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Joola Keeraak: A grammatical introduction¹

1 Introduction

Keeraak (also referred to as Keeraku or Her) belongs to the Joola cluster of Atlantic languages and to their Bak subgroup (Pozdniakov and Segerer this volume). Joola languages are spoken in the Lower Casamance region of south-west Senegal, and also in the neighbouring area of Guinea-Bissau. Keeraak is solely spoken in Kabrousse (Ziguinchor region, south-west), the last village on the Senegalese coast before the Guinea border. Kabrousse takes its name from the Portuguese Cabo Roxo (designating a lighthouse that still exists, although nowadays it is out of service) but its traditional name is Eer [ɛɛr]. Thus, Keeraak (*k(ɔ)-ɛɛr-a-ak*) literally means ‘the (language) of Eer’. When asked about the resemblances between Keeraak and neighbouring Joola varieties, Keeraak speakers say that they understand all of the languages spoken east and south of Kabrousse, as far as Youtou and Efok in Senegal and Varela and Susana in Guinea-Bissau. However, they admit that there are a number of differences, mostly in the lexicon, as well as a few pronunciation features. According to the literature (Carlton and Rand 1993), the area described hosts the Ejamat (or Floupe) Joola lect.

The only available figure for the number of Keeraak speakers, 15,000, is given in Leclerc (2015). However, according to the chief of the village there were only about 5,000 inhabitants in Kabrousse in 2015. The total number of Keeraak speakers given by Leclerc must include those living outside the village but still seems exaggerated to us. Keeraak language use is vigorous and its transmission is solid, at least for those living in Kabrousse village. Except for old illiterate persons, Kabrousse inhabitants also know French (from their primary education), Wolof (commercial activities), and sometimes some other varieties of Joola if they have spent some time with other Joola speakers. Despite the proximity of the Guinea Bissau border, Kriol does not seem to have penetrated the Kabrousse area.

Keeraak speakers recognise themselves as Joola people, and their culture shares many features with other Joola communities: traditional activities are centred around rice cultivation

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and fishing, as well as salt collecting and palm wine tapping. The society is patrilineal, for the transmission of names as well as for rice fields, and the community is organised around the compound in a concentric manner, defining important bonds of solidarity for land use, farming and social or religious practices: the individual house (*elɔɔfaj*) is part of a sub-compound (*hanasah*) shared with aunts and uncles; the latter in turn is part of a compound (*hulimetəh*), and the compounds are grouped into bigger compounds (*hosusah*) which together form a district (*keelomak*). There are three districts in Kabrousse: when you enter the village you first come to Mossor (*Mɔɔsɔɔr*), then to Kadiakay (*Kajaakaaj*), and finally to Nyalou (*Ñaalv*), the last place before the Guinea border. Of these three, Kadiakay is the most ancient district, out of which Mossor first developed. Some inhabitants of Mossor later created the Nyalou district, apparently some five generations ago. The vast majority of Kabrousse inhabitants are Catholic. There are also some Muslims and, more recently, a few Protestants. Remarkably, older regional religion based on shrine veneration practices survives harmoniously and coexists with the newer religions. Shrine owners (male or female) continue to play an important part in this society where there is no king or higher authority. The various districts of Kabrousse also have special friendship relationships with different districts of two neighbouring villages (Diembereng and Bouyouye).

Despite a clear common cultural identity, the Joola cluster is made up of languages that are differentiated to varying extents. Keeraak is probably not very different from the Ejamat variety spoken in North-Eastern Guinea-Bissau. However, while Keeraak speakers claim to understand most of the other Joola dialects, the opposite is not true: Keeraak is not understood by the speakers of other Joola languages.

This article is the first grammatical sketch of Keeraak. The language was undocumented (and wrongly referenced as Her) when the two authors started their study. This work is based on fieldwork conducted during several field trips between 2009 and 2015 in Ziguinchor and Kabrousse, with a dozen consultants, male and female, aged from eighteen to sixty. Due to space limitations the syntax was left aside.

This article is structured as follows: in section 2, the main phonological features, including vowel harmony, are presented. Sections 3 to 5 are dedicated to word categories and their morphology. This includes the noun class system and all the agreeing elements (§3), verb morphology (§4) and other categories such as adjectives and ideophones, with a dedicated section on locatives, adverbs, and prepositions (§5). The whole of section 6 is devoted to the very complex verbal system. After a presentation of its general organising principles (§6.1) and

of the personal markers (§6.2), simple (§6.3), complex (§6.4) and negative (§6.5) inflectional paradigms are analyzed and exemplified. The past suffix is described in §6.6. Converbs and dependent forms conclude this section (§6.7).

Our corpus consists of a lexical database of 3,900 words, more than 2,500 elicited sentences, dozens of verb paradigms and 20 short texts. All examples use a phonological IPA-based transcription system. Long vowels are written as double.

Occasionally, reference is made to other Joola varieties, for which we consulted the following works: for Banjal, Bassène (2007), Sagna (2008), and Tendeng (2007); for Fonyi, Hopkins (1995), Sapir (1965), and Weiss (1939); for Kasa, Wintz (1909); and for Karon, Sambou (2007).

2 Phonology

2.1 Consonants

The consonant system has the following elements:

Table 1. Consonant phonemes

	labials	dentals	palatals	velars
voiceless stops	(p)	t	c	k
voiced stops	b	d	ʃ	g
fricatives	f	ɬ	s	h
nasals	m	n	ɲ	ŋ
sonorants	w	l	j	
trill		r		

The two salient features of this inventory are the presence of the voiceless lateral fricative /ɬ/ and the absence of /p/; /f/, phonetically [ɸ], regularly corresponds to /p/ in other Joola varieties. However, [p] may still be found in a few words (ideophones, borrowings) and in the cluster *mp*. All consonants may occur in initial, medial or final position.

2.2 Vowels

As in all Joola languages, there are ten vowel qualities:

Table 2. Vowel qualities

i			u
ɪ			ʊ
e	ə	o	
ɛ	a	ɔ	

Vowel length is phonemic, although true minimal pairs are not numerous: *mɔɔ* ‘to draw water’ / *mɔɔɔ* ‘watch until out of sight’; *bak* ‘to tighten’ / *baak* ‘to be high’. Long vowels do not seem to occur word-finally.

