even today it (=inequality) exists.' (Bi, 2017-07 @ 00:32)

In all occurrences of 'today' that occur without a contextually clear contrast, it occurs postverbally, with the exception of one passage (1456).

(1456) dè á! dè kú^{n}ʔú^n, [è wí jī] bà …
Quot oh! Quot **today**, [Art owner Indef] come.Pfv …
'(The girl) said "oh!, today somebody came and …." ' (Bi, 2017-07 @ 04:33)

The other high-frequency temporal adverb is dɛ̀-dɛ̀ ~ də̀-rɛ̀ 'now' (translatable as 'then' in past-time contexts). It occurs both preposed as a setting topic, and postverbally. When preposed, it regularly takes the full locative PP form dɛ̀-dɛ̀ nī or də̀-rɛ̀ nī. An example is (1457), where 'now/then' sets off a new event in the narrative.

(1457) [ē jàmá] fīē, kò fó,
[Art crowd] pass.Pfv, Infin pass.Base,
[dɛ̀-dɛ̀ nī] [è bítə́ró] kō bà [Ø= à-fó]
[**now** **Loc**] [Art leper] Infin come.Base [Infin come.Base-pass.Base]
'The crowd went away. (They) went away. Now a leper came by.'
(women, 2017-13 @ 00:30)

Other examples of preposed dɛ̀-dɛ̀ nī ~ də̀-rɛ̀ nī are Fl (2017-05 @ 03:41), Bi (2017-07 @ 08:39), and women (2017-12 @ 02;31; 2017-13 2 01:28; 2017-20 @ 00:43).

When it occurs postverbally, 'now' is often simple dɛ̀-dɛ̀ ~ də̀-rɛ̀, less often the full PP form, but both are attested.

19.1.2 Preclausal referential topics

When an NP is set off from the rest of its clause as topic, it may be marked as such, either by the appropriate member of the set {bó, bùò, bè), or by a Jula borrowing with two forms, kə̀rɔ̀^{n} and kɔ̀nì. These are covered in the following subsections. If the topicalized NP corresponds to the subject of the clause, as is usually the case, a distinction must be made between a preclausal topic that is then resumed by a subject pronominal in the clause proper, and a clause-initial subject that is also marked as topical. If the topicalized NP corresponds to a postverbal constituent, its preclausal position is conspicuous.

Interrogative topic 'what about X?', is expressed by phrase-final lɔ̀, see end of §15.3.5.6.

19.1.2.1 bó, bùò, bè as topic markers

These elements are more familiar as pronouns and demonstratives (1458).

(1458)

bó	3AnSg nonproclitic, 3AnSg logophoric	§4.3.2.1, §18.3
bùò	3Pl nonproclitic, 3Pl logophoric	§4.3.2.1, §18.3
bè	discourse-definite inanimate	§4.4.2.1

When they follow a noun or pronoun, these elements function as topic markers. bó is the unmarked member of the set, used not only for animate singular but also for inanimate referents. It can be added to 3AnSg pronoun bó, producing bó bó (1459d), but not to pronouns bùò or bè. It can follow relative marker jərɔ́^{n} (1459d).

(1459) a.

dè	*bon*,	[è	náklù^{n}	bó]	mlɔ̄^{n}
Quot	well,	[Art	cheek	**Top**]	swell.up.Pfv

‘(Hare) said, “well, the cheek [topic] is swollen.” ’ (Bi, 2017-08 @ 05:11)

b.

dè	[ʃīɛ̄-lùʔù	bó]	dè	mó^{n}	pìɛ̀^{n}-ɲɔ́^{n}	bè	tē
Quot	[rear-skin	**Top**]	Quot	2Sg	taste.Pfv	Dem.Def	Q

‘(Hare said:) “(Baobab will) say, ‘as for the bark, have you tasted that?’ ” ’ (Bi, 2017-08 @ 06:35)

c.

dē	[kɛ̀^{n}	yá	bó	=rɛ̄]
Quot	[fellow	Dem.InanSg	**Top**	Emph]

kō	[[(Ø)	ʃìʔɛ́-bərá]	nī]	[[tɔ̀ʔ=	á]	nī]
be	[[Art	which?-work(n)]	Loc]	[[place	Dem.InanSg]	Loc]

‘(Francolin thought:) “this fellow [topic] is engaged in some (sort of) activity here” ’ (Ji, 2017-01 @ 02:43)

d.

[jərɔ̀^{n}	bó]	wò	[dí-dɛ́]-nɔ̀^{n}
[Rel	**Top**]	be	[eat.Base-be.full.Base]-Agent.Sg]

[bó	bó	kərɔ̀^{n}]	wò	dí-dɛ́
[3AnSg	**Top**	Top]	be	eat.Base-be.full.Base

‘The one (bird) who ate to get full, as for it, it was stuffing itself (with food).’ (Bi, 2017-06 @ 01:22)

Given that the topic phrase with bó is not set off prosodically, and it is not followed by a resumptive pronoun, one might argue that bó itself is a resumptive subject pronoun, coindexed with a preclausal topicalized NP, i.e. ‘the cheek’ (1459a) and ‘this fellow’ (1459c). While this may point to the diachronic origin of the construction, it is incorrect synchronically. First, there is no prosodic break between bó and the preceding NP. Second, the topicalized NP with bó may correspond to a non-subject pronominal in the clause, as in (1459b). Third, bó as pronoun is strictly 3AnSg, but as topic marker it may follow not only inanimate NPs but also the pronouns 1Sg nó and 2Sg mó, producing nó bó (Bi nó^{n} mó) and mó bó (Bi mó^{n} mó), respectively. There are two textual examples of the 1Sg combination, (1460) and (Bo, 2019-03 @ 03:12). There is one of the 2Sg combination (Bi, 2017-08 @ 04:12).

(1460) [nó^{n} mó] nà^{n} glú-yíʔĩ̄= [Ø sē] tē
[**1Sg** **Top**] Fut exit.Base-go.Base [Art where?] Q
‘where would I [topic] have gone out and gone to?’ (Bi, 2017-07 @ 04:47)

bó has fused to interrogative ‘who?’ is some dialectal variants, see (969) above. Our Bi speaker frequently used bó after ‘who?’ There are several examples in text 2017-08, including (1461).

(1461) [sɔ̀^{n}-wí bó] nà^{n} nè [bó má^{n} jú^{n}]
[who? **Top**] Fut say.Base [LogoSg IpfvNeg dance.Ipfv]
‘Who would say, “I don’t dance” ?’ (Bi, 2017-10 @ 06:20)

bó as topic marker may also follow demonstrative kǎ^{n} (1462).

(1462) áywà [kà^{n} bá=] á pɛ̄^{n} =ā^{n}
well [Dem.AnSg **Top**] PfvNeg remain.Base Q
‘Well, didn’t that one (=girl) [topic] stay (there)?’ (Bi, 2017-07 @ 05:06)

Additional elicited examples of 1Sg nó bó in (1463).4

(1463) a. kɔ̄-yùò yīʔē,
Dem.AnPl go.Pfv,
[nó bó] má bè yīʔē sā^{n}
[1Sg **Top**] Neg Fut go.Pfv simultaneously
‘Those (other) people went, but I for my part will not also go.’ (Ji)

b. [nó bó] má bē
[1Sg **Top**] IpfvNeg go.Ipfv
‘As for me, I will not come.’ (Fl Ma)

bùò as topic marker generally follows animate plural nouns, or those understood to have animate plural reference. (1464a-c) are textual examples, (1464d) is elicited.

(1464) a. *donc* [í-yùò bùò] gà— [Ø wǎ-wà-ní],
so [1Pl **Top.Pl**] with— [Art minnow-Pl],
‘So, we [topic] had minnows, (little) flat fish..’ (Bi, 2017-10 @ 03:41)

b. mó^{n} nà^{n} sò [bì tóʔó bíɛ́] [kò yíʔí]
2Sg Fut carry.on.head.Base [Dem.Def Foc all] [Infin go.Base]
[è yúó jī bùò] má^{n} fā [Ø jī] =ā
[Art people Indef **Top.Pl**] IpfvNeg seek.Ipfv [Art something] Q
‘You will carry all that on your head and go, and other people [topic] won’t want anything?’ (Bi, 2017-08 @ 07:54)

c.	[ē	lō	bùò]	ò=	Ø	cų̆ī=
	[Art	chicken.Pl	**Top.AnPl**]	3Pl	Ipfv	kill.Ipfv

[[Ø	tɔ̀ʔɔ̀-kàʔà]	nī]	bāʔā	=ā
[[Art	place-bare]	Loc]	anyway	Q

‘The chickens, do they kill (them) casually in an empty (=non-sacred) place?’ (Bo, 2019-10 @ 04:30)

d.	[é-yùò	bùò]	má	bē	bà	=ʔ
	[1Pl	**Top.Pl**]	IpfvNeg	Fut	come.Pfv	Neg

‘We for our part will not come.’ (Ji)

There is one textual example of bùò after an inanimate plural noun ‘roots’. The narrative context is unusual, however, involving a rather magical tree that has sunk its roots into the head of a protagonist (Bi, 2017-07 @ 08:34).

Inanimate discourse-definite demonstrative bè, which sometimes behaves like an inanimate pronoun, functions as topic marker when it occurs at the end of an NP. An example is the preposed topical phrase in (1465), whose NP is repeated as subject of the following clause.

(1465)	[[ē	tə̀-rɛ́]	bè],	[ē	tə̀-rɛ́]	ā	kɛ̀^{n}	mā
	[[Art	hole-Pl]	**Top.Inan**],	[Art	hole-Pl]	Ipfv	be.many.Ipfv	there.Def

‘Concerning caves, caves are abundant there.’ (Ji, 2017-11 @ 04:59)

Some additional textual examples of bè as inanimate topic marker are listed in (1466).

(1466)	a.	ē tùpɛ̀^{n}ʔɛ́^{n} bè	‘that gourd’	(Ji, 2017-01 @ 01:58)
	b.	mó ɔ̀ʔɔ́ bè	‘your arm’	(Ji, 2017-01 @ 02:11)
	c.	kū^{n}ʔú^n bè	‘that day’	(Fl, 2017-05 @ 03:35)
	d.	ē wə̀rɛ́ bè	‘that loincloth’	(Ji, 2017-08 @ 00:25)
	e.	ē sə̀ròʔò á bè	‘this (same) baobab’	(Bi, 2017-08 @ 00:49)
	f.	bó bíó bè	‘my (logophoric) fruits’	(Bi, 2017-08 @ 01:04)
	g.	bó bìɛ̀^{n}ʔɛ́^{n} bè	‘my (logophoric) leaves’	(Bi, 2017-08 @ 06:02)
	h.	nó^n bíó bè	‘my fruits’	(Bi, 2017-08 @ 06:11)
	i.	nó^n lí^n-blìʔì bè	‘my insides’	(Bi, 2017-08 @ 06:44)

All of these examples are from tales. (1466e-i) are variants on the same formulaic clause type, including a prenominal possessor, used by baobab tree in a tale to describe the taste of its various parts.

In (1466e), bè follows inanimate singular deictic demonstrative (y)á. Cf. also [yá bè] nī ‘in this (state)’ (Fl, 2017-05 @ 01:49), without a noun.

Like bó, bè has a tendency to co-occur and occasionally fuse with content interrogatives. While bó is naturally associated with ‘who?’, bè can fuse with ‘what?’, see bē-kè and kè-bè in (973) above. It can co-occur with ‘where?’, see (986a-c) above. It can also co-occur with ‘which?’ in inanimate contexts, as with [pɛ̀tɛ̀-ɲùʔɔ̀ jə̀rɔ́^{n} bè] nī ‘on which buttocks?’ (Ji, 2017-08 @ 00:25).

The examples given above show that topic NPs and pronouns can be preposed to clauses, perhaps then resumed by a pronoun, or else they can be integrated into the clause, generally as subjects. (1465) has a preclausal topic, while (1463a-b) are among the examples with integrated topical subjects.

19.1.2.2 kə̀rɔ̀^{n} as topicalization marker

A second topic marker is kə̀rɔ̀^{n} (~ kɔ̀rɔ̀^{n}). It is probably based on the same Jula morpheme as kɔ̀nì (following section). There are about eight attestations in the texts, in the combinations like those listed in (1467). For the third person pronominals, both proclitics and independent pronouns are possible.

(1467) a. with pronoun and topic marker bó
bó bó kə̀rɔ̀^{n} (Bi, 2017-06 @ 01:22)

b. with pronoun and focus marker
nó tóʔó kə̀rɔ̀^{n} (Ji, 2017-11 @ 00:37)

c. with pronoun
bó kə̀rɔ̀^{n} (logophoric) (Fl, 2017-05 @ 01:46)
nó kə̀rɔ̀^{n} (Ji, 2017-11 @ 06:45), (Fl, 2017-11 @ 07:05)
ɔ̀^{n} kə̀rɔ̀^{n} (Bo, 2019-03 @ 03:07)
ò kə̀rɔ̀^{n} (Ji, 2017-11 @ 07:50)
à kə̀rɔ̀^{n} (Bo, 2019-03 @ 01:04)

d. with full NP
ē gbì^{n}ʔì^{n} dó bὲ kə̀rɔ̀^{n} (Bo, 2019-07 @ 01:00)

kə̀rɔ̀^{n} may follow an already topicalized (1467a) or focalized (1467b) constituent. One of the textual examples is (1468).