2.3 Phonotactics

2.3.1 Consonant clusters

Regardless of recent borrowings, only three kinds of consonant clusters are attested:

- NC clusters, where C is a stop and N is a homorganic nasal: *gɔnt* ‘to sing’, *hɔ-tɔŋ-ah* ‘heel’, *mbiil* ‘to play musical horn’. Two such clusters may occur in the same stem: *ɟə-ndɛŋgul-əw* ‘bird sp. (dove)’. NC clusters are rare in stem-initial position and never occur after a long vowel.
- LL clusters, where L is a lateral consonant (either /l/ or /ʎ/): *ɛ-hollɔŋ-aj* ‘corpse’, *hɔ-jillɔŋ-ah* ‘bell’, *e-llu-ej* ‘laughter’. There seems to be a fair amount of variation in the pronunciation of *ll* clusters, many of them actually being voiced. This voicing seems unpredictable and idiosyncratic and may not lead us to positing a *l/ɭ* phonological contrast. Regarding *lll* clusters, most of them occur in words ending with a suffix, either productive or frozen. It is worth noting that for each of these words, the corresponding bare stem is not attested: *ɟollen* ‘explain’, *ə-həlliin-əw* ‘old person’. The doubling of /l/ could then originate in suffixation, as is still the case with /n/ in some cases: *hɛn* ‘to graze’ > *hennɛn* ‘to feed cattle’.
- NN clusters are rare, especially those that do not result from suffixation (see above): *humməəre* ‘today’, *ka-nnaar-ak* ‘verandah’, *ɛ-nnam-aj* ‘seat’.

2.3.2 Syllables

56% of the stems are of the CVC type (where C may be a single consonant, a NC cluster or a geminate). Other common patterns include CV...C (CVCVC, CVCVCV etc. – 20%) and CV...V (CVCV, CVCVCV etc. – 11%). All the remaining patterns are marginal accounting for no more than 13% altogether. Affixes tend to adapt to a general CVCV...C pattern: while prefixes are usually of the CV type (sometimes only V), suffixes are more often of the VC type (sometimes only V).

2.3.3 Vowel harmony

Vowel harmony operates in Keeraak, as in many languages of the region. The ten vowels are divided into two sets, namely /a/, /ɛ/, /ʊ/, /ɔ/, /ʊ/ and /ə/, /e/, /i/, /o/, /u/. All of the vowels within the limits of a (phonological) word belong to the same set. Most authors use the label ATR (Advanced Tongue Root) to refer to the articulatory nature of this contrast. So far, however, no study has shown that this is the feature that is effectively in play. Based on auditory perception, we will therefore use the labels “open” and “closed” for the two sets, and present them as follows:

Table 3. Vocalic phonemes

	front	mid-front	centre	mid-back	back
open	ɪ	ɛ	a	ɔ	ʊ
closed	i	e	ə	o	u

Keeraak has a dominant-controlled type of vowel harmony, the closed series being dominant, which means that an inherently closed vowel in a stem will cause every other vowel in the word to be closed as well, spreading to prefixes as well as suffixes. This rule should be sufficient to account for vowel harmony in Keeraak.

ɔɔ ‘bone’ > *hu-ɔɔ-əh* (citation form: HU² class pfx + stem + HU class det.)
ɔɔ ‘decision’ > *hʊ-ɔɔ-ah* (citation form: HU class pfx + stem + HU class det.)

However, there are some apparent inconsistencies (e.g. for class prefixes and subject prefixes) or exceptions, the details of which cannot all be given within the scope of this paper. A few additional points may nevertheless be of interest:

- an affix may have an inherently closed vowel:

-um ‘INSTRUMENTAL’ *bʊʊt* ‘to fish’ *mu-buutum-əm* ‘bait’
 mɛr ‘to swallow’ *e-mer-um-əɔ* ‘throat’

- an open/closed alternation is sometimes used to reinforce a lexical derivation:

² The labels for class prefixes (see Table 4 below) are based on the phonological shape of the prefix and written in capital letters.

<i>mɔɔm</i> ‘to lie’	<i>si-moom-en-əs</i> ‘lies’ (neither the SI class prefix nor the <i>-en</i> suffix usually triggers vowel harmony).
<i>saaf</i> ‘to greet’	<i>bu-səəfoor-əb</i> ‘greetings’ (neither the BU class prefix nor the reciprocal <i>-ɔɔr</i> usually triggers vowel harmony).
<i>seɲa</i> ‘to marry’	<i>bu-seɲə-əb</i> ‘wedding’

- an open/closed alternation is sometimes observed between words that have very similar meanings:

<i>m-ut-am</i> ‘(breast) milk’	<i>m-iit-əm</i> ‘(cow) milk’
<i>rur</i> ‘to plait’	<i>riir</i> ‘to comb’
<i>fɔm</i> ‘to jump’	<i>fum</i> ‘to cross’

- the dominant status of closed vowels, combined with their relative paucity (they are 2.7 times less frequent than open vowels), make them the marked member of the open/closed opposition.

3 Nominal morphology

3.1 Noun classes

The nominal morphology of Keeraak is characterised by a rich and fully operative noun class system. This system is described in some detail in Segerer (2015), and we will only present an overview here. When the present data or analysis differs from the above source (because of the work carried out since), it will be indicated in the text with the sign (+).

The citation form of nouns minimally includes a class prefix (see Table 4), a stem and a suffix of the shape *-AC_x*, where A may be [a] or [ə] depending on vowel harmony, and C_x is a consonant which copies the consonant of the class prefix. For the E and U classes, C_x is [j] or [w] respectively (see §2.3.2); the A class and one of the JA classes deviate from this model, showing an *-aw* suffix. In most Joola languages, the class suffix has a definite value. However, in Keeraak, it has become obligatory in most contexts (and specifically in the citation form of nouns and verbs), thus losing its original value. We call it a *default determiner*. The twenty one noun classes (including three locative pseudo-classes) are exemplified in Table 4 where they are represented by the capitalized form of their nominal exponent, with the following exceptions: (i) the two E classes are labeled E and E/KU, since most of the latter’s concord

exponents are identical to those of the KU class³ (see Table 5 below); (ii) the two JA classes are labeled JA and JA/A, since the latter shows concord exponents identical to those of the A class⁴ (*ibid.*); (iii) the locative D class is labeled D₊ to emphasize the fact that the vowels of the following elements are +closed.