(1468)	wálà→,	[[nó	kə̀rɔ̀^{n}]	nὲʔὲ-ní]	à-mā	[ō	bàʔà]
	right!,	[[1Sg	**Top]**	ask-VblN]	be.Loc	[3Pl	Dat]

‘Right. As for me, I have a request for them.’ (Fl, 2017-11 @ 07:05)

Here and in most other exmples, the kə̀rɔ̀^{n} phrase is integrated into its clause, in this case as possessor of the subject.

19.1.2.3 kɔ̀nì as topicalization marker

19.1.2.3.1 kɔ̀nì after topical NP or pronoun

A third topic marker kɔ̀nì (Bi kɔ̀nì^{n}) borrowed from Jula, sometimes shortened to kɔ̀n before a coronal consonant, can combine with a preceding NP. It may or may not be set off by a prosodic break. If it is preclausal, a resumptive pronominal occurs in the following clause. Alternatively, the NP with kɔ̀nì is the initial NP in the clause, either subject or possessor of the subject, with no prosodic break and no resumption. In this case, the NP with kɔ̀nì may be immediately followed by a Pfv verb or by a post-subject inflectional morpheme. In the clause-internal examples, free English translations cannot capture the Tiefo-D syntax, which combines topicalization (‘as for X’) with seamless clause structure.

Most of the examples of these types have kɔ̀nì directly following a pronominal. Third person pronominals take proclitic form (ɔ̀ⁿ kɔ̀nì ‘as for him/her’, etc.). 1Sg may have either full or proclitic form. Most of the textual examples are listed in (1469). kɔ̀nì is heavily used by the Ma speaker, and not all of his examples are included.

(1469) a. preclausal or independent with pronominal

nóⁿ kɔ̀nìⁿ	‘as for me’	(Bi, 2017-07 @ 04:42)
bè kɔ̀nì	‘as for that (definite)’	(Ma, 2017-10 @ 04:51), (Ma, 2021-01 @ 00:56)
à kɔ̀nì	‘as for it’	(Bo, 2019-03 @ 01:35)

b. integrated with pronominal

ŋ́ kɔ̀nì	‘as for me’ (subject)	(Bi, 2017-07 @ 02:21)
ó kɔ̀nì	‘as for us’ (subject)	(Bi, 2017-10 @ 06:40) (Ma, 2021-03 @ 00:34)
à kɔ̀nì	‘as for it’	(Ma, 2018-06 @ 01:12)
[mó kɔ̀nì] kà …	‘as for you and …’	(Bo, 2019-10 @ 05:33)
bè tòʔó kɔ̀nì	‘as for that [focus]’	(Ma, 2021-01 @ 00:58) (Ma, 2021-01 @ 00:38)

c. with noun

è fɛ́ kɔ̀nì	‘as for the talk (=tale)’	(Ji, 2017-04 @ 07:07)
[[è fɔ́lɔ́-fɔ́lɔ́] nī] kɔ̀nì	‘in the old days’	(women, 2017-20 @ 00:10)
ē cɔ̀fɔ́-fɛ̀ kɔ̀nì	‘as for Tiefo language’	(Ma, 2021-01 @ 00:53)
ē cɔ̀fɔ́ kɔ̀nì	‘as for the Tiefo’	(Ma, 2021-03 @ 00:03)
ē mlàⁿʔàⁿ bó kɔ̀nì	‘as for war (party)’	(Ma, 2021-03 @ 00:10)
ē lɛ̄ⁿ-tɔ̀ʔɔ̀ bè kɔ̀nì	‘as for the sacred place’	(Ma, 2021-03 @ 00:23)
(long phrase)	‘as for the grace of …’	(Ma, 2021-03 @ 00:29)
màsā-lē kɔ̀nì	‘as for Masaso *quartier*’	(Ma, 2021-03 @ 01:02)

The preclausal type with resumption is illustrated in (1470a). The clause-internal subject type is illustrated in (1470b).

(1470) a.

[è	fɛ́	kɔ̀nì]	à	má	dìʔɛ̀	=ʔ
[Art	talk(n)	**Top]**	3Inan	IpfvNeg	be.long.Ipfv	Neg

‘As for the talk (=story), it isn’t long (=is almost finished).’
(Ji, 2017-04 @ 07:07)

b.	[ŋ́	kɔ̀n=]	=àⁿ	dî=	[Ø	dí-já-ɛ̀ʔɛ̀]
	[1Sg	**Top]**	Ipfv	eat.Ipfv	[Art	eat.Base-leave.Base-Ppl.Inan]

‘As for me, I eat the leftovers.’ (Bi, 2017-07 @ 02:21)

19.1.2.3.2 Clause-final kɔ̀nì (and kɔ̀ʔɔ̀nì)

In the texts there are two clause-final occurrences of kɔ̀nì, which in this case is from Jula weak emphatic kɔ̀nì meaning ‘indeed, truly’. In each case the kɔ̀nì clause is background to a following foregrounded clause, a point of convergence with preposed topical NPs.

(1471) a.	*c'est ça,*	*donc*	jí-má-bɛ̌=	[Ø	dùʔù],
	that's.it,	so	otherwise	[Art	cliff(s)],
	á	[bè	tóʔó	=à]	kɔ̀nì
	ah!	[Dem.Def	Foc.Inan	=it.is]	**indeed**

‘That’s right. So, anyway, the cliffs, that’s how it is indeed.’
(Ji, 2017-11 @ 11:40)

b.	jí	nóⁿ	mà=	á	pɛ̄	kɔ̀nìⁿ,	[í-yùò	bàʔà] …
	if	1Sg	if	PfvNeg	forget.Base	**indeed**,	[1Pl	chez] …

‘If I have not indeed forgotten, in our zone …’ (Bi, 2017-10 @ 01:29)

A phonologically similar form, but with a clearly audible glottal, is kɔ̀ʔɔ̀nì in (1472). The sense seems to be ‘carelessly, nonchalantly, in any old way’, and the relevant clause does not function as background. We hesitate to connect this form with kɔ̀nì.

(1472)	[è	ná-bí]	má	klɛ̌=	[Ø	kɛ̌]	kɔ̀ʔɔ̀nì
	[Art	person]	IpfvNeg	do.Ipfv	[Art	thing]	**carelessly**

‘A person doesn’t do something carelessly.’ (Ji, 2017-04 @ 02:52)

19.1.2.3.3 kɔ̀nì ~ kɔ̀ní as predicate ‘be thus’

Example (1473a) was injected by the Ma speaker after the Bi narrator stated that male circumcision was formerly done in large groups.

(1473) a.	à	kɔ̀nì
	3Inan	**be.thus**

‘It was like that.’ (Ma, 2017-10 @ 00:15)

b.	à	kɔ̀ní
	3Inan	be.thus

‘It is/was thus.’ (women, 2017-13 @ 03:48)

The context and form show that this is not the topic marker kɔ̀nì. Instead, the phrase is borrowed from Jula. The full Jula form is à kɔ̀ní lò ‘that is it’ ending in a demonstrative.

19.1.3 jí-má-bè and variants ‘otherwise, …’ as abstract topic shifter

For this phrase and its variants, with textual references, see §16.1.1.5. A literal sense ‘if it isn’t thus’ is discernible, in spite of contraction and a tendency toward full lexicalization.

Discourse-definite bè refers back to preceding discourse. The full phrase jí-má-bè functions to frame the following content as a mild shift from preceding discourse. Depending on context, the phrase can be freely translated as ‘in other words’ (rephrasing what has just been said), or topic-shifting ‘otherwise’, ‘anyway’, ‘meanwhile’, or ‘in other news’. The topic shift is usually not dramatic.

(1474) follows a description of the various foreigner tourists who might be interested in visiting the local grotto in the nearby cliffs. jí-má-bè initiates a refocus on maintaining the cliff area.

(1474)

jí-má-bè,	[dùʔ=	á]	jə̀rɔ̂^{n}=	Ø-mā	mɛ̌^{n}-ʃìʔé,
otherwise,	[cliffs	Dem.InanSg]	Rel	be.Loc	like.this,

é-yùò	mâ	klà-lò	[[dùʔ=	á]	nī]
1Pl	Proh	play.Base	[[cliffs	Dem.InanSg]	Loc]

‘Anyway, those cliffs that are there like that, we mustn’t play in (=be neglectful of) those cliffs.’ (Ji, 2017-11 @ 10:10)

19.1.4 Clause-final mɔ̂→ ‘concerning …’

Topic-marker mɔ̂→ follows an NP or a complete sentence. Unlike the constituent topicalizing markers, this one often comes at the end of a clause that sets up the background for the next clause (statement or question). We gloss it as ‘concerning’. Contextual free translations can be ‘whereas’, ‘considering that’, and the like. Schematic details of the textual examples are in (1475).

(1475) a. clause-final, background for statement

(Ji, 2017-01 @ 02:01)	
(Ji, 2017-01 @ 03:39)	discourse interrupted
(Ji, 2017-04 @ 06:48)	two examples
(Bi, 2017-11 @ 07:07)	

b. clause-final, background for contrasting statement (‘nevertheless’)
(Bi, 2017-08 @ 02:42)
(women, 2017-13 @ 01:30)

c. clause-final, background for question
(Ji, 2017-04 @ 05:14)

d. end of conditional antecedent

(Ji, 2017-09 @ 02:16)	
(Ji, 2017-09 @ 02:20)	
(Ma, 2017-10 @ 02:54)	clause used like conditional antecedent

e. end of relative clause, background for question
(Bi, 2017-08 @ 03:02)
(Ma, 2017-10 @ 01:13 to 01:17)

f. after quotation, background for question
(Bi, 2017-10 @ 01:53)

g. other

(Bi, 2017-10 @ 01:45)	after NP, somewhat broken passage
(Ma, 2017-10 @ 02:16)	after adverbial PP, background for question

An example is (1476).

(1476)

kō	bà	bú	[dè	dámá]	mɔ̂→,	
Infin	if	get.Base	[day	a.few]	**concerning**,	
ò	támá	yē	[Ø	pòʔá=]	ā	
3Pl	Past	IpfvNeg	walk.Ipfv	[Art	the.bush]	Q

‘(If) they (circumcised boys) had a few days (to recover), would they have gone hunting?’ (Ma, 2017-10 @ 02:54)

19.1.5 fə́ráⁿ ‘also, too’

The classic context for a particle with this sense is a parallel construction beginning with a clause containing one NP (X), followed by another clause that is more or less semantically identical except that it has a referentially distinct NP (Y) in the relevant grammatical function. Examples: ‘I gave an apple to X, and I gave one to Y also’; ‘I gave you an apple, and I gave you an orange too’; ‘X got sick yesterday, and so did Y’.

A string of examples of fə́ráⁿ in this function occurs in texts 2018-04, which describes the different crops cultivated locally and indicates how many months each of them takes to ripen (1477).

(1477)

a.	maize	3 months
	peanut	3 months
	red sorghum	3 months
b.	millet	4 months
	cotton	4 months

After maize is discussed, each of peanut and red sorghum is introduced by the formula (1478). The crop name Y is topicalized (without an overt topic marker). It is resumed by discourse-definite bè ‘that one’ plus fə́ráⁿ, constituting the subject of the clause indicating duration.

(1478) [ē Y], [bè fə́rá^{n}] …
[Art Y], [Dem.Def **too**] …
'Y, it too (is …).'

The introduction of millet in (1477b) breaks the sequence since this crop requires four months. It is introduced in the same fashion as (1478) except that fə́rá^{n} is conspicuously absent, showing that the scope of 'too' includes the duration reference ('three months' versus 'four months'). Millet is followed by cotton, also of four months duration, and cotton is again introduced by the full formula (1478) including fə́rá^{n}.

(1479) is an example of the formula (1478).

(1479) [ē gbī^{n}ʔī^{n}], [bè fə́rá^{n}] wō [[Ø fə̂-r=] [ò sá^{n}]]
[Art peanut], [Dem.Def **too**] be [[Art moon-Pl] [Pl three]]
'Peanut(s), that one too is three months.' (Ma, 2018-04 @ 00:09)

In (1479), fə́rá^{n} is inside the clausal subject NP and separate from the preclausal topical NP. However, in other passages fə́rá^{n} itself functions as a topicalizer, shifting from a previous topic NP to a new one. In (1480), fə́rá^{n} marks a topic switch from hare to the young women. It is preceded by hare telling himself 'I must get one of those two young women.'

(1480) [ē lɔ̀ fə́rá^{n}],
[Art young.women **too**],
[ē kɔ̄ jī] [Ø dìɛ́-kě] ʃūʔō =wɔ̀
[Art day Indef] [Art sauce-matter] catch.Pfv 3PlObj
'As for the (two) young women, one day a sauce problem troubled them.'
(Fl, 2017-05 @ 00:52)

Likewise in (1481), where francolin is replaced as topic by hare.

(1481) [[è có] kā= à-ɲī [Ø kɛ̌$^{\bar{n}}$]
[[Art francolin] Infin come.Base-see.Base [Art fellow]
[Ø blí-kɛ́ fə́rā^{n}=] [Ø cò] glō =nì
[Art hare **too**] [Art energy] remove.Pfv 3InanObj
'Francolin came and saw the fellow. Hare for his part had lost the energy (to climb) there.' (Ji, 2017-01 @ 02:45)

In some cases, fə́rá^{n} occurs clause-finally and is not part of a specific NP. A free translation with sentential scope ('moreover', 'furthermore', 'in addition', 'meanwhile') is called for.