Table 4. Keeraak noun classes

A	<i>a-jɪl-aw</i>	‘child’
BA	<i>bə-ɲɛr-ab</i>	‘monkeys’
BU	<i>bʊ-tiɪn-əb</i>	‘path’
BUK	<i>buk-an-ak</i>	‘people’
E	<i>ɛ⁵-ɲaab-aj</i>	‘elephant’
E/KU	<i>ɛ-kʊ-aj</i>	‘thieves’
HA	<i>hə-aj-ah</i>	‘bees’
HU	<i>hʊ-tɛɲaj-ah</i>	‘banana’
JA	<i>ja-kaan-aj</i>	‘doing’
JA/A	<i>ja-ɲɛr-aw</i>	‘monkey’
JI	<i>ɟi-mɛl-aj</i>	‘water (a little)’
KA	<i>ka-sɛra-ak</i>	‘spoon’
KU	<i>kʊ-tɛɲay-ak</i>	‘bananas’
MA	<i>mə-tɛɣɛn-am</i>	‘truth’
MU	<i>mʊ-mɛl-am</i>	‘water’
NI	<i>ɲi-lloɰh-aj</i>	‘eel’
SI	<i>sɪ-ɲaab-as</i>	‘elephants’
U	<i>ʊ-sɛra-aw</i>	‘spoons’
B	<i>b-in-ab</i>	‘place (large)’
T	<i>t-in-at</i>	‘place (limited)’
D ₊	<i>d-in-əd</i>	‘place (inner)’

³ The E/KU class is a plural class used for nouns denoting human beings belonging to a particular category, as for instance ethnic groups or people of a special social status. The concord elements are mainly those of class KU, which is the regular plural class for human beings. This is a clear case of semantic agreement.

⁴ This is not really a case of semantic agreement. The A class is the regular singular class for humans, but the JA/A class includes mostly animals, not each one of them being able to be personnalized in stories or tales. Many animal names are found in other classes (E, KA, HU) that do not trigger A agreement, which rules out the hypothesis of semantic agreement based on animacy.

⁵ According to the general syllabic pattern (see section 2.3.2), the *ɛ-* prefix is realized as *j-* with a vowel-initial stem, e.g. *ɛ-aj-aj* [jajaj] ‘bee’.

All of these classes are called “noun classes” because they are found primarily on nouns and trigger agreement, even the three locative classes B, T and D₊, which appear on one noun only.⁶ However, there are two additional elements that behave exactly like noun classes as far as morphology is concerned, except that they are never found on nouns. These elements, which may be called (+) “defective classes”, are the N class and the D class. The N class refers to time and is used pronominally in paradigms that usually show class agreement, as for example with *o-Cx-aj* ‘which?’ > *onaj* ‘when?’. (+) The D class is used for vague reference as in the proximal demonstrative *udu* ‘this (thing) near you’, as opposed to, say, *uju* ‘this class E entity near you’ (for example *ε-jagum-aj* ‘dog’). The D class is distinct from the D₊ class in that it bears no locative reference and, unlike D₊, it does not trigger vowel harmony. In fact, the D₊ class is the only one that triggers the closed vowel series,⁷ as can be seen in the above table, where the same stem *in* yields the nouns *b-in-ab*, *t-in-at* with classes B and T but *d-in-əd* with class D₊. The contrast between the two D classes may also be illustrated with the demonstratives 1 and 3 (see 3.3 on demonstratives):

	Dem1	Dem3
Class D ₊	<i>ude</i> ‘(inside) here’	<i>undə</i> ‘(inside) there’
Class D	<i>ode</i> ‘this thing’	<i>onda</i> ‘that thing’

3.1.1 The scope of class agreement

The following elements are under the scope of noun class agreement:

- all the noun modifiers, including default determiners, qualifiers (relativisers, adjectives, ‘other’, ‘same’, numerals), demonstratives (even those used pronominally), possessives, interrogatives.
- pronouns: the base is *-o*.
- the connective *-ala*.

⁶ The nouns in question (see Table 4) suggest a stem *-in*. Since all the agreement elements are fully predictable (see §3.1.2) with the class consonant only, we cannot attribute any vowel to the class marker, and we must posit the labels B, T, and D.

⁷ This mere fact suggests that the true class marker has a closed vowel in its underlying form, but (see preceding note) this vowel cannot be recovered.

- the verb subject prefixes (for class A, see section 3.1.2).

3.1.2 Class exponents and nominal modifiers

There are three patterns of agreement, depending on the vowel accompanying the class consonant C_x : from \emptyset (AGR0, C_x - only) to a more specified one (AGR1, C_xV - where V is underspecified and depends on C_x-U for labial and velar consonants, ι for dental and palatal consonants) and then to the most specified one (AGR2, C_xa -). The class consonant is selected as follows:

- for CV-shaped classes, the consonant in the class exponents is C : HA, HU > h , MA, MU > m , BA, BU > b etc.:

(1)	bu-lɔ-ɛn-ab	b-ala	ja-nak-aw
	CLbu-fall-CAUS-DETbu	AGR0bu-CONN	CLja/a-sun-DETja/a
	‘Sunset’		

- for the E and U classes, the consonants are j - and w - respectively: ε -maan-aj j -umboom ‘my rice’ (CL ε -rice-DETe AGR0 ε -POSS.1SG). The E/KU class has -aj as its default determiner, but the agreement follows the KU class pattern, as visible in Table 5 below.
- the A class, which typically includes nouns denoting human beings, is a very particular case: AGR0 in the possessive and connective agreement marker is \emptyset :- a-nɪl-aw \emptyset -umboom ‘my child’ (CLa-child-DETa AGR0a-POSS.1SG), but has the form -m- in the demonstratives (υ -m-ɛ / u-m-u / υ -mm-a), as well as in the interrogative ‘which’ (υ -m-aj). Note that the element aj alone has the meaning ‘who?’, and therefore differs from υ maj ‘which (person)?’. The word for ‘other’ has the shape $C_xaaC_x\upsilon$. The A-class is different again: aah υ . The pronoun and subject agreement for class A are dealt with in the section devoted to the verbal system (§6, for third person see §6.2).
- For the JA/A class, the default determiner is always -aw but the agreement follows either the JA class or the A class patterns, as seen above.

The vowel of the class exponent, when present, is selected as follows:

- the numerals above ‘one’ and the subject indices of verbs show CU- agreement (glossed AGR1), with the following exceptions:
 - if C is dental or palatal, the vowel is *i-/ɪ-* (CI-)
 - the A and JA/A classes have *a-* or *na-*, the 3rd person singular subject marker.
 - other V classes (E and U) retain their original shape: *e-/ɛ-* and *u-/ʊ-* respectively.
- the adjectives and the subject relative clauses show CA- agreement (glossed AGR2). The class A agreement is *a-*.

Table 5 is a general chart of pronouns and noun modifiers for all nominal and defective classes⁸. Since agreement only involves the class consonant in nearly all the cases, it is no surprise that, for example, all the B- classes (BA, BU and the locative B) show the same agreement pattern. In the table below, the cells where exceptions are found are marked in grey.

Table 5. Class paradigms of noun modifiers

	default det.	pron. ⁹ , rel. obj	connect.	DEM1	DEM2	DEM3	‘which?’	‘other’	(+) loc. copula ¹⁰
structural form	<i>-aC_x</i>	<i>C_x-ɔ</i>	<i>C_x-ala</i>	<i>ɔC_xɛ</i>	<i>uC_xu</i>	<i>ɔNCa</i> ~ <i>ɔCCa</i>	<i>ɔC_xaj</i>	<i>C_xaaC_xɔ</i>	<i>C_xɔɔC_xɔ</i>
A	<i>-aw</i>	<i>ɔɔ</i>	<i>Ø-ala</i>	<i>ɔmɛ</i>	<i>umu</i>	<i>ɔmma</i>	<i>ɔmaj</i>	<i>aahɔ</i>	<i>ɔɔmɔ</i>
BA, BU	<i>-ab</i>	<i>bɔ</i>	<i>bala</i>	<i>ɔbɛ</i>	<i>ubu</i>	<i>ɔmba</i>	<i>ɔbaj</i>	<i>baabɔ</i>	<i>bɔɔbɔ</i>
BUK	<i>-ak</i>	<i>bɔkɔ</i>	<i>kala</i>	<i>ɔkɛ</i>	<i>uku</i>	<i>ɔnka</i>	<i>ɔkaj</i>	<i>kaakɔ</i>	<i>kɔɔkɔ</i>
E	<i>-aj~-ɛj</i>	<i>jɔ</i>	<i>jala</i>	<i>ɔjɛ</i>	<i>uju</i>	<i>ɔjja</i>	<i>ɔjaj</i>	<i>jaajɔ</i>	<i>jɔɔjɔ</i>
E/KU	<i>-aj~-ɛj</i>		<i>kala</i>	<i>ɔkɛ</i>	<i>uku</i>	<i>ɔnka</i>	<i>ɔjaj ~ ɔkaj</i>	<i>kaakɔ</i>	<i>kɔɔkɔ</i>
HA, HU	<i>-ah</i>	<i>hɔ</i>	<i>hala</i>	<i>ɔhɛ</i>	<i>uhu</i>	<i>ɔɲha</i>	<i>ɔhaj</i>	<i>haahɔ</i>	<i>hɔɔhɔ</i>
JA, JI	<i>-aj</i>	<i>jɔ</i>	<i>jala</i>	<i>ɔjɛ</i>	<i>uju</i>	<i>ɔɲja</i>	<i>ɔjaj</i>	<i>jaajɔ</i>	<i>jɔɔjɔ</i>
JA/A	<i>-aw</i>	<i>ɔɔ ~ jɔ</i>	<i>Ø-ala ~ jala</i>	<i>ɔmɛ</i>	<i>umu</i>	<i>ɔmma</i>	<i>ɔmaj ~ ɔjaj</i>	<i>aahɔ</i>	<i>ɔɔmɔ</i>
KA, KU	<i>-ak</i>	<i>kɔ</i>	<i>kala</i>	<i>ɔkɛ</i>	<i>uku</i>	<i>ɔnka</i>	<i>ɔkaj</i>	<i>kaakɔ</i>	<i>kɔɔkɔ</i>
MA, MU	<i>-am</i>	<i>mɔ</i>	<i>mala</i>	<i>ɔmɛ</i>	<i>umu</i>	<i>ɔmma</i>	<i>ɔmaj</i>	<i>maamɔ</i>	<i>mɔɔmɔ</i>
NI	<i>-an</i>	<i>nɔ</i>	<i>nala</i>	<i>ɔnɛ</i>	<i>unu</i>	<i>ɔɲna</i>	<i>ɔnaj</i>	<i>naanu</i>	<i>nɔɔnɔ</i>
SI	<i>-as</i>	<i>sɔ</i>	<i>sala</i>	<i>ɔsɛ</i>	<i>usu</i>	<i>ɔnsa</i>	<i>ɔsaj</i>	<i>saasɔ</i>	<i>sɔɔsɔ</i>

⁸ There are gaps in the table where the expected forms are absent from our data. Hyphens indicate non-existing forms.

⁹ The class pronouns are used after a preposition, as object clitics, and object relativisers. “Human” classes A and BUK/KU have different object clitics, namely 3SG *-ɔɔ* and 3PL *-ɪl* respectively.

¹⁰ The final vowel in this series is a spatial deictic like the one found in the DEM series, and may vary in the same way.

U	-aw	wɔ	wala	ɔwɛ	uwu	ɔwwa	ɔwaj	waawɔ	wɔwɔwɔ
B	-ab	bɔ	bala	ɔbɛ	ɔbɔ	ɔmba	ɔbaj	baabɔ	-
D ₊	-əd	do	dala	ude	udu	unda	udaj	dəədu	-
T	-at	tɔ	tala	otɛ	utu	onta	otaj	taato	-
D	-	dɔ	-	ɔdɛ	udu	onda	ɔdaj	-	dɔdɔ
N	-	nɔ	-	-	-	-	ɔnaj	-	-

Table 6 shows agreement markers in other categories, some of which are presented in specific sections: the possessive pronouns (see §6.2), the numeral ‘one’ also used for ‘same’ (see §3.2 on numerals), the subject indices, adjectives (§5.1) and subject relatives.

Table 6. Agreement markers in other categories

	AGR0 poss. ¹¹ , ‘one, same’ ¹²	AGR1 subj.	AGR2 adj, rel. subj
A	Ø-	na~a- ¹³	a-
BA, BU	b-	bɔ-	ba-
BUK	k-	kɔ-	ka-
E	j-	ɛ-	ja-
E/KU	j-	kɔ-	ka-
HA, HU	h-	hɔ-	ha-
JA, JI	ɟ-	ɟɪ-	ja-
JA/A	Ø-	na~a-	a-
KA, KU	k-	kɔ-	ka-
MA, MU	m-	mɔ-	ma-
NI	n-	nɪ-	na-
SI	s-	sɪ-	sa-
U	w-	ɔ-	wa-
B		Ø-	
D ₊		di- ~ Ø-	
T		tɪ- ~ Ø-	
D	-	Ø-	-

¹¹ The agreement markers shown here are for non-human possessors only.

¹² Even ‘plural’ classes may agree with ‘one’, since -anɔr also means ‘same’: *sɪ-lɔɔf-as s-anɔr* ‘same houses’.

¹³ See §6.2 on third person.