(1482) [ē bí-ʃīō], jī́= [Ø bī-dɔ̌ jī] bā à-mà fə́rá^{n},
[Art children], if [Art younger.sib Indef] if be.Loc **too**,
[ē bī-dɔ̌] kō dò =nì [[Ø bí-ʃīō] bàʔà],
[Art younger.sib] Infin say.Pfv 3InanObj [[Art children] Dat],
'The children. If moreover there is any younger brother, the younger brother will say it to the children.' (Ma, 2018-01 @ 01:21)

Pronominal combinations are in (1483). If there is no textual reference, the form was supplied by the Ji speaker. Observe that there is no constraint against the use of third person proclitic forms.

(1483)	1Sg	nó fə́ráⁿ	(Bi, 2017-07 @ 08:56)
	1Pl	ó fə́ráⁿ	(Ji, 2017-01 @ 00:28)
	2Sg	mó fə́ráⁿ	(Bi, 2017-08 @ 10:33)
	2Pl	bùò fə́ráⁿ	Ji
	3AnSg	ɔ̀ⁿ fə́ráⁿ	(Bi, 2017-09 @ 03:27), (Ma, 2018-02 @ 01:21)
	3Pl	ò fə́ráⁿ	Ji
	3Inan	à fə́ráⁿ	(Ji, 2017-11 @ 01:25 & 01:31)
	Dem.Def	bè fə́ráⁿ	(Ma, 2018-05 @ 00:38)
	3AnSg/LogoSg	bó fə́ráⁿ	(Bi, 2017-07 @ 01:45 among others)
	3Pl/LogoPl	bùò fə́ráⁿ	(Ma, 2017-04 @ 04:17)

When fə́ráⁿ means 'moreover' or topicalizes a subject, it scopes over negation. (1484) is from a text strictly about the duties of the chief and the context involves no parallel referent.

(1484)	[ɔ̀ⁿ	fə́ráⁿ]	má	káⁿ	[wō	dò=	[ò	jɔ̄ⁿ-jɔ̀ⁿ]],
	[3AnSg	**also**]	**IpfvNeg**	ought	[Infin	say.Base	[Pl	two-two]],

[ē	màsà-cɛ́]	à=	Ø	kò	[kō	dò	[n	dɛ̀ⁿʔɛ́ⁿ]],
[Art	chief]	3Inan	Ipfv	be.good.Ipfv	[Infin	say.Base	[Sg	one]],

[è	fɛ́]	[n	dɛ̀ⁿʔɛ́ⁿ]
[Art	talk(n)]	[Sg	one]

'He (=chief) furthermore mustn't speak double-talk. It is good that the chief speak one (language), with one (=a single) language.' (Ma, 2018-02 @ 01:20)

We have one textual example of fə́ráⁿ followed by =rɛ̄ 'even'. The narrator has just stated that humans could not see the places where invisible djinns were drawing water. The listener then exclaims (1485).

(1485)	ā	bùʔɔ̀	fə́ráⁿ	=rɛ̄
	3Inan	loam	**too**	**even**

'Even the earth (was invisible).' (Ji, 2017-04 @ 06:10)

We also have one textual example with focus marker tóʔó followed by fə́ráⁿ. A mother and her daughter whom she abandoned long ago have finally reunited.

(1486) é! [nó^{n} nī^{n}], [[mó^{n} tóʔó] wō kǎ^{n} tē]
ah! [1Sg mother], [[2Sg Foc] be Dem.AnSg Q]
dè ɔ̄^{n} dè [bó =à],
Quot 3AnSg say.Pfv [LogoSg it.is],
áywà [nó^{n} nóʔó fɔ̄rá^{n}] wō kǎ^{n},
well [1Sg **Foc** **too**] be Dem.AnSg,
mó nà wé [nó^{n} jɔ̀rɔ́^{n}]
2Sg Past abandon.Base [1Sg Rel]
"Oh! My mother, is that really you?"
"It's me!"
"Well, this is <u>me</u> [focus] likewise! Me who(m) you abandoned."
(Bi, 2017-07 @ 08:44 to 08:47)

Here fɔ̄rá^{n} is motivated by the parallelism between the two reciprocating 'it's me' phrases, which confirm their kin relationship.

19.1.6 Postnominal ɛ̀rɛ̄ ~ ə̀rɛ̄ or =rɛ̄ 'even' or emphatic

ɛ̀rɛ̄ ~ ə̀rɛ̄ or slightly truncated =rɛ̄, from Jula yɛ̀rɛ́, is a common 'even X' particle added to subject NPs. It becomes =rɛ̀ by regular tone sandhi before an H-tone. Our Bi speaker sometimes pronounces it as bisyllabic ɛ̀rɛ̄ (2017-09 @ 05:40 & 08:24, 2017-10 @ 03:04). Tap r normally cannot begin a word, suggesting that the usual form =rɛ̄ is phonologically an enclitic. =rɛ̄ competes with the more emphatic phrase-initial 'even' morpheme álè, another borrowing but one that precedes its constituent and can also mean 'all the way to' or 'even if' (§19.1.7 below, §16.2.1).

We have not heard =rɛ̄ as #=dɛ̄ with d instead of r. This indicates that it is not morphemically related to the clause-final emphatic enclitic =dɛ̄ʔ (§19.4.1), even though some speakers regularly pronounce the latter as =rɛ̄ʔ with tap r after a vowel.

Elicited examples of =rɛ̄ are in (1487).

(1487) a. [ná-bí =rɛ̄] nà klè-pɔ̄^{n} =nì
[child **even**] Fut do.Base-be.able.Base 3InanObj
'Even a child can do it.' (Ji)

b. [mó =rɛ̄] nà klè-pɔ̄^{n} =nì
[2Sg **even**] Fut do.Base-be.able.Base 3InanObj
'Even you can do it.' (Ji)

The background to (1487a-b) is that some people can do it, and that even others who might not be expected to are also able to do it. Hence the free translations with 'even' (Fr *même* as in *même un enfant peut le faire*). Textual occurrences of =rɛ̄ often do not follow this script, though we normalize the interlinear as 'even'. In most cases it is a general emphatic, often in clauses that introduce a highlighted event.

(1488) a. [ē tə̀rà^n-wò-ní =rɛ̀] ní-mā [à nī]
[Art rest(v).Base-VblN **even**] not.be.Loc [3Inan Loc]
‘There was no rest therein!’ (Ma, 2017-04 @ 01:13)

b. [nó^n dɛ̀] [ò bíɛ́ =r=] à-mā^n [[ē kpàʔà-ń] nī]
[1Sg say.Pfv] [3Pl all **even**] be.Loc [[Art be.poor-VblN] Loc]
‘I said, everyone was in poverty.’ (Bi, 2017-08 @ 03:44)

c. [nó fɛ̄-nī =rɛ̀] ká à-mā [nàsə̀rá-kɛ̀^{n} kǎ^n]
[1Sg greet-VblN **even**] Past be.Loc [white.person-male Dem.AnSg]
‘My salute was (also) to this white man.’ (Fl, 2017-11 @ 11:09)

In some passages, the NP with =rɛ̄ is topical, either being set off prosodically or having topic marker bó preceding =rɛ̄.

(1489) a. é!, [ē kèʔè-ní bó =rɛ̄] dārē-dārā
oh!, [Art ruin(v)-VblN **Top** **even**] abound.Pfv
‘Oh! The damage [topic] has become great.’ (Bi, 2017-09 @ 05:40)

b. dè [kɛ̀^{n} yá bó =rɛ̄]
Quot [fellow Dem.InanSg **Top** **even**]
kō [[Ø ʃìʔɛ́-bə́rá] nī] [[tɔ̀ʔ= á] nī],
be [[Art what?-work(n)] Loc] [[place Dem.InanSg] Loc],
‘(thought:) “this fellow [topic] is engaged in what (sort of) activity here?” ’
(Ji, 2017-01 @ 02:43)

c. dè→, ē fə̀-rɛ́ =rɛ̄, [ē klɔ̀ʔó jī] gò yá
Quot, Art wrap(n)-Pl **even**, [Art road Indef] be Dem.InanSg
‘(Hare) said, “(as for) the wraps (garments), here’s a road.’
(Bi, 2017-08 @ 05:49)

Negation combines with =rɛ̄ in an elicited example (1490). Here the semantic focus is on the verb ‘greet’ or possibly the VP ‘greet me’. Negation scopes over ‘even’. Compare (1488a) above.

(1490) [zàkí bó =rà=] á fɛ̀ nó =ʔ
[Z Top **even**] **PfvNeg** greet.Base 1Sg Neg
‘Zaki didn’t even greet me.’ (Ji)

19.1.7 Clause- or phrase-initial álè ‘even …’

Clause-initial álè is an emphatic ‘even’ marker, preposed to and scoping over either a constituent or a clause. With clausal scope it can also occur in ‘even if’ conditional antecedents (§16.2.1).

This is a regional form occurring in several variants (hál, hálì, álì, álè, haɗɗe) with senses like emphatic ‘even’ and spatiotemporal ‘until, up to, all the way to’ across much of Islam-influence West Africa. It arguably descends from Arabic *ħattaa*. In Tiefo-D it is not usual in spatiotemporal senses, for which alternative phrasings are in use (§8.3.10.1).

álè occurred in elicited sentences with ‘even’ (Fr *même*), where it competes with enclitic =rɛ̄ (preceding section). The elicitation frame favored this reading, focusing on the immediately following NP. However, the examples elicited can also be ‘even if’ conditional antecedents. Positive and negative elicited examples of álè are in (1491).

(1491) a. álè [Ø bí-siɔ̄^{n}] nā klè-pɔ̄^{n} =nì
even [Art child] Fut do.Base-be.able.Base 3InanObj
‘Even a child can do it.’ or ‘Even if a child can do it, …’ (Ji)

b. álè zàkì á bà =ʔ
even Z **PfvNeg** come.Base Neg
‘Even Zaki didn’t come.’ or ‘Even if Zaki didn’t come, …’ (Ji)

In the texts, excluding ‘even if’ conditional antecedents, álè occurs mainly in phrases indicating extended temporal continuity all the way to the present or some other endpoint (1492).

(1492) a. álè kú^{n}ʔú^{n} ‘even today’ (Bi, 2017-07 @ 00:32)
(Ji, 2017-11 @ 00:02)

b. álè bə̀ré ‘even now(adays)’ (Bi, 2017-08 @ 08:47)
(Ji, 2017-11 @ 11:16)
(women, 2017-12 @ 01:32)

c. álè bé variant of (b) (Fl, 2017-08 @ 06:45)

d. álè fɔ́→ ‘all the way until …’ (Fl, 2017-03 @ 01:38)

The remaining textual example has álè at the beginning of a spatial NP in the form of a relative construction. The exact sense of álè in discourse context is unclear here because the sentence was broken off after this NP.

(1493) *donc,* álè bùò lè [tɔ̀ʔ= á jə̀rɔ́^{n}] —
so, **even** LogoPl show.Pfv [place Dem.InanSg Rel] —
‘So, ‘(they said:) “even that place which we showed (you)” ’
(Ji, 2017-11 @ 04:27)

19.1.8 Quantifier bíɛ́(ʔ) ‘all’ as emphatic ‘even …’

In the elicited example (1494), the universal quantifier occurs in a clause-final constituent. Since ‘all tomorrows’ makes little sense, the contextual reading is ‘even tomorrow’ (local

French *même demain*). The sentence indicates that the speaker can do it any time, and by implication easily.

(1494)	[mó	nà	klɛ̀-pɔ̄ⁿ	=nĭ=	[Ø	cɔ̀ⁿ	bíɛ́ʔ]
	[2Sg	Fut	do.Base-be.able.Base	3InanObj	[Art	tomorrow	**all**]

‘I can do it even (=as early as) tomorrow.’ (Ji)

19.2 ‘Only’ particles

The dedicated ‘only’ particles are clause-final dә́rɔ́ⁿ and post-NP jɛ̀ʔɛ̀. The difference in position correlates with differences in scope.

19.2.1 Clause-final dә́rɔ́ⁿ ‘only; as soon as’

dә́rɔ́ⁿ is borrowed from Jula dɔ́rɔ́ⁿ. In elicited examples it is sometimes accompanied by a focus marker (1495).

(1495)	a.	zàkí	à	dɛ̄	(tê→)	dә́rɔ́ⁿ		
		Z	Ipfv	sleep.Ipfv	(Foc.Inan)	**only**		

‘Zaki just sleeps (=does nothing but sleep).’ (Ji)

b.	[ē	kɔ̌-jɔ̀ⁿ	dә́rɔ́ⁿ	tê→]	à-mā	[nó	bàʔà]
	[Art	hundred-two	**only**	Foc.Inan]	be	[1Sg	Dat]

‘I have a mere two hundred (=1000 CFA francs).’ (Ji)

There are eight examples in the texts, making this the most common ‘only’ form. In each case, dә́rɔ́ⁿ is clause-final. Our Fl speaker pronounces this as dә́rɔ̄ⁿ(→) with final mid pitch and slight vocalic prolongation. This is an intonational effect, and resembles polar interrogatives with final =ā.

(1496)	Bi	2017-09 @ 02:50
	Fl	2017-03 @ 01:58
		2017-05 @ 02:40
		2017-11 @ 06:10 & 08:29 (doubtful) & 08:40
	Ji	2017-04 @ 03:30
	Ma	2017-02 @ 01:36
		2017-04 @ 04:02

In some, like (1497), dә́rɔ́ⁿ can be freely glossed ‘as soon as’ (1497). This function is fairly typical of ‘only’ particles in the region (at least Mali to Burkina). The effect is that the clause ending in dә́rɔ́ⁿ sets up a following foregrounded clause. This accounts for the intonational modification mentioned above.