N	-	-	na-
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3.1.3 Other agreeing elements

There are a few other elements that undergo class agreement, for which we do not yet have the whole paradigms:

- *-man* ‘such-and-such’ (AGR1): *hü-nak hü-man* ‘such-and-such day’
- *C_xan-ɔɔ-C_xan* ‘any’ (AGR0): *tan-ɔɔ-tan* ‘anywhere’, *nan-ɔɔ-nan* ‘anytime’, *ε-kεɛŋ-εj j-an-ɔɔ-j-an* ‘any chicken’, etc. The *-ɔɔ-* element may also link two identical nouns, with the same distributive value: *hü-nak-ɔɔ-hü-nak* ‘everyday’, *ka-jum-ɔɔ-ka-jum* ‘each side’. The case of *an-ɔɔ-an* ‘anyone’ is interesting: it can be seen either as an instance of *C_xan-ɔɔ-C_xan* with the regular Ø- concord marker of class A, or as an instance of *N-ɔɔ-N*, since *an* itself is a noun meaning ‘person’.
- *C_xa-kεɛl* ‘of a particular kind’ (ADJ agreement: AGR2): *ja-lɛh-aw ja-kεɛl* ‘a bird of a particular kind’, *bok-an ka-kεɛl* ‘some specific people’; there is an extended form for which the difference in meaning is not known: *-kεε mɪŋε* (< *-kεɛl mɪŋε*): *bok-an-ak ka-kεε mɪŋε* ‘some (specific?) people’.
- *-εmɔm* ‘numerical determiner’ (probably AGR2). Among other uses (see also section 3.2. on numerals), it appears in the interrogative phrase *-εmɔm bu?* ‘how many?’: *sɪ-jaagom-as sa-εmɔm [sεεmɔm] bu?* ‘how many dogs?’ (*bu?* ‘how?’).

3.1.4 Classes and number

Classically, noun classes are intrinsically associated with number. But besides the usual singular/plural contrast (see 3.1.5 below), the following points are worth mentioning. Firstly, for many nominal items, two plurals can be formed: one for a limited, countable quantity of elements, and a second one for an uncountable collection of elements. Only a limited number of classes may function as collective markers:

- The BA class is the most frequent. It is a collective for pairings such as E/SI (*ε-hemb-aj / sɪ-hemb-as* ~ *ba-hemb-ab* ‘fruit sp.’), HU/KU (*hü-ɔt-ah / kü-ɔt-ak* ~ *ba-ɔt-ab* ‘star’), KA/U (*kə-johəli-ək / u-johəli-əw* ~ *bə-johəli-əb* ‘spark’).
- The BU class is a collective for the pairings A/KU (*ə-kuə-əw / e-kuə-əy* ~ *bu-kuə-əb* ‘thief’), KA/U (*ka-rɪŋ-ak / ɔ-rɪŋ-aw / bɔ-rɪŋ-ab* ‘thorn’).

- The E class is a collective for the pairings A/KU (*ə-ɬum-əw* / *ku-ɬum-ək* ~ *e-ɬum-əy* ‘white person, European’), KA/U (*ka-jahand-ak* / *ʊ-jahand-aw* / *ε-jahand-ay* ‘palm leaf’), BU/U (*bʊ-tɔɔtɔɔk-ab* / *ʊ-tɔɔtɔɔk-aw* ~ *ε-tɔɔtɔɔk-ay* ‘shrub sp.’).
- HA is a collective for four nouns of the pairing E/SI: *ε-aj-aj* [*jajaj*] / *sɪ-ajas* ~ *ha-aj-ah* ‘bee’, *e-it-ey* [*jiitəy*] / *si-it-əs* ~ *hə-it-əh* ‘palm nut’, and two species of ants (*ε-nɔɔl-ey* / *sɪ-nɔɔl-as* ~ *ha-nɔɔl-ah* ; *ε-wɔɔnj-ey* / *sɪ-wɔɔnj-as* ~ *ha-wɔɔnj-ah*). This class has been noted as the plural for four more nouns of the E singular class and belonging to the same semantic domain (a fruit, two species of wasps and a species of ant). Further investigation will probably show that these nouns have a countable plural in the SI class.

For a portion of nouns, including those denoting small entities (as insects or other small animals), the collective is cited as the default plural, whereas the “regular” countable plural is considered as marked.

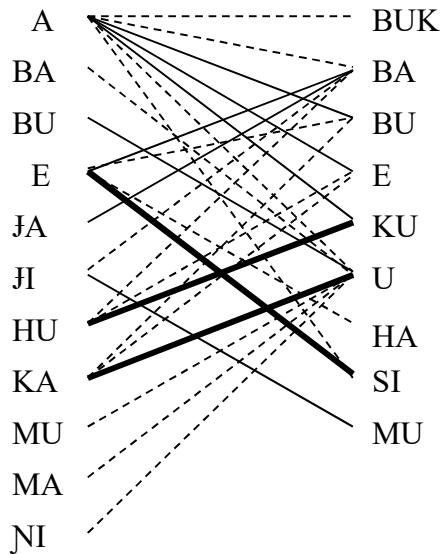
A small proportion of nouns have no “number” counterpart, i.e. either no plural or no singular. Such nouns may be found in “singular” as well as “plural” classes: *ba-hɔɔnɔ-ab* ‘thirst’, *bʊ-nɛka-ab* ‘laziness’, *hə-sim-əh* ‘blood’, *ji-boom-əj* ‘dance’, *ka-waaw-ak* ‘palm-wine tapping’, etc. However, it cannot be said that number is not associated with these classes, since they are otherwise massively used within singular/plural pairings. There is apparently no dedicated class for mass nouns.

3.1.5 Singular/plural class pairings

The class pairings presented here are those that involve a singular/plural opposition. While there are numerous such pairings, many of them are either rare or exceptional.

Figure 1 below shows all and only the singular/plural pairings and their relative frequency. Bold lines show the most frequent pairings, dotted lines the less frequent ones. Bold class labels indicate those classes that may be associated with either singular or plural.

Figure 1. Class pairings



3.1.6 Semantics of noun classes

The complex semantics of noun classes cannot be presented in full detail here. Many features are familiar to Niger-Congo specialists, including the following:

- Human beings are typically in the A/KU pairing, but there are many exceptions: A/BA (*a-jul-aw* / *ba-jul-ab* ‘child’, *a-sungutə-aw* / *bə-sungutə-ab* ‘maid’), A/BU (*a-təka-aw* / *bə-təka-ab* ‘drummer’, *a-rura-aw* / *bə-rura-ab* ‘weaver’, *a-nɔŋɛna-aw* / *bə-nɔŋɛna-ab* ‘potter’ and agents of other habitual occupations), A/E (*a-mukɛl-aw* / *ɛ-mukɛl-ɛj* ‘slave’, all ethnic names). Actually, it is often the case that A nouns may have their plural in more than one class: A/BA~BU, A/KU~E, A/KU~BU. This variation in the plural class may or may not be associated with a variation in meaning. As an alternate to KU, the second plural is a collective (see §3.1.4).
- There is a preferential class (MU) for nouns denoting liquids: *mɔ-mɛl-am* ‘water’, *m-iit-əm* ‘palm-oil’, *mɔ-sɔr-am* ‘urine’. There are of course some exceptions: *hə-sim-əh* ‘blood’, *ɛ-gɛɛn-aj* ‘sweat’, *bə-nok-ab* ‘palm-wine’. As stated above (§3.1.4), nouns with mass semantics are not bound to a particular class.
- Trees tend to be found in the BU/U pairing, whereas their fruits are in the HU/KU pairing.
- Big or familiar animals tend to be in the pairing E/SI.