(1497) [yúó jərɔ́ⁿ] bà Ø [bá= à bē]
[person Rel] if say.Pfv [LogoSg Ipfv come.Ipfv]
[kō yíʔ= [[ā tɔ̀ʔɔ̀] ǹ] dərɔ̄ⁿ, …
[Infin go.Base [[3Inan place] Loc] **only**, …
'Any person who decides to come, as soon as he/she goes to that place, …'
(Fl, 2017-11 @ 08:40)

In (1498), however, the combination of dərɔ́ⁿ with a focus marker produces the sense 'exclusively, nothing but'.

(1498) ɔ̀ kō [[Ø kē-sùⁿʔɔ̀ⁿ té] ǹ] dərɔ́ⁿ
3Pl be [[Art work(n) **Foc.Inan**] Loc] **only**
'They were at <u>work</u> [focus] only!' (Ji, 2017-04 @ 03:30)

19.2.2 Postnominal jɛ̀ʔɛ̀ ~ jìʔɛ̀ 'only'

jɛ̀ʔɛ̀ (Ji) or jìɛ̀ʔɛ̀ (Fl) comes at the end of an NP in the sense 'only'. Elicited examples are in (1499). jɛ̀ʔɛ̀ may combine with a focus marker in either order (1499b-c). Singular human NPs or pronouns may combine it with nā-dɔ̀ⁿʔɔ́ⁿ 'one person' (1499b). The noun with jɛ̀ʔɛ̀ may be the complement of a following postposition (1499d).

(1499) a. [ē kɔ̌-jɔ̄ⁿ jɛ̀ʔɛ̀] à-mà [nó bàʔà]
[Art hundred-two **only**] be [1Sg Dat]
'I have only two hundred (=1000 CFA francs).' (Ji)

b. [nó nā-dɔ̀ⁿʔɔ́ⁿ jɛ̀ʔɛ̀ tóʔó] à yíʔí
[1Sg **person-one** **only** **Foc**] Ipfv go.Ipfv
'It's <u>only me</u> [focus] who is going.' (Ji)

c. [bùò tə́-ró jɛ̀ʔɛ̀] à yíʔí
[2Pl **Foc-AnPl** **only**] Ipfv go.Ipfv
'It's <u>only you-Pl</u> [focus] who are going.' (Ji)

d. zàkì má ʃīⁿ [Ø kē-sùⁿʔɔ̀ⁿ],
Z IpfvNeg work.Ipfv [Art work(n)],
ɔ̀ⁿ= Ø pīⁿ [[Ø dɔ̌ jɛ̀ʔɛ̀] nī]
3AnSg Ipfv remain.Ipfv [[Art sleep(n) **only**] Loc]
'Zaki doesn't work, he just sleeps (all the time).' (Ji)

There is one textual example. The listener (Ji) interjects a comment into Bi's narrative, in the form of an NP in isolation (1500).

(1500) Bi: [[[mó^n ú^{n}ʔú^n bíɛ́ dé] klè] ʃɪ̂ɲá] nī→]
[[[2Sg head all however] be.done.Pfv] situation] Loc]
Ji: [ē ʃɪ̀^{n}ʔɪ́^{n}] jɛ̀ʔɛ̀
[Art tree] **only**
Bi: '(she said:) "But the way your whole head (is)!"
Ji: 'Nothing but tree (branches)!' (Ji/Bi, 2017-07 @ 07:40)

An apparently related form jɛ̀ʔɛ̀-có means 'identical, the same one', when added to the numeral 'one' (1501).

(1501) jà→ [bó tóʔó] [[n dɛ̀^{n}ʔɛ́^{n}] jɛ̀ʔɛ̀-có] =à
lo! [3AnSg Foc] [[Sg one] **identical**] it.is
'In fact, it is (=was) that very same one.' (Bi, 2017-09 @ 01:04)

19.2.3 Forms of the numeral 'one' as 'only, sole, unique'

The forms of the numeral 'one' are in (1502). n in n dɛ̀^{n}ʔɛ́^{n} behaves like a specialized pre-numeral singular marker, parallel to plural ò before several nonsingular numerals. Postpausally it is L-toned, otherwise it picks up its tone from the preceding syllable. Here we omit minor variants and exclude jíɛ́-nì, which is limited to the counting sequence. Details are in §4.6.1.1.

(1502)

n dɛ̀^{n}ʔɛ́^{n}	nonhuman, or as modifier after any noun
nā-dɔ̀^{n}ʔɔ́^{n}	'one person, someone' (without a separate noun)

In the preceding section we showed that jɛ̀ʔɛ̀ 'only' and especially its derivative jɛ̀ʔɛ̀-có have an affinity for the numeral 'one'.

In texts, we observe that nā-dɔ̀^{n}ʔɔ́^{n} can mean 'only, exclusively' even when added to a nonhuman noun with a nonsingular numeral.

(1503) [ē tɔ̀ʔɔ̀] pìɛ̀^{n}, [[ē gbl=] [ò sá^n]] nā-dɔ̀ʔɔ́^{n}
[Art place] remain.Pfv, [[Art ridge] [Pl three] **only**
'The place remained, with only three rows (of crops) left (to cultivate).'
(Fl, 2017-03 @ 02:12)

This is likely the source of Bi dialect nà^{n}ʔà^n in the same function. This form does not occur as the numeral 'one' or as the NP 'one person, someone' in any dialect. Both nà^{n}ʔà^n and nā^n-dɔ̀^{n}ʔɔ́^{n} occur in (1504).

(1504) mā^n nè— mâ^n pē^n nà^{n}ʔà^n
Proh say.Base— Proh remain.Base **only**
[[bè nā^n-dɔ̀^{n}ʔɔ́^{n}] nī]
[[Dem.Def **only**] Loc]
'You-Sg mustn't say—, you mustn't just stay (focused) on that only.'
(Bi, 2017-06 @ 01:41)

19.2.4 Alternative two-clause ‘only X’ construction (‘if it isn’t X’)

A more complex phrasing involves two clauses, one negative and the other a kind of negative conditional ‘if it isn’t X’, i.e. ‘unless it is X’ (1505). jí ‘if’ or variant já can be used.

(1505) [ɔ̀ⁿ má fā [ē jī] =ʔ]
[3AnSg IpfvNeg seek.Ipfv [Art something Neg]
[jā̂= [Ø tìòʔò] má glò]
[**if** [Art honey] **IpfvNeg** **it.is**]
‘He/She doesn’t want anything unless it’s (“if it’s not”) honey.’ (Fl)

19.3 Preclausal and subject-final discourse markers

19.3.1 *bon,* ... ‘Well, …’

Fr *bon* is common as a filler or mild scene shifter. It appears before a new clause and is often set off prosodically. The first example in the texts, among many, is 2017-01 @ 02:35.

19.3.2 *donc,* ... ‘Well, …’

Fr *donc* is roughly interchangeable with *bon* as a filler or mild scene shifter. The first of many textual occurrences is 2017-01 @ 01:14.

19.3.3 áywà, … ‘Well, …’

áywà is from Arabic but is widely found in West African languages. It has the same functions as *bon* and *donc*. It is the form of choice for our Bi speaker, the only Muslim among our key speakers. For example, it occurs more than a dozen times just in text 2017-07 of which he is the narrator. Our Fl and Ma speakers did not use it. For Ji we can cite 2017-01 @ 00:53).

19.3.4 hàyà, … ‘Well, …’

This is another filler and mild scene shifter that is widespread in West Africa. We count six occurrences in our texts, of which four are from our Bi speaker, along with one each for Ji and Fl.

(1506) Ji, 2017-04 @ 04:02
Fl, 2017-05 @ 02:34
Bi, 2017-07 @ 03:59
2017-09 @ 04:41 & 05:08
2017-10 @ 02:38

19.3.5 ɔ̀^{n}hɔ́^{n}! ‘uh-huh (yes!)’ and ɔ́^{n}ʔɔ̀^{n}! ‘unh-unh (no!)’

These ubiquitous paralinguistic utterances occur as one-word ‘yes’ and ‘no’ responses. Segmental transcription is unreliable, the key differences being medial aspiration (ɔ̀^{n}hɔ́^{n}!, mhm!) versus medial glottal stop (ɔ́^{n}ʔɔ̀^{n}!), and LH versus HL tone (or pitch pattern).

Textual examples of positive ɔ̀^{n}hɔ́^{n} include (Ji, 2017-01 @ 01:50) and (Ma, 2017-05 @ 00:36).

Negative “unh-unh” ranges from approximately ḿʔm̀ (with lips closed) to ńʔǹ, ɔ́^{n}ʔɔ̀^{n} and á^{n}ʔà^{n}. Examples include (Ji, 2017-04 @ 05:25) and (Bi, 2017-08 @ 02:46 & 07:02 & 10:31).

19.3.6 *mais* ‘but’

Fench *mais* is a clause-initial ‘but’ marker, as in many languages of the zone. We count 18 examples in the texts, including Ma (2017-02 @ 01:12); Ji (2017-04 @ 02:11); and Bi (2017-07 @ 02:23).

19.3.7 Preclausal jǎ→ ‘lo!’

This particle, also found in other languages of the region, precedes a high-profile climactic clause within a narrative segment. (1507a) is a conditional consequent. (1507b) is a comment interjected by the addressee during a tale.

(1507) a.	jǎ→	[è	ń	jī]	fìè	[[mó	ānàʔà]	nī]
	lo!	[Art	person	Indef]	pass.Pfv	[[2Sg	face]	Loc]

‘Lo, someone (else) will go ahead of you.’ (Ji, 2017-01 @ 03:07)

b.	é!,	jǎ→	ò	ká	wō	[[[ò	dígə̀-rɔ̀]	sɛ̀gɛ́]	nī]	=dɛ̄ʔ
	oh!,	**lo!**	3Pl	Past	be	[[[PlRefl	Recip]	weary(v).Prog]	Prog]	Emph

‘Oh! Lo, they were wearing each other out!’ (Ma, 2017-04 @ 02:40)

jǎ→ is much more dramatic than jí, which can occur in narratives to highlight a clause as the local climax of a series of events (§16.1.1.5).

Other textual examples of jǎ→ are listed in (1508).

(1508)	Bi	2017-07 @ 04:39
		2017-08 @ 08:31
		2017-09 @ 00:40 & 01:04
		2017-10 @ 04:06 & 04:14
	Fl	2017-11 @ 02:31 & 05:08 & 10:29
	Ji	2017-01 @ 02:37 & 03:50 & 04:05 & 04:07
		2017-04 @ 03:08 & 03:32 & 03:50
		2017-08 @ 05:19 & 08:35
		2017-09 @ 06:21

Ma	2017-02 @ 00:50 2017-04 @ 04:02

19.3.8 Subject-final dé ~ dó 'however'

Particle dé ~ dó, from Jula, has a mildly adversative sense, and can often be translated with 'however', 'nevertheless', or 'and yet'. Both dé and dó are common. These forms merge when contracted with a vocalic inflectional particles (imperfective dá= à, perfective negative dá= á). They occur at the end of subjetct NPs, including pronouns.

The adversative element can involve two clauses in a single speaker's narrative, as in (1509). Other good examples of this are (Ji & Bi, 2017-07 @ 00:12) with dé and (2017-08 @ 04:21) with an indeterminate contracted variant.

(1509)

dè	bùò	dè	[(ò)	má^{n}	cṵ̀ì],
Quot	3Pl	say.Pfv	[3Pl	IpfvNeg	be.killed.Ipfv],

[ò	dó]	wō	[kèʔé	nī]
[3Pl	**however**]	be	[ruin(v).Prog	Prog]

'They (=authorities) say, they (=elephants) aren't (=cannot be) killed. And yet they are wreaking havoc.' (Ji, 2017-09 @ 03:01)

Or it can be part of an exchange with an interlocutor, as in (1510). See also (2017-07 @ 01:06).

(1510) interlocutor:

àá^{n}	*wō*	*[Ø*	*dərì^{n}ʔí^{n}]*
no!	sing.Base	[Art	song]

'No! Sing the song!'

narrator:

[nó	dó]	bà	wō	[Ø	dərì^{n}ʔí^{n}]
[1Sg	**however**]	if	sing.Base	[Art	song]

[à	bíɛ́	dó]	kō	blɛ̀jə̀-rɛ̀-ń	dò
[3Inan	all	**however**]	be	Jula.hood	Emph

'But if I sing the song(s), all of it is in Jula!'
(women, 2017-12 @ 03:03)

In transcribing texts, two problems arise in identifying this morpheme, especially the variant dó. One is that dó is also the default inanimate possessum, which can occur at the end of subject (or non-subject) NPs. The other, less serious problem is that dè 'said' can combine with 1Pl ó as d= ó. We do our best, using context, to determine which of these phonologically similar elements is present in any given passage.

19.4 Clause-final elements

For clause-final interrogative particles, see §13.2.1 and §13.2.2.1-2. For clause-final lò 'after', see also §15.4.3.1. For clause-final glottal =ʔ, chiefly in negative clauses, see §10.2.5.1. For wà→ in disjunctive clauses, see §7.2.1. For clause-final =ò in willy-nilly conditional antecedents, see §16.3.

Discourse-definite manner adverbs such as bè-kà-tó and (Bi dialect) bè-yá-ró 'like that, thus' often occur clause-finally in contexts where they may be disregarded in free translations.

Other clause-final particles, mostly emphatic, are presented below.

19.4.1 Clause-final emphatic =dɛ̄ʔ ~ =rɛ̄ʔ

This is the local version of a regionally widespread clause-final emphatic particle, e.g. Jula dɛ́. It is even used occasionally in local French. In Tiefo-D the variant =rɛ̄ʔ, with a rhotic that does not occur-word-initially, shows that the morpheme can be a phonological enclitic. We transcribe it as an enclitic even in the variant =dɛ̄ʔ. After a nasalized vowel it sometimes fully nasalizes to =nɛ̄ʔ in Bi dialect (e.g., 2017-07 @ 04:53).