- Noun class substitution is widely used to express dimensional derivations, i.e. augmentatives and diminutives. The most productive classes are: JI (pl. MU) and A (pl. BA) for diminutives, HU (pl. KU) for augmentatives. Only class JI seems to be a purely derivative class, in the sense that i) no noun seems to belong to class JI only; ii) all nouns may form a diminutive in the JI class.
- The MA class seems to be primarily associated with abstract nouns: *mə-jub-am* ‘justice’, *mə-booteni-am* ‘sadness’, *ma-jak-am* ‘beauty’, *ma-ləgen-am* ‘truth’.
- While borrowings tend to be allocated to pairing E/SI, there are a few exceptions in which semantics override the general principle: *hɔ-pɔm-ah* / *kɔ-pɔm-ak*¹⁴ ‘apple’ (< French *pomme*), *mə-fiir-am* ‘jealousy’ (< Wolof *fiir* ‘to envy’).

3.2 Numerals

The numeral system is 5-, 10- and 20-based. Only numerals from 1 to 4 show class agreement. Their citation forms use class E for ‘one’ and class SI (the regular plural to class E) for ‘two’, ‘three’ and ‘four’. ‘Five’ and ‘ten’ use classes HU and KU (regular plural to HU) respectively. In ‘ten’ one recognises the lexical stem for ‘hand’ (*ka-ŋen* / *ɔ-ŋen*) but with a different class. *ə-ji* ‘twenty’ also means ‘king’. This is a case of the anthropomorphic numeral system based on body parts (hand and feet) and the entire person (king) that is widespread in the entire area and is also attested in Nyun (Cobbinah this volume; Lüpke this volume; Quint this volume). Table 7 shows the numbers as given in isolation:

Table 7. Numerals from 1 to 10

<i>ɛ-anɔr</i> ¹⁵ [<i>janɔr</i>]	‘one’	<i>hɔ-tɔk dɪ ɛ-anɔr</i>	‘six’	<i>kɔ-ŋen dɪ si-həɟi</i>	‘thirteen’
<i>si-subə</i>	‘two’	<i>hɔ-tɔk dɪ si-subə</i>	‘seven’	<i>kɔ-ŋen dɪ hɔ-tɔk</i>	‘fifteen’
<i>si-həɟi</i>	‘three’	<i>hɔ-tɔk dɪ si-həɟi</i>	‘eight’	<i>ə-ji</i>	‘twenty’
<i>sɪ-bakur</i>	‘four’	<i>hɔ-tɔk dɪ sɪ-bakur</i>	‘nine’	<i>ə-ji dɪ kɔ-ŋen</i>	‘thirty’
<i>hɔ-tɔk</i>	‘five’	<i>kɔ-ŋen</i>	‘ten’	<i>ku-ji ku-subə</i>	‘forty’

¹⁴ Note that this is the only word with a [p].

¹⁵ There is a slight phonetic difference between numerals used in sequential counting, and numerals used as modifiers. The formers tend to show a heavier first syllable ([*jannɔr* ~ *jaanɔr*], [*sisuubə*], [*sihəɟi*], [*sibaakur*]). This only holds for ‘one’, ‘two’ and ‘four’, ‘three’ having already a heavy first syllable.

As noun modifiers, numerals up to four agree with the noun: *υ-μlɔɔn-aw u-subə* ‘two roosters’. In the clause, the numeral may be introduced by C_x -*emɔm*¹⁶ ‘numbering’: *Hɔkɛn sɪ-jagɔm-as (sɛemɔm) hɔtɔk kɔŋaalɔm* ‘Yesterday they killed five dogs’.

Ordinal numerals are obtained in three different ways

- a change of lexical stem: *-tijər* ‘first’, related to *ha-tij-ar* (see 5.5) ‘above, on the top’ (comp. with *-anɔr* ‘one’)
- a *-t* suffix: *-subu-t* (< *subə-t*) ‘second’, *həɟi-t* ‘third’
- a *-en* suffix¹⁷: *-bakur-en* ‘fourth’, *-tɔk-en* ‘fifth’

Agreement is realized with AGR1: *sisukəs sɪ-həɟi-t-əs* ‘the third villages’.

Counting times

(+) When combined with class HU, ordinals come to mean ‘the Xth time’: *hu-subut-əh* ‘the second time’, *hɔ-tɔkɛn-ah* ‘the fifth time’. However, ‘the first time’ is rendered with class MU: *mu-tijər-əm*.

(+) A cardinal number of times needs class HU in the singular (*hanɔr* ‘once’) and a special *ja-* prefix in the plural: *ja-subə* ‘twice’, *ja-həɟi* ‘three times’, *ja-bakur* ‘four times’. This prefix may be viewed as the adjectival agreement (AGR2) triggered by an elliptical noun of class NI meaning ‘time’ (absent from our data). From five on, the numerical determiner *-emɔm* is required (still with *ja-* agreement) and the numeral remains in its own class: *jaemɔm hɔ-tɔk* ‘five times’, *jaemɔm ɔŋɛn* (~ *kɔŋɛn*) ‘ten times’, *jaemɔm kɔ-ŋɛn dɪ sɪ-bakur* ‘fourteen times’. The same *ja-* prefix may be used with *-kɛɛl* ‘some, certain’ to form *jakɛɛl* ‘perhaps’.

3.3 Demonstratives and pronouns

The class pronouns are formed with the class consonant (AGR0) and the anaphoric morpheme *-ɔ* (see Table 5 above).

¹⁶ The long vowel suggests that the agreement marker has in fact a CV shape, with complete vowel assimilation. Therefore, it is not possible to decide whether it is AGR1 or AGR2.

¹⁷ *-en* is homophonous with the causative verb suffix (see 4.3.1), maybe pointing to a transcategorial use of the causative marker.