This enclitic is almost always prepausal (clause-final) and pronounced forcefully. Its basic tone is mid, but because of its amplitude speakers often anticipatorily reduce the amplitude and pitch of a preceding word. The consequence is that an M or LH-toned morpheme sometimes sounds almost L-toned before =dɛ̄ʔ. This initially led us to think that the enclitic was H-toned =dɛ́ʔ.

This is a very common emphatic and there are dozens of textual examples. It can rhetorically reinforce a statement, in the same way as Eng *sure* in *it sure is cold today!* An elicited example is (1511).

(1511)	[ē	tɔ̀ʔɔ̀]	à	óʔó	=dɛ̄ʔ
	[Art	place]	Ipfv	become.warm.Ipfv	**Emph**

'It sure is hot out!' (temperature) (Ji)

Likewise, it can strongly confirm an interlocutor's statement, as with *sure* in Eng *it sure is*! in response to the interlocutor's *it's hot out today*. Scalar predicates such as adjectival verbs lend themselves well to =dɛ̄ʔ (1512a-b).

(1512) a.	[ē	ʃî^{n}ʔí^{n}-klē^{n}ʔɛ̄^{n}-kà]	nà	gbə̀rɛ̀yá	=dɛ̄ʔ
	[Art	tree-ascend.Pfv-manner]	Fut	be.difficult	**Emph**

'That way of climbing the tree sure will be difficult!' (Ma, 2017-01 @ 02:05)

b.	dɛ̆=	[Ø	sə̀rɔ̀ʔ=	á	bè]	
	Quot	[Art	baobab	Dem.InanSg	Top.Inan]	
	dà=	[à	lɔ́^{n}]	à	dá^{n}	=nɛ̄ʔ
	Quot	[3Inan	shade]	Ipfv	be.pleasant.Ipfv	**Emph**

'(said:) "This baobab, your shade is really nice!" ' (Bi, 2017-08 @ 00:49)

Examples not involving scalar qualities are in (1513). An element of narrative surprise is present in the first two examples.

(1513) a.	*mais*	ɔ̀	má^{n}	sūʔū	[Ø	jī]	[ɔ̀^{n}	í-yùò]	=dɛ̄ʔ
	but	3Pl	IpfvNeg	give.Ipfv	[Art	something]	[Dat	1Pl]	**Emph**

'But they (=chief et al.) didn't give us anything!' (Bi, 2017-10 @ 03:31)

b. ō dè má^n wō= [Ø jɔ̄^{n}] =dɛ̄ʔ
3Pl IpfvPast IpfvNeg be [Pl two] **Emph**
'They weren't two (different ones) after all!' (Bi, 2017-09 @ 01:07)

c. [ē dəràʔá bè] kpà [bè tɔ̀ʔɔ̀] =dɛ̄ʔ
[Art tale Top.Inan] finish.Pfv [Dem.Def place] **Emph**
'The tale ends in that place.' (women, 2017-12 @ 02:58)

=dɛ̄ʔ can also have admonitive (warning) function, like English unstressed and low-pitched *now* in *watch out for potholes now*! This function is common with imperatives and prohibitives, as well as with statements. (1514) has elicited examples.

(1514) a. mâ glú =dɛ̄ʔ
Proh exit.Base **Emph**
'Don't-2Sg go out, now!' (Ji)

b. [ē blō] nà wó =dɛ̄ʔ
[Art rain(n)] Fut rain.fall.Base **Emph**
'It's going to rain, mind you!' (Ji)

c. mâ bè =dɛ̄ʔ
Proh be.tired.Base **Emph**
'Don't get tired!' (= 'Don't trouble yourself!)' (Ji)

Textual examples along these lines are in (1515).

(1515) a. ò [tó-jūʔɔ̄]-gɔ̄rɛ̄^{n} =nì =dɛ̄ʔ
Imprt.Pl [listen.Base]-do.well.Base 3InanObj **Emph**
'Listen-2Pl well now!' (Ji, 2017-01 @ 00:53)

b. jí bè bà á klè,
if Dem.Def if PfvNeg be.done.Base,
[è blí-kɛ́ kǎ^n] =à^n wí =rɛ̄ʔ
[Art hare Dem.AnSg] Ipfv die.Ipfv **Emph**
'If that isn't done, this hare surely dies!' (Fl, 2017-05 @ 03:09)

=dɛ̄ʔ is occasionally nonfinal, in which case the glottal stop is absent. This is the general situation for otherwise clause-final glottal stop, as with negative =ʔ and bíɛ́ʔ 'all' (§3.2.1.9). We must be careful with morphemic identification here, since =rɛ̄ (variant ɛ̀rɛ̄) 'even' occurs at the end of NPs and has some emphatic force. Our criteria for distinguishing =dɛ̄ʔ from the 'even' enclitic is that =dɛ̄ʔ follows the verb or other predicate.

The examples of this type that appear to be systematic are those with =dɛ̄ followed by the interrogative enclitic, resulting in =dɛ̄=ɛ̄ with a partial pitch drop at the boundary between the two (1516a). An apparent textual example not of this type is (1516b), with L-toned =dɛ̀ (before H-tone).

(1516) a.	[bùò	kē-sùⁿʔɔ̀ⁿ	á	jərɔ́ⁿ]	bùò	sùɔ̀ⁿ	=rɛ̄	=ɛ̄,
	[LogoPl	work(n)	Dem.InanSg	Rel]	LogoPl	work(v).Pfv	**Emph**	**Q**,

‘(said:) “This work of ours that we did?” ’ (hesitation omitted)
(Ji, 2017-04 @ 05:25)

b.	[ɔ̄ⁿ	blè	=rɛ̀]	fɔ́	k-ā̀—
	[3AnSg	get.tired.Pfv	**Emph**]	until	Infin-Ipfv—

‘He sure was tired, to the point (extent) that …’ (Ji, 2017-01 @ 02:25)

19.4.2 Clause-final emphatic lò ~ dò ~ rò and lè ~ rè

Almost as common in the texts as =dɛ̄ʔ (and variants) is the set of clause-final emphatics in (1517). Since there are other d/r alternations in similar positions (e.g. emphatic =dɛ̄ʔ ~ =rɛ̄ʔ) and since nasal variants nò and nè occur only after nasalized vowels and only in Bi dialect, we group all of the known forms into just two sets, each with consonantal variants.

(1517) a. with o
lò
dò ~ rò ~ nò

b. with e
lè
rè ~ nè

We note that Jula has similar clause-final emphatic particles.

Let us refer to the forms in (1517) as “Lv/Dv,” without ruling out the possibility that there are two, three, or even four distinct morphemes. The main difference in usage that we note between Lv/Dv collectively and their main competitor =dɛ̄ʔ is that the latter expresses a more complex pragmatic interaction between speaker and addressee-interlocutor. First, =dɛ̄ʔ but not Lv/Dv commonly functions to confirm and reinforce what the interlocutor has just said. Second, =dɛ̄ʔ but not Lv/Dv commonly has admonitive function and therefore regularly co-occurs with imperatives and prohibitives. As a result, Lv/Dv is basically a pure indicative emphatic without significant pragmatic complications.

The textual examples of each variant of Lv/Dv are listed in (1518).

(1518) a.	lò	Bi	2017-07 @ 07:02
			2017-09 @ 01:33
		Ji	2017-04 @ 06:52
			2017-09 @ 06:06 & 07:00
		Fl	2017-05 @ 00:33
b.	dò	Bi	2017-07 @ 00:32 & 06:43
			2017-08 @ 06:20 & 09:41 & 10:33
			2017-09 @ 05:40

	rò	Bi	2017-09 @ 01:18
			2017-10 @ 04:14
	nò	Bi	2017-07 @ 09:01
c.	lè	Bi	2017-07 @ 08:30
			2017-08 @ 06:52 & 07:03
		Fl	2017-11 @ 02:48 & 04:22
d.	rè	Ji	2017-09 @ 04:58
	nè	Bi	2017-10 @ 01:41 & 02:10

The fact that our Bi speaker makes use of all of (1518a-d) suggests the possibility that more than one morpheme may be involved. It is also not clear whether lò in this set is the same morpheme as lò 'after' (§15.3.5.6).

19.4.3 Final -ró in (bè-)yá-ró 'thus'

We mention bè-yá-ró and its shortened form yá-ró, both meaning 'thus' (referring back to what has just been described) and both attested only from our Bi speaker, to emphasize that this -ró is distinct from clause-final emphatic rò (previous section). The corresponding forms in other dialects are bè-kà-tó and kà-tó, and the final elements (Bi -ró and elsewhere -tó) are probable reductions of focus marker tóʔó.

19.4.4 Clause-final emphatic =rê→ or tê→

Some cases of phonetic [ɾê→] occur at the end of an NP and can be analysed as inanimate focus marker variant té (§13.1.1) plus the 'it is' enclitic. However, our Bi speaker often produced =rê→ clause-finally (or phrase-finally before a pause). The vowel can be prolonged. For variant tê→ see below. We analyse these as clausal emphatics, similar to those in §19.4.2 above.

In (1519a) =rê→ is added to an infinitival verb. In (1519b) it follows a clause-final NP but does not focalize the NP. Only in (1519c) is there a good possibility of NP focalization. (1519d) is difficult to parse because of a hesitation break.

(1519) a. *comme* bó— bà bá= à lɛ́^{n}
like LogoSg— come.Pfv LogoSg Ipfv stop.Ipfv
[wò fɛ̄-sùʔɔ̀ =rê→]
[Infin greet.Base-give.Base **Emph**]
'(said:) "Like, I have come, I have stop by and say hello." '
(Bi, 2017-08 @ 04:01)

b. ó yīʔē-ʃìʔì [wō jūʔɔ̄ [ɔ̀ⁿ wé] =rê→]
1Pl get.up.Pfv [Infin hear.Base [3AnSg name] **Emph**]
‘We grew up (to adulthood) and only then did we hear its (=elephant’s) name.’
(Bi, 2017-09 @ 00:26)

c. [ò bíɛ́] à yíé [Ø wə̀rɛ̀] =rê→
[3Pl all] Ipfv wear.loincloth.Ipfv [Art leaf.loincloth] **Emph**
‘They (both wore (old-fashioned) women’s loincloths (made of leaves).’
(Bi, 2017-08 @ 00:18)

d. [ē sə̀ròʔò =rê→], ŋ̀ cə̄rɛ̄-kō [mɔ́ⁿ dɔ̌]
[Art baobab **Emph**], (nasal) crush.Pfv-kill.Base [2Sg man]
‘A baobab tree crushed your husband to death.’ (Bi, 2017-08 @ 09:53)

The other examples of =rê→ are from a woman who was born in Bi.

(1520) a. nó ò yíʔí =rê→
1Sg Infin go.Base **Emph**
‘I (will) go.’ (women, 2017-12 @ 01:39)

b. à= Ø jùʔù [bì kɔ̀ =rê→]
3Inan Ipfv be.put.up.on.Base [Dem.Def day Emph]
‘It is put up (on the fire, to brew) that same day.’
(women, 2017-15 @ 00:32)

The other female speaker in the same recordings used tê→ clause-finally in two hortative passages. This is probably the same morpheme as =rê→. She was impatiently encouraging her interlocutor to begin a tale after a long hesitation (stage fright).

(1521) a. *commencez*, kò yíʔí tê→
begin!, Hort go.Base **Emph**
‘Begin (the tale)! Go on!’ (women, 2017-12 @ 01:39)

b. *commencez*, [[[ē yō-[bì-ʃɔ̀ⁿ]] dó] tê→
begin! [[[Art woman-[child]] Poss.Inan] **Emph**
‘Begin! (The tale) of the adolescent girl!’ (women, 2017-12 @ 01:42)

The first woman’s response to the urgeing in (1521a) was (1520a) above, with =rê→. This confirms the suspicion that tê→ and =rê→ are variant dialectal pronunciations.

19.4.5 Clause-final emphatic kɛ̀

There are five examples in our texts of a clause-final particle kɛ̀. For a probably related construction with kɛ̀ added directly to a spatiotemporal adverb (‘today’, ‘now’, ‘here’), see §8.5.3.2.6.

Two of the textual examples are in (1522). In (1522a), the speaker has begun a narrative and interrupts it to impatiently nudge the listener into responding more actively to it. In (1522b), the emphatic element is not readily determinable from the context, but we suggest ‘definitely’ in the free translation.

(1522) a.	[ē	tìplípà^{n}]	=á^{n}	bà	=ʔ,
	[Art	monkey]	PfvNeg	come.Base	=Neg,
	[mó	wò	kà^{n}ʔ-à^{n}-ʃī	=ǹ	kɛ̀
	[2Sg	Hort	reply.Ipfv	3InanObj	**Emph**

‘The monkey did not come. (to interlocutor:) Come on, respond to it!’
(Ma, 2017-02 @ 00:35)

b.	ō	nà^{n}	bà	[gɔ̄=	à-ɲɔ́^{n}	=nì^{n}]	kɛ̀
	3Pl	Fut	come.Base	[Infin	come.Base-look.at.Base	3InanObj]	**Emph**

‘They will definitely come and look at it.’
(Bi, 2017-09 @ 05:32)

In the third example, the Ma interlocutor gives feedback to the Bi narrator, expressing wonder that his interlocutor actually went into an animal burrow (1523). An echo like this expressing surprise at a narrative element could be taken as a kind of polar interrogative calling for confirmation.

(1523) Bi:	nó	wō	dī=	[à=	ānàʔà]
	[1Sg	Infin	enter.Base	[with	face]],

‘I went in with my face (=head-first).’ (Bi, 2017-10 @ 04:06)

Ma:	mó	gɔ̄	dīē	kɛ̀	é!
	2Sg	Infin	enter.Base	**Emph**	oh!

‘You actually went in!’ (Ma, 2017-10 @ 04:07)

In context, (1524) is most likely an emphatic statement. It refers to ancient wall engravings in the nearby grotto.

(1524)	ō	ɲɛ̀ʔɛ̀-ɲɛ̀ʔɛ̀-té	=nì	kɛ̀
	3Pl	Rdp-write.Pfv-put.in.Base	3InanObj	**Emph**

‘They wrote (=engraved) it!’ (Fl, 2017-11 @ 02:01)

In (1525), the speakers (termites) vehemently refuse payment that was offered to them for a major service. The emphatic context is demonstrated by the co-presence of emphatic negative fóỳ (< Jula) strengthening the simple negative ní-mā.

(1525)	é	fóỳ	ní-mā	[à	nī]	kɛ̀
	oh!	**not.at.all**	not.be.Loc	[3Inan	Loc]	**Emph**

‘There’s absolutely no (payment) in (=for) it.’ (Ji, 2017-04 @ 05:30)

19.4.6 Clause-final emphatic kὺé ~ ké

There is one textual occurrence each of kὺé and ké as clause-final emphatics. We take them as variants of a single morpheme. Jula has kòý ~ kóy. Compare the productive kóy in many Malian languages.

(1526) a.	í	d=	[álè	bɔ̀ré]	dě=	[Ø	jī]	à-mā^{n}	kὺé
	oh!	Quot	[even	still]	Quot	[Art	something]	be.Loc	**Emph**

‘ “Oh dear” said (hyena), “there are some (feathers) even now!” ’
(Bi, 2017-08 @ 08:47)

b.	à	má	dìʔɛ̀	ké
	3Inan	IpfvNeg	be.long.Ipfv	**Emph**

‘It (=place) isn’t too far away.’ (Ji, 2017-01 @ 04:09)

ké can be used to make prohibitives (§10.4.1.2.1) emphatic.

19.4.7 Clause-final sā^{n} ‘simultaneously’

We have two textual examples of clause-final sā^{n}. Both are from Bi speakers (male and female). The context is ‘simultaneously’ or ‘more and more’, hence ‘thoroughly’. It is an emphatic of extent rather than of discourse function (surprise, etc.).

(1527) a.	[è	cí-cúó]	k-ā	glú-à-yíʔí	sā^{n}
	[Art	crop]	Infin-Ipfv	exit(v).Ipfv-Ipfv-go.Ipfv	**simultaneously**

‘(The bird’s) crop was sticking out (=swollen) more and more.’
(Bi, 2017-06 @ 01:28)

b.	ó	gò	dâ^{n}=	[Ø	ú^{n}ʔú^{n}]	sā^{n}
	1Pl	Infin	shave.Base	[Art	head]	**simultaneously**

‘We shave its head simultaneously.’ (hesitation omitted)
(women, 2017-19 @ 00:28)

Cf. the elicited example (1463a) for Ji dialect.

This is distinct from sá (unnasalized and H-toned), a common emphatic in Bambara-Jula and other West African languages expressing impatience, especially in imperatives to children when they have to be repeated. It may be from Fr *ça*. It differs in form and discourse function from sā^{n} in (1527).

19.4.8 Clause-final tɔ̀rɛ̀ (hyena speaking)

A hyena called Bouki in local French is a familiar character in tales, often paired with hare or another animal character. In text 2017-08, the narrator (Bi dialect) regularly adds tɔ̀rɛ̀ at the end of Bouki’s utterances as a kind of speaker index. The first example is (1528).

(1528)	ɔ̀ⁿ	wīʔɛ̄-tɔ̄ⁿ	=nì,	dè→	[Ø	sə̀ròʔò],
	3AnSg	shut.Pfv	3InanObj,	Quot	[Art	baobab],
	jí	ɔ̀ⁿ	mà	wɔ̄=	[Ø	[[ná-dì-ɔ̀]-dáʔá]-sə̀ròʔò],
	if	3AnSg	if	be	[Art	[[old.person-Pl]-time]-baobab],
	ɔ̀ⁿ	yíʔí-ʃìʔì	[wā=	à-tə̄rāⁿ		
	3AnSg	get.up.Base	[Infin	come.Base-sit.Base		
	[[bó	úⁿʔúⁿ]	nī]]	tə̀rɛ̀		
	[[3AnSg	head]	Loc]]	**(hyena)**		

‘It closed it up. (Hyena) said, “baobab! If you are a baobab of the ancestors’ time, get up and come sit on top of my head!” ’ (Bi, 2017-08 @ 07:10)

The remaining examples in the same text are at 07:18, 07:46, 07:52, 08:17 (two), 08:38 (two), 08:58, and 09:03.

19.5 Backchannel and uptake checks

Many of our texts are highly interactive, ranging from conversations to narratives with an active listener-respondent. Backchannel responses from the listener to a narrative can be supportive (e.g. ‘that’s right!’) or reactive (‘oh my!’).

19.5.1 Supportive backchannel (wálà→, ā klè kà-tó, cɔ́!)

Supportive backchannel may take the form of nearly inaudible “uh-huh!” forms, which we do not always transcribe. Two elements that occur systematically in supportive function are those in (1529).

(1529)	a.	wálà(→)	‘right!’ (usually prolonged)
	b.	ā klè kà-tó	‘it happened thus’
	c.	cɔ́!	‘exactly!’ (strong confirmation)
	d.	ā kɔ̀nì	‘it’s true’

wálà→ (Fr *voilà!*) is used in all languages in the zone. In addition to routine backchannel in narratives, it can also be used in contexts where an interlocutor has helped a speaker find the *mot juste* or has added a confirming detail to what the speaker has said.

ā klè kà-tó ‘it happened thus’ is very common backchannel for tales and other extended narratives (§8.5.5.2.3). In Bi dialect this is ā klè yá-ró, and there are other variants for the ‘thus’ adverb. The impersonal 3Inan ā may also be replaced by a pronoun referring to the protagonist, e.g. ɔ̄ⁿ klè kā ‘she did that’ (2017-13 @ 00:13).

Since quite often the listener has not previously heard the narrative, and since the narratives may be animal tales that are obviously fanciful, the literal sense ‘it happened thus’ is misleading. The listener may simply be responding to the narrative rather than confirming its truth. One could therefore argue that the phrase should be parsed as a question ‘it (really) happened thus?’ although it has no interrogative intonational or morphological marking. This would move it into the reactive category (see below). On the other hand, in some other contexts ‘it happened thus’ may function as confirmation, for example in descriptions of life during an aging speaker’s childhood. In any event, the phrase is rather conventionalized and we refrain from over-parsing it.

cɔ́! ‘exactly!’ is an exclamation strongly supporting or even praising what the interlocutor has just said. For examples see §8.5.3.2.2.

ā kɔ̀nì ‘it’s true’ is from Jula, cf. §19.1.2.3.2 above. An example is (Ma, 2017-10 @ 00:15).

19.5.2 Reactive backchannel or uptake check (mā-ɲī)

Backchannel expressing surprise or amazement (equivalent to ‘oh my!’ or ‘you don’t say!’) can take the form of an echo clause repeating part of the narrator’s most recent clause, often adding a final polar interrogative enclitic (§13.2.2.1).

Another common reactive phrase is (1530), another partially frozen expression that doesn’t lend itself easily to parsing.

(1530) mā-ɲī

This appears to be based on Ø mà ɲī ‘if you-Sg see/saw’ from /ŋ̀ bà ɲī/ or (for Ji) from /ŋ̀ mà ɲī/. Indeed, narratives are full of similar conditional antecedents with ɲī ‘see (Pfv)’. Either 2Sg (as narrator’s addressee, not as protagonist) or some narrative-internal protagonist is subject. Such phrases are common when the narrator describes a scene, and occasionally a nonvisual situation.

There is a gradation between two poles. Examples in (1531a) are conditionals of the type ‘if X see(s) Y, (then) …’ with bà ~ mà ‘if’ plus ɲī ‘see (Pfv)’, and with a referential subject. Whether the act of seeing is really part of the narrative is variable. The ‘if’ particle remains L-toned in (1531a). Examples in (1531b-e) have fixed mā-ɲī and at best a pro forma 2Sg subject (if we assume that 2Sg subject proclitic ŋ̀ is underlyingly present). Here mā-ɲī is frozen in form, except that the second syllable can drop to L before H-tone. Frozen mā-ɲī can function as simple reactive backchannel from the listener (characteristic of our Ma assistant when he is the listener), or it can be used by the narrator to frame a new event or situation. Such a frame seems to function in part as an uptake check, whereby the narrator checks whether the listener is paying attention and has understood so far. However, no actual response from the listener occurs in our texts. The example in (1531c) is unusual since it is prosodically bounded on both ends, and positioned between two narrative segments. It could be an update check or a simple filler, or both. Finally, the examples in (1531e) are hybrids; they have fixed mā-ɲī like (1531b-d) but appear to function as conditional antecedents with 2Sg subject like (1531a).

(1531) a. true conditionals with bà ɲī ~ mà ɲī

ō mà ɲī	Ji, 2017-11 @ 06:40	3Pl subject
ɔ̄ⁿ mà ɲī	Ji, 2017-11 @ 08:23	3AnSg subject
[ē būⁿʔɔ̄ⁿ] mà ɲī	Ji, 2017-02 @ 01:57	‘a dog’
mó mà ɲī	Ji, 2017-09 @ 06:06	2Sg subject
Ø mā-ɲì (before H)	Bi, 2017-08 @ 01:32	2Sg subject

b. mā-ɲī framing new element in narrative

mā-ɲī	Ma, 2017-02 @ 01:45
"	Ma, 2017-04 @ 02:35
"	Ji, 2017-09 @ 06:47
"	Ji, 2017-11 @ 05:26 & 09:57
mā-ɲī^{n}	Bi, 2017-10 @ 05:14

c. mā-ɲī as narrator's uptake check

mā-ɲī	Ma, 2017-04 @ 02:40 (?)

d. mā-ɲī as backchannel by listener

mā-ɲī	Ma, 2017-01 @ 02:41 & 04:07
"	Ma, 2017-02 @ 01:45
"	Ma, 2017-03 @ 00:47 & 01:38
"	Ma, 2017-05 @ 01:43
"	Fl, 2017-11 @ 05:10

e. mā-ɲī in conditional context

mā-ɲī	Fl, 2017-05 @ 00:29
mā-ɲī^{n}	Bi, 2017-10 @ 06:19

19.6 Greetings

The verb 'greet (someone)' is the invariant transitive fɛ̄, as in ɔ̀^{n} fɛ̄ zàkí 'he/she greeted Zaki'. '(A) greeting' is (ē) fɛ̄-nī, a verbal noun, or in some combinations the noun (è) fé which also means 'speech, language'. An alternative is fɛ̄-sùʔɔ̀-ní 'greeting, giving greetings', a tonally regular verbal noun based on a verb-verb compound with 'greet' followed by 'give'.

Some greeting sequences occur at the beginning of text 2017-01, and in 2017-12 @ 00:26 to 00:43. Most of the greetings and related formulas presented below are from Fl and Ji speakers.

19.6.1 Time-of-day greetings

Time-of-day greetings ("G") and responses ("R") to them are in (1532). Like other greetings they may be preceded by the name of the addressee or other referent. Most of these greetings are followed up by more questions and answers about children and other housemates. The noun fɛ̄-nī 'greeting' sometimes has a tonal variant fɛ̀-ní in the combination fɛ̀-ná= à-mā in some greeting formulae.

(1532) a. 'good morning' and response
G: fɛ́ ʃìʔè (repeated once for plural addressee)
greet get.up
R: èé ʃìʔì→
or: èé ʃì māà→
[cf. yīʔē-ʃìʔì (Pfv) or yíʔí-ʃìʔì (base) 'get up'; 1Pl é ; adverb mā 'there.Def']

or:
G: [ē cùⁿʔùⁿ-[fɛ̏-ná =]] à-mā ([mó/bùò bàʔà])
[Art morning-[greet-VblN]] be.Loc ([2Sg/2Pl Dat])
‘A midday greeting (to you-Sg/you-Pl)’
[cf. fɛ̄-nī ‘greeting (n)’, but here with archaic tones as fɛ̏-ní]
R: ɔ̀ⁿ→, [mó/bùò dəráʔá-yúó] lò
yes [2Sg/2Pl courtyard-people] after
‘Yes. How about your-Sg/-Pl household?’

b. ‘Did you sleep well?’ and response, follow-up to (a)
G: mó yīʔē-ʃȉʔì (mà) glé-glê→
greet get.up.Pfv (there.Def) in.good.health
‘Did you get up (there) in good health?’
R: ɔ̀ⁿ→
yes

c. ‘good day’ (around the middle of the day) and response
G: [ē dìʔè-[fɛ̏-ná =]] à-mā ([mó/bùò bàʔà])
[Art midday-[greet-VblN]] be.Loc ([2Sg/2Pl Dat])
‘A midday greeting (to you-Sg/you-Pl).’
R: ɔ̀ⁿ→, [mó/bùò dərá‍ʔá-yúó] lò
yes [2Sg/2Pl courtyard-people] after
‘Yes. How about your-Sg/-Pl household?’

d. ‘good afternoon’ (2PM to dusk)
G: [ē dɔ̄ʔɔ̄-[fɛ̏-ná =]] à-mā ([mó/bùò bàʔà])
[Art afternoon-[greet-VblN]] be.Loc ([2Sg/2Pl Dat])
‘An afternoon greeting to you-Sg/you-Pl’
R: (as for ‘good day’ above)

e. ‘good evening’ (at night)
G: [blíʔí yūɔ̄]
[night night.fall.Pfv]
‘Night has fallen.’
R: ɔ̀ⁿ→, mó/bùò glō-tɔ̀ʔɔ̀(-yúó) lò
yes, 2Sg/2Pl exit.Pfv-place-(people) after
‘Yes. How about (the people of) where you came from?’

f. ‘good night’ (before retiring)
G: kò dàⁿʔàⁿ blíʔí
Hort be.nice.Base night
‘May the night be nice.’
[< dāⁿʔāⁿ]
R: [ē jʉ̀ʔɛ́] súʔú = nì
[Art God] catch.Base 3InanObj
‘(May) God catch (=grant) it.’