There are three series of demonstratives, formed with the distance deictics *-ε*, *-u* and *-a* (see 5.3 on locative morphemes), the last one requiring a strong degree (prenasalized or geminate) for the class exponent (see Table 5 above for the forms):

- the $\upsilon C_x \varepsilon$ series: close to the speaker (DEM1)
- the $\upsilon C_x u$ series: close to the hearer (DEM2), also used as anaphoric demonstrative
- the $\upsilon NC_x a \sim \upsilon C_x C_x a$ series: far from both the speaker and the hearer (DEM3)

These demonstratives may also be used as determiners and pronominally.

With the locative pseudo-classes, the demonstratives may be used as adverbs in combination with the same three distance deictics: e.g. *υτε* ‘here (limited or precise space)’ , *udu* ‘in there (inner space)’ , *umba* ‘over there (large or vague space)’ . For more details, see section 5.3. on locative morphemes.

Proximal demonstratives (DEM1 and DEM2) may be followed by *maa* for precise reference (typically when pointing at something, on *maa*, see 5.4). This is true for locatives as well: *υτε maa* ‘here exactly’.

3.4 Genitive link

The genitive link, or the connective, is *-ala*, preceded by the class consonant (AGR0), as shown in Table 5 above:

- (2) ε -*sankεn-εj* *j-ala* ε *εr*
 CL_ε-speak-DETe AGR0_ε-GEN Kabrousse
 ‘the language of Eer (Kabrousse)’

- (3) *hυ-caacυr-ah* *h-ala* *kə-loj-ək* *ka-baakυm*
 CL_{hu}-parrot-DEThu AGR0_{hu}-GEN CL_{ka}-tail-DETKa AGR2_{ka}-long-COMPL
 ‘long-tailed parrot’ (lit. ‘parrot of long tail’)

4 Verbal morphology

4.1 Bare stems

Verb roots are mostly of the shape CV(V)(N)C: *gɔr* ‘to touch’, *faan* ‘to call’, *kɔb* ‘to wait’, *nɔb* ‘to rain’, *nɔŋg* ‘to decide’, *lac* ‘to spit’. The exceptions include short roots (*lu* ‘to pierce’, *lɔ* ‘to fall’, *ih* ‘to breathe’) as well as long ones (*ɟɔlɔb* ‘to follow’, *ɟiker* ‘to watch’, *jaalon* ‘to weep’, *fentereɟ* ‘to shell’). Many verb stems are only attested with one or more derivational suffixes, which may or may not be productive: *kol-i* ‘to be afraid’ (with stative *-i*; see §4.3.10), *kol-i-en* ‘to frighten’ (with stative *-i* and causative *-en*; see §4.3.1), *kel-en-ɔɔr* ‘to tilt the head’ (with causative *-en* and pluractional *-ɔɔr*; see §4.3.3).

4.2 Infinitives

When asked to translate a verb in isolation, most Keeraak speakers give a noun-like form in the JA class: *ja-fin-aj* ‘to count’, *ja-baal-aj* ‘to forgive’, *ɟə-mir-aj* ‘to know’. However, for a few verbs, the form is given in another class: *hɔ-ɲɔɟɔ-ah* ‘to eat’, *ɛ-rɔŋ-aj* ‘to live’, *ba-hɔnɔ-ab* ‘to drink’. In addition, most verbal stems also yield a form in the KA or the E class, which are the preferred infinitive classes in many Joola lects (see Sapir 1965; Bassène 2007; Sagna 2008): *fin* ‘to count’ > *ka-fin-ak* ‘counting’; *nah* ‘to cultivate’ > *ɛ-nah-aj* ‘cultivation, cultivating’. For some of these verbs, there is a difference between the JA and the E or KA infinitive. For example, the stem *rɔŋ*, when in the JA class, may mean ‘to live’ or ‘to give birth’, but it only means ‘to live’ in the E class and ‘to give birth’ in the KA class. Other differences may be associated with class assignment: the infinitive of the stem *nah* ‘to cultivate’ needs a genitival construction when in the JA class but not in the E class: *ja-nah-aj* (*ɟ-ala X*) ‘cultivation (of X)’ vs. *ɛ-nah-aj* (*X*) ‘cultivation, cultivating (X)’. However, these cases are not frequent, and the two infinitives may generally be used in the same contexts:

- (4) a-ɲul-aw na-ɟet-ɛ ɟa-fin-aj ~ ka-fin-ak
 CLa-child-DETa 3SG-can-PUNCT CLɟa-count-DETɟa ~ CLka-count-DETka
 ‘the child can count’

The JA class for infinitives is apparently unknown from other Joola lects. As an innovation, it is no real surprise that it coexists with other, older forms. We strongly suspect a slight difference either in meaning or in usage, but this cannot be demonstrated so far, except for a few isolated cases.

4.3 Derivational suffixes

Derivational suffixes or verbal extensions transform the meaning of verbs in various ways: they may increase or decrease the valency, and may modify the semantic roles, the relationship to time or space, and even the aesthetic appreciation of the speaker.

4.3.1 Causative *-en*

This extension is very productive or, at least, very common. While “causative” is the label that best describes many of its occurrences, its true value is actually more complex. The true causative derivation includes pairs of items such as *fur* ‘to go out’ > *fur-en* ‘to empty’; *heef* ‘to cool down’ > *heef-en* ‘to cool sth. down’; *kol-i* ‘to be afraid’ > *kol-i-en* ‘to frighten’. However, many verbs that exhibit this suffix are lexicalised and cannot be analysed as causatives. Instead, they seem to show some kind of unpredictable shift from the meaning of the underived verb: *hɔk* ‘to dig’ > *hɔk-en* ‘to bury’; *jal* ‘to harvest (rice)’ > *jal-en* ‘to prune (palm-tree)’; *temp* ‘to carve’ > *temp-en* ‘to peel’. A fair number of verbs are only attested with *-en*, so that it is not possible to evaluate the exact meaning of the suffix: *lɔɔlen* ‘to sing (rooster)’, *luken* ‘to take revenge’, *naanen* ‘to keep’, *fisen* ‘to think’, *jaalen* ‘to help’.

4.3.2 Middle *-ɔ*

Verbs carrying the middle extension show meanings in which the agentive subject is directly affected by the process: *jɔh* ‘to hide (tr.)’ > *jɔh-ɔ* ‘to hide o.s.’. *-ɔ* verbs apparently never convey a reflexive meaning (*kiik* ‘to shave (tr.)’ > *kiik-o* ‘to get shaved’; *lib* ‘to cut’ > *lib-ɔ* ‘to get cut’). True reflexives are formed with the *-ɔɔr-ɔ* combination of suffixes (see §4.3.3 and 4.3.4 below). It is often the case that instead of contrasting with its absence, the middle suffix is opposed to the *-en* suffix: *laal-en* ‘to raise’ / *laal-ɔ* ‘to stand up’. Many verbs are only attested with this extension: *ɲɔɔfɔ* ‘to eat’, *hɔnɔ* ‘to drink’, *leego* ‘to be drunk’, *fatɔ* ‘to keep silent’.