19.6.2 Situation-specific greetings

These greetings are given to people who are involved in a specific activity. The variable is the word for the people in the activity, which can either be a nominal compound ending in -yúó 'people' or a plural agentive ending in -yùò.

(1533) a. to people at work
G: [é fɛ̄-nā =] à-mā [[bùò [kē-sùⁿʔɔ̄ⁿ]-yùò] bàʔ"à]
[1Pl greet-VblN] be.Loc [[2Pl [work(n)]-people] Dat]
'Our greeting to you-Pl workers.'
R: ɔ̀ⁿ→, [é fɛ̄-nī] kò klá [mó/bùò bàʔà]
yes, [Art greet-VblN] Infin return.Base [2Sg/2Pl Dat]
'Yes, our greeting is returned to you-Sg/-Pl.'

b. to people at a well or other water source
G: [é fɛ̄-nā =] à-mā [[bùò ɲū-gbā-yùò] bàʔà]
[1Pl greet-VblN] be.Loc [[2Sg water-draw.Pfv-Agent.Pl] Dat]
'Our greeting to you-Pl water-drawers.'
R: [as for people at work]

c. to farmers
G: [é fɛ̄-nā =] à-mā [[bùò dɛ̀-yúó] bàʔà]
[1Pl greet-VblN] be.Loc [[2Sgfield-people] Dat]
'Our greeting to you-Pl water-drawers.'
R: [as for people at work]

19.6.3 Greetings to departing and returning travelers

A departing long-distance traveler is sent off with the blessing (1534). In the first version of the response, sá-kà 'blessing' is actually the term for 'large vulture'. This is calqued from Jula, where the word for 'blessing' borrowed from Arabic is an accidental homophone of the Jula word for 'large vulture' (dùɣá).

(1534) G: kò dāⁿʔāⁿ [è yíʔé]
Hort make.pleasant.Base [Art trip]
kò fíɛ́ⁿʔɛ́ⁿ [[Ø klòʔó] bàʔà]
Hort make.clear.Base [[Art road] Dat]
kō dīē [kà = á dáⁿ] [[[tə̀rɛ̀ⁿ-tɔ̀ʔ]-à] nī]
Infin enter.Base [?? ?? be.sweet] [[[sit.Pfv-place]-2SgPoss Loc]
'May (God) make your trip pleasant, may (He) clear the way, may (you) pleasantly (=peacefully) enter the place of your staying (=where you are going)!'
R: [ē ɟṵ̀ʔɛ̀] súʔú [mó sá-kà]
[Art God] catch.Base [2Sg blessing]
'May God grant your blessing!'

or: [ē jṳ̀ʔɛ́] súʔú [mó dè-fɛ̀]
[Art God] catch.Base [2Sg talk(n)]
‘May God grant your words (=what you said).’

A returning traveler is welcomed home by (1535).

(1535) G: ǹdé ǹdé ndé
hurray! hurray! hurray!
[ē kàʃí] á bú [Ø jṳ̀ʔɛ́]
[Art thanks(n)] PfvNeg get.Base [Art God]
‘Hurray! Thanks cannot get (=suffice for) God!’
R: [bùò bíɛ́] kò é-glê→
[2Pl all] be in.good.health
‘You are all in good health?’

19.6.4 Condolences

The exchange in (1536) occurs when the greeter presents condolences to the survivors of the deceased. It reflects the association of heat with pain and disease, and of coolness with relief from pain.

(1536) G: [ē jṳ̀ʔɛ́] líⁿ [[Ø tɔ̌] [ɔ̀ⁿ nī]
[Art God] make.cool [Art ground] [3AnSg Loc]
‘May God cool the earth on him/her!’
R: [ē jṳ̀ʔɛ́] súʔú =nì
[Art God] catch.Base 3InanObj
‘(May) God catch (=grant) it.’

19.6.5 Annual wishes

On major holy days or at the end of the year, neighbors greet each other with the wishes in (1537).

(1537) a. G: [ē ʃì sɔ̀ⁿ-sɔ̀ⁿʔɔ̀ⁿ]
[Art life long]
[kà [Ø dɛ́-lɛ̄ⁿʔɛ̄ⁿ]]
[with [Art health]]
[kà [Ø bú kə̀rɛ̀ⁿʔɛ́ⁿ]]
[with [Art money a.lot]]
‘Long life, and (good) health, and lots of money!’

b. G: [ē jṳ̀ʔɛ́] kò sə̄rɔ̄ⁿ [Ø blō kòʔò]
[Art God] Hort take.down.Base [Art rain(n) good]
‘May God bring down some good rain!’

19.6.6 Invitations and thanks

Simple invitations to eat or to enter, addressed to visitors or passers-by, are transparent imperatives in form (1538a-b).

(1538) a. (ò) bà [kò dí]
(PlAddr) come.Base [Infin eat.Base]
'Come eat!' (Fl Ji)

b. (ò) dīē-bà
(PlAddr) enter.Base-come.Base
'Come in!' (Fl Ji)

Elaborate expressions of thanks, accompanied by blessings, take forms like those in (1539).

(1539) a. [nó fɛ́-ná=] à-mā [mó bàʔà]
[1Sg greet-VblN] be.Loc [2Sg Dat]
[mó jɔ̀rɔ́ⁿ] ʃìʔɛ̌= [Ø dī-ɛ̀ʔɛ̀] [nó kò dí]
[2Sg Rel] give.Pfv [Art food] [1Sg Infin eat.Base]
'My greeting (=thanks) to you-Sg, you who gave food for me to eat.'

b. [nó fɛ́-ná=] à-mā [[Ø āⁿ-tɛ̀-wí] bàʔà]
[1Sg greet-VblN] be.Loc [Art hearth-owner] Dat]
'My greeting (=thanks) to the hearth-owner (=the cook).'
[cf. āⁿ-tìʔɛ̀ (Ji), wāⁿ-tìʔɛ̀ (Fl) 'hearth']

c. [ē jɥ̀ʔɛ́ jɔ̀rɔ́ⁿ] ʃìʔɛ̌= [Ø dī-ɛ̀ʔɛ̀]
[Art God Rel] give.Pfv [Art food]
ɔ̀ⁿ kò súʔū= [Ø mìé] [kɔ̀-kɔ̀ sú→]
3AnSg Hort catch.Base [Art 1Pl] [Rdp-day all]
'(And I thank) God who gave the food, may He catch (=grant) us (=our wishes) every day.'

d. [ē jɥ̀ʔɛ́] mâ lĩ̄ⁿ= [Ø āⁿ-tìʔɛ̀]
[Art God] Proh make.cool.Base [Art hearth]
à kò bɔ̀ [kɔ̀-kɔ̀ sú→]
3Inan Hort burn.Base [Rdp-day all]
'May God not (ever) let the hearth cool (from lack of food), may it burn every day.'

Thanks for miscellaneous services or gifts can take a form like (1540).

(1540) [ē jṳ̀ʔɛ́] sə̀rà mó [kō tà^{n}-jùʔɔ̀ mó]
[Art God] pay.Base 2Sg [Infin help.Base 2Sg]
[má à fā [ē ɛ̀ʔɛ́-ɛ̀ʔɛ́ á kòʔó jə̀rɔ́^{n}]
[2Sg Ipfv look.for.Ipfv [Art Rdp-thing Inan good Rel]
[ē jṳ̀ʔɛ́] kò sūʔ= [ɔ̀^{n} mó]
[Art God] Hort give.Base [Dat 2Sg]
kō dī-glò mó [[Ø kě mâ-kə́-ró] nī]
Infin remove.Base 2Sg [[Art matter evil-Pl] Loc]
‘May God pay (==reward) you-Sg, and help you; everything good that you seek, may God give to you, and remove you from anything evil.’ (Ji)
[mâ-kə́-ró is plural of mâ-kúʔó, §4.5.6]

A very simple ‘thank you’ is (1541). Anyone who has read this far deserves it.

(1541) [ē kàʃí] būō bùò
[" "] " mì
[" "] bùò mó
[Art **thanks(n)**] get.Pfv 2Sg(Obj) / 2Pl
‘Thanks has gotten (=come to) you-Sg/you-Pl.’

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Indices

1. morphemes

[the transcriptions below do not include a) automatic tonal modifications of H-toned Cvʔv sequences in Fl and Ma dialects; b) contour tones due to contractions, e.g. kǎ, nō̌, nô ; c) vowel nasalization after nasal consonants (distinctive only for Bi dialect)]

1. grammatical terms.

Abbreviations and symbols

Adj	adjective
Adv	adverb(ial)
An	animate
Art	article
ATR	advanced tongue root
C	consonant (in CvCv, etc.)
CFact	counterfactual (§16.4.2)
Class	classifier
cpd	compound
Dat	dative
Def	definite
Dem	demonstrative
EA	expressive adverbial
Emph	emphatic
Eng	English
ExpPf	experiential perfect
Foc	focus
Fr	French
Fut	future
H	high tone
Habit	habitual (in PastHabit, §10.2.2.3)
Hort	hortative
Imprt	imperative
Inan	inanimate
Indef	indefinite
Ipfv	imperfective
L	low tone
Loc	locative
Logo	logophoric
M	mid tone
N	noun
Neg	negative
Num	numeral
O	object (in “SVO”)
Obj	object
Pfv	perfective stem of verbs
Pl	plural
Poss	possessor (in 2SgPoss), possessum (in Poss.An, Poss.Inan)
PP	adpositional phrase
Ppl	participle
Prsntv	presentative

Prog	progressive
Proh	prohibitive
Q	question
Recip	reciprocal
Refl	reflexive
Rel	relative-clause marker
S	subject (in “SVO”)
Sbjn	subjunctive
Sg	singular
TAMP	tense, aspect, mood, polarity
Top	topic
V	verb (in “SVO”)
v	vowel (in CvCv, etc.)
Vb1	initial verb (in verb-verb compounds)
Vb2	final verb (in verb-verb compounds)
Vb	verb
VblN	verbal noun
W	Winkelmann

symbols

=	clitic boundary or phonological liaison
&	and
#	ungrammatical
*	reconstructed
→	in transcriptions: prolongation

tone diacritics

v́	high tone
v̀	low tone
v̄	mid tone
v̌	rising tone (<LH>)
v̂	falling tone (<HL>)
v᷅	rising tone (<LM>) due to contraction at boundaries
v᷆	falling tone (<ML>) due to contraction at boundaries
v᷇	falling tone (<HM>) due to contraction at boundaries
v᷈	rising-falling tone (<LHL>) due to contraction at boundaries
v᷉	falling-rising tone (<HLH>) due to contraction at boundaries

Appendix: User’s guide to Tiefo-D lexical spreadsheet

The lexicon is in the form of spreadsheets, initially an Excel spreadsheet in xlsx format divided into multiple worksheets: nouns, adjectives, numerals, verbs, other, and places. “Other” includes grammatical morphemes (pronouns, postpositions, inflectional markers, etc.) as well as basic adverbs (especially spatiotemporal and manner). The organization of each worksheet is customized for the relevant stem-class.

Each xlsx worksheet corresponds to a separate csv spreadsheet for permanent archiving.

Noun worksheet

For nouns, from left to right the column have the following headings: code, syll #, shape, tone, cpd, med C, pl, Jinejan, Masaso, Flaso, Biton, Tiefo-D, Ji, Ma, Fl, Bi, English, French, comment, scientific name, basis for ID. The codings in each column can be used to sort the lexicon by any of the semantic, prosodic, tonal, and morphological characters that are coded.

“code” indicates semantic category (for flora-fauna see the following paragraphs): abstr[act], activ[ity], body, celest[ial], constr[uction], ethn[icity], fire, food, garm[ent], impl[ement], kin, liquid, med[ical], money, part plant (i.e. parts of plants), person, place, sense, shape, speech, subst[ance], thing, time, topog[raphy], weather.

Natural species labels in the “code” column are the following, beginning with fa[una] and fl[ora]. Domestic animals (e.g. livestock, donkey, dog) are fa mam dom. Wild fauna are classified as fa bird, fa fish, fa herp[etological], fa ins[ect], fa mam[mal], fa mol[lusc]. Birds, fish, and molluscs are not further subcategorized.

All herps are subgrouped into fa herp (croc[odile]), fa herp (lizard), fa herp (snake), and fa herp (tortoise).

“Insect” is used broadly; some species are further subgrouped as fa ins (ant), fa ins (arth[ropod]), fa ins (bee), fa ins (bug), fa ins (fly), fa ins (grasshopper), fa ins (larva), and fa ins (termite). Others are just fa ins.

Most wild mammals are further subgrouped into fa mam (antelope), fa mam (bat), fa mam (cat), fa mam (mouse), fa mam (primate), fa mam (squirrel). Others that don’t fit into a substantial subgroup are just fa mam.

For flora, cultivated species (e.g. grain crops) are fl cult. All others are just fl.

The next several columns have phonological and morphological information.

“syll #” is the second column from left. indicates syllable number, distinguishing regular syllables (v or Cv) from diphthongal (Cuv, Civ), glottalic (Cvʔv), and rhotic (Cərv), where “v” is any vowel. Codes use are of the type 1, 2, 3 etc. (for simple syllables), 1di (one diphthongal syllable), 1gl (one glottalic sesquisyllable), 1rh (one rhotic sesquisyllable), 1rh/gl (one rhotic and glottalic sesquisyllable), 1el (one Clv syllable), 1el/gl (one Clvʔv sesquisyllable), 2gl (one regular syllable and one glottalic sesquisyllable), 2rh (one regular syllable and one rhotic sesquisyllable), and 2di (one regular and one diphthongal syllable).

For long stems (three or more syllables) we are less precise about glottalic and rhotic. No count is given for composite nouns, which just have "cpd," "rdp," or "cpd rdp" in this column.

"shape" is the canonical shape of uncompounded nouns, e.g. CvCv, Civ, Cuw, Cvʔv, Cərv, CvCvCv. Some short compounds are marked up with hyphens as in Cv-Cv. Most compounds are not marked up in this column. Simple reduplications (labeled "rdp only" in the "cpd" column) are marked up as Cv-Cv, Cv-Cvʔv (or similar), or as "iterative" (fully reduplicative and heavier than Cv-Cv).

"tone" is the tone melody for uncompounded stems (H, L, M, and combinations such as LH and ML). For compounds the tone patterns of each part are separated by hyphens, e.g. L-M-L.

The **"cpd"** column indicates compound and/or reduplication status and type. Forms whose only internal structure is reduplication (or full-stem iteration) are coded as "rdp only." Ordinary noun-noun compounds are indicated by x, xx, or xxx to indicate how many non-reduplicative hyphens there are. This may be followed by "rdp" after a comma if one or two of the compounding elements is/are reduplicative. Other pieces of information added after commas include abstr[active], agent[ive] (V-nɔ̀ or N-V-nɔ̀), bahuv[rihi], dimin[utive], n+adj (noun plus adjective, either modifying or compounded), n+num (noun plus numeral), ppl (animate participle -kàʔà), phrase (including a predicate), sex (male or female), V-shift (reduplicative but with a shift in vowels), V-N (verb-noun), N-V-N (noun-verb-noun), VblN (verbal noun with or without incorporated object), and a few common compound finals (animal, bag, child, grub, house, manner, owner, place, stick, thing, time, tree). "final" and "initial" in this column means that the form occurs only as compound final or initial.

The "**r/ʔ**" column indicates selected consonants in final sesquisyllables: ʔ, r, or both ("r, ʔ"). For compounds, only the final element is considered.

The "**pl**" column indicates the form(s) of plural of the noun, if any are attested. The codings are: a/ɔ (final a→ɔ), ɔ/o (final unnasalized ɔ→o), u/i (final u→i), denas[alization], NI (-ní suffix), O (suffix -o ~ -ɔ), R (rhotic plural), and R-NI (rhotic plus -ní suffix), suppl[etive].

The columns "**Jinejan**," "**Masaso**," "**Flaso**," and "**Biton**" contain the data for each dialect. We worked intensively with one adult speaker for each dialect, so there may be some individual idiosyncracies in the data. The form of the article ē ~ è is given in parentheses after the singular noun. Many cells have singular \\ plural pairings with the plural following \\. Only closely related forms are given in each row. When a dash — appears in a cell, it means that the dialect does NOT have a form in that set. Either the speaker didn't know the word, or the speaker used a distinct synonym for that sense. As a result, the same gloss may reappear in two or more rows, each row containing one synonym (perhaps with small variations in pronunciation). The "comments" column often includes pointers to synonyms.

The column "**Tiefo-D**" contains a citation form extracted from the primary data in the four preceding columns. It normalizes tonal markings by undoing the effects of glottalic sesquisyllables on tones of H-toned words in Ma and Fl dialects. The Tiefo-D column may be useful in practical dictionary production.

The columns "**Ji**," "**Ma**," "**Fl,**" and "**Bi**" simply indicate which dialects are represented with forms in the relevant row. This was mainly useful during the fieldwork itself.

The columns "**English**" and "**French**" give glosses valid for the Tiefo forms in the same row.

The "**comment**" column has miscellaneous additional information, which may include a collocation, a synonym, an IPA transcription, or other background.

For natural-species terms only, the final columsn are "**scientific name**" and "**basis**". The latter indicates whether the species was seen or collected locally, or was elicited using images, recorded bird calls, or descriptions. The flora identifications should be reliable since most were seen locally by Heath. For fauna, Heath made use of field manuals, bird-call recordings, web images, his own substantial collection of images from previous flora-fauna work in the zone, and oral descriptions. Identifications for some birds (hawks and songbirds), fish, and locally extinct mammals are less reliable.

Adjectives worksheet

The "**category**" column codes for semantic domain: age, color, condition, difficulty, dimension, dirtiness, distance, fullness, heat, moisture, quality, quantity, shape, size, taste, texture, weight.

The "**rdp**" column uses the code "rdp" to indicate that the forms in that row are reduplicated. Some adjectives occur only in reduplicative form, others have both simple and reduplicated forms.

The "**Jinejan**," "**Masaso**," "**Flaso**," and "**Biton**" columns contain the data. For modifying adjectives (as opposed to verbs), typically singular and plural are given with \\ as the separator. The "**Tiefo-**D" column has a composite citation form based on the primary data, as for nouns.

The "**Ji,**" "**Ma**," "**Fl**," and "**Bi**" columns indicate which dialects are represented with data in that row, as for nouns.

The column "**form**" is customized for adjectives. The categories are stative, deverbal inan[imate], deverbal an[imate], postnom[inal], inan[imate], an[imate], and adverb. Stative is an imperfective verb, which generally has no Pfv form. The two deverbal forms are participles derived from the stative. The postnominal form can often be taken as lexically basic, and the regular inanimate form (with á) and the regular animate form (with kā) can be derived from it by morphophonological processes. The regular inanimate and animate forms can replace the postnominal form after a noun, or they can be used absolutely (without a noun). After animate kā, many adjectives have a special reduced form that also occurs as a compound final, especially in natural-species terms. The adverb category here refers to expressive adverbials, which are usually unrelated to regular adjectives. They may have special senses like 'lukewarm', or they may be intensifiers for ordinary adjectival senses. They can be made predicative by the copula kō 'be'.

"**English**" and "**French**" columns have glosses. The "**comments**" column has cross-references to semantically related verbs and nouns, and other background. The "examples" column has phrasal examples, including predicates with copula kō and expressive adverbials.

Numerals worksheet

The "**code**" column has the codings num (up to '10'), num decimal (multiples of ten up to '100'), num high (starting with multiples of hundred), and ord[inal].

The data are in the "**Jinejan**," "**Masaso**," "**Flaso**," and "**Biton**" columns. The numerals are followed by the plural classifier ò ('2' to '9') or by the nominal article (ē), in parentheses. The "**Tiefo-D**" column has a suggested general form derived from the dialectal data.

"**English**" and "**French**" columns are either in numeral or spelled-out form.

"Comments" describe morphemic structure and/or usage.

Verbs worksheet

Each regular verb has Pfv (perfective), base, and Ipfv (imperfective) stems. For any given verb, they may all be identical, or two of them might be identical but distinct from the third, or all three are distinct. Some verbs lack a Pfv stem, either because they occur only as noninitial verb in compounds or because they are semantically stative.

The "**type**" column summarizes identity relationships among the three stems for the relevant verb: P=B=I (all three identical), P vs B=I (base and Ipfv identical but distinct from Pfv), or P vs B vs I (all three distinct), or rarely P=B vs I.

The "**tone**" column summarizes the tones of the three stems. Some Jula borrowings have invariant forms with a contour tone, indicated by (LH)x3 or {HL)x3. All uncompounded native Tiefo-D verbs have level-toned stems, but the Pfv or rarely the Ipfv may differ tonally by one notch from the other two. The codings for these verbs are a) LLL, MMM, and HHH for tonally invariant verbs, and b) LMM, MHH, or rarely LLH for verbs showing tonal variation. No uncompunded verb has a mix of L and H stems. For verb-verb compounds, parentheses are used, e.g. (L-H), (H-H)x2 if the Pfv is L-H and the other two stems are H-H, and (L-H)x2, (M-H) if Pfv and base are L-H and Ipfv is M-H.

In the "**syll**" column the number and type of syllables are indicated for uncompounded verbs (compounds have just "cpd"). Codings can be simple 1, 2, 3, but diphthongal, rhotic, and glottalic syllables are specified. Thus 2rh means two syllables including a rhotic sesquisyllable, 1gl means one glottalic sesquisyllable, and 1di means one dipththongal syllable (beginning Ci or Cu).

In the "**diph**" column the diphthong is shown as ui, uo, iɛ, etc. sometimes specified as e.g. Pfv ie or Ipfv iɛ (diphthong limited to the Pfv or to the Ipfv stem). Diphthongs in glottalic sesquisyllables as well as nonglottalic syllables (e.g. Ciʔɛ and Ciɛ) are included.

The "**cpd**" column distinguishes compounds from various types of reduplication. For compounds the coding indicates whether the second verb is invariant (Vb2 inv) or has different forms, normally one in the composite Pfv and base versus a distinct form in the composite Ipfv (Vb2 var). Reduplicative stems are coded as rdp Cv-Cv, rdp Cv- (just Cv-repeated from a heavier base), rdp iter (iteration of the full base, which is heavier than Cv-), rdp irreg[ular], and rdp ident[ical] (where the base varies in form and the reduplicant matches these forms).

In the "**P voc**" and "**B/I voc**" columns, any change in vowel quality between Pfv and base=Ipfv is noted. Most subc verbs have a front vowel in the Pfv versus a low or back vowel in the base=Ipfv, e.g. ɛ versus ɔ or e versus o (keeping ATR value constant). If base and Ipfv also differ, this is indicated by codings like ɔ/o or ɔ/u in the B/I voc column. For verbs that do not change vowel quality among the three different stems, these columns are blank.

In the "**r/ʔ**" column, final rhotic and/or glottalic sesquisyllables are indicated: ʔ for glottalic (Cvʔv), r for rhotic (Cərv), and "r, ʔ" for both (Cərvʔv).

In the "**C alt**" column, consonantal mutations (alternations) are indicated. For verb-verb compounds, only Vb1 is considered. Generally the Pfv and/or the Ipfv has a different initial consonant, often in association with an intrusive semivowel that creates a diphthongal syllable. The codings include the intrusive semivowel unless it is present in all three stems. Two-part codings are either Pfv versus base=Ipfv or less often Pfv=base versus Ipfv, the codings being c/k, d/ju, di/ju, fi/su, j/d, ju/d, ju/gb, gb/g, kp/k, k/c, ɲ/lu, ɲu/w, w/lu, yu/w,. A rare three-part coding is kp/k/c (all three stems with different initial consonant). We do not include s/ʃ, ʒ/y, or v/w alternations which are essentially subphonemic.

Instead of basing the data columns on dialect, we use "**Pfv,**" "**base**," and "**Ipfv**" columns to present the three stems for each verb. Each triplet of Pfv-base-Ipfv functions as a single variant. If triplets from two dialects differ in even one stem, they are presented as distinct rows. Therefore the "same" verb may appear in up to four rows with slightly different triplets. The base stem is used as citation form and in most respects is lexically basic. Pfv stems are often formed by fronting the base vowel, dropping the base tone one notch, and/or adding a semivowel or a liquid after C1. Ipfv stems are often identical to base stems. If not, the Ipfv may shift the vowel from [-ATR] {ɛ ɔ} to [+ATR] {e o} or raise it to {i u} (the latter especially for Jinejan dialect), and/or may add l after C1.

After each triplet, the next columns are "**Ji**," "**Ma**," "**Fl**," and "**Bi**" and indicate which dialects are associated with that triplet. A dash — in one of these cells indicates that the dialect uses a different triplet, or occasionally a completely different verb. A blank in a cell simply means that we have no data.

The next columns have "**English**" and "**French**" glosses. End-users can usually find the full set of dialect forms for the same lexical item by sorting the worksheet based on the English or French glosses.

The final "**comments**" column has background information, mainly about related lexical items and collocations.

Other worksheet

This worksheet collects elements that do not fit into any of the main stem-class categories.

The "**code**" column groups the entries into the following: adv[erb], adv manner, adv space, adv time, anaphora, comparative, coord[ination], discourse, interrog[ative], neg[ation], NP, NP foc[alization], NP indef[inite], ordinal, postp[osition], pred[icate], pronoun, quant[ifier], subord[inator],

This is followed by data in the dialect-specific columns "**Jinejan**," "**Masaso**," "**Flaso**," and "**Biton**," then by a proposed general citation form in the "**Tiefo-D**" column. Then the usual "**English**," "**French**," and "comments."

Substantially all of the information in this worksheet can be found in the grammar with more reader-friendly analysis.

Places worksheet

The columns are "**places**" which contains the Tiefo-D place name, "**French**" which gives the official name (as in maps), "**location**" which places the location in geographical context, and "**comments**" which include literal glossing of phrasal names.