4.3.3 Pluractional or reciprocal *-ɔɔr*

Verbs with this extension typically have meanings in which more than one occurrence of the process is involved. With plural subjects, and provided that the core meaning of the verb is compatible, the resulting value is reciprocal: *ɲiker* ‘to look at, to watch’ > *ɲiker-ɔɔr* ‘to look at

each other’, *mir* ‘to know’ > *mir-oor* ‘to know each other’. However, *-oor* may occur with many verbs with no possible reciprocal reading. In such cases the resulting meanings are less predictable but very often include the idea of repetition or intensity: *naaŋ* ‘to go, to walk’ > *naaŋ-oor* ‘to wander’; *ħaw* ‘to ask’ > *ħaw-oor* ‘to ask constantly’; *ŋot* ‘to sleep’ > *ŋot-oor* ‘to do nothing but sleep’. There are some examples of the same verb having two different readings depending on whether the subject is singular or plural: *boy* ‘to hit’ > *boy-oor* ‘to fight, to hit each other’ (with plural subject) / ‘to do nothing but fight’ (with singular subject). In a few cases (and apparently not very productively), this extension is associated with reduplication (see §4.3.17), yielding an intensive meaning: *lɔlɔbɔɔr* ‘to gossip, to make noise, to talk too much’¹⁸; *fum* ‘to jump’ > *fumfum-oor* ‘to hop’. With intransitive verbs there can be an associative reading: *rɔŋ* ‘to give birth’ > *rɔŋ-oor* ‘to give birth at the same time as somebody else’, i.e. ‘to deliver in the hospital’; *fur* ‘to go out’ > *fur-oor* ‘to go out together’, i.e. ‘to be of the same age class’.

4.3.4 Reflexive *-oorɔ*

This extension, apparently a combination of the pluractional and middle extensions, is attested with transitive verbs, to which it gives a reflexive reading: *kɔh* ‘to scratch’ > *kɔh-oorɔ* ‘to scratch o.s.’; *ɲker* ‘to look at, to watch’ > *ɲker-oorɔ* ‘to look at o.s.’; *ħej* ‘to see’ > *ħej-oorɔ* ‘to see o.s.’. Intransitive verbs must first be transitivised with *-en* in order to bear the reflexive extension: *rɛɛm* ‘to burn (intr.)’ > *rɛɛm-en* ‘to burn (tr.)’ > *rɛɛm-en-oorɔ* ‘to burn o.s.’. A few items in the corpus are only attested with the reflexive: *wooluwooro* ‘to be self-confident’, *ɲɔhɔɔrɔ* ‘to show up’. The semantic effects of *-oorɔ* are sometimes unpredictable, as in *mirooro* ‘to be proud’ < *mir* ‘to know’.

4.3.5 Separative *-ul*

This suffix, often called “inversive” in the literature, conveys a meaning of the separation of things that have been in contact: *kɔl* ‘to lock’ > *kul-ul* ‘to unlock’; *bɔɔŋ* ‘to roll, to wind’ > *boon-ul* ‘to unwind’. In our corpus, this extension is quite infrequent, and in most cases the bare

¹⁸ *-lɔb* as a verb root on its own is not attested in Keeraak but means ‘to talk’ in other Joola varieties, as well as in most Nyun lects.

verb is not attested: *rub-ul* ‘to pluck’, *hoł-ul* ‘to skin’. Instead, one may find a verb with the *-en* extension: *kət-en* ‘to stick’ / *kot-ul* ‘to separate’; *təny-en* ‘to close’ / *təny-ul* ‘to open’.

4.3.6 Centripetal *-ul*

This suffix is quite productive and adds to the verb a meaning of directionality towards the deictic centre: *naaŋ* ‘to go’ > *naəŋ-ul* ‘to come’; *riiŋ* ‘to arrive (somewhere)’ > *riiŋ-ul* ‘to arrive (here)’; *hək* ‘to dig’ > *hok-ul* ‘to uproot’; *fur* ‘to go out’ > *fur-ul* ‘to come out, to sprout’. This extension may be historically related to the preceding one.

4.3.7 Resultative centripetal *-oɔ*

This suffix is used when the process has taken place (altrilocative) or was initiated (ventive) remotely, prior to a movement towards the deictic centre:

(5) *bala usunul, nɪhəŋəhəŋəɔlɔm bənəkab siicor*

<i>bala</i>	<i>ɪ-suren-ɔl</i>	<i>nɪ-həŋə-həŋə-ɔlɔ-m</i>	<i>bənəkab</i>	<i>Siicor</i>
before	1SG-come.back-CTP	n.1SG-drink~VFOC-CTP.RES- COMPL	CLbu-palm.wine-DETbu	Ziguinchor

‘Before coming home, I drank some palm wine in Ziguinchor’

4.3.8 Privative *-əəti*

This extension adds lexical negation to the verb: *suum* ‘to be good’ > *suum-əəti* ‘to be bad’; *haafən* ‘to be able’ > *haafən-əəti* ‘to be unable, to fail’; *juw* ‘to be healthy’ > *juw-əəti* ‘to be unhealthy, to be ill’. It seems to apply only to stative verbs, and is probably composed of *-aat* + *-i* (see §4.3.10 below).

4.3.9 Passive *-ɪ*

This extension seems to be lexically productive, but is not frequently used. Elicited derived passives are generally accepted by speakers: *noŋen* ‘to build’ > *noŋen-ɪ* ‘to be built’; *hej* ‘to see’ > *hej-ɪ* ‘to be seen’; *bək* ‘to bear child’ > *bək-ɪ* ‘to be born’. However, we have almost never found it in spontaneous speech. The first example above (*noŋen-ɪ*) shows that the passive extension is placed after the (here frozen) causative one. Noticeably, and unlike other Joola

lects (Bassène 2007), passivised stems seem to be incompatible with deverbal derivations, including *ja-* infinitives.

4.3.10 Stative **-i*

This ending is found on a few verbs that are not attested without it. All of these verbs have a stative meaning, and all of them (with two exceptions, including one Wolof loanword) use the closed vowel set. We can therefore consider this ending as a frozen suffix: *leeli* ‘to be sweet (palm wine)’, *neki* ‘to be lazy’, *sonji* ‘to suffer’, *-təli* ‘to be bitter’. The corresponding active verbs are not obtained by the removal of the suffix, but instead by the addition of the causative *-en*: *sonji* ‘to suffer’ > *sonji-en* ‘to hurt’; *koli* ‘to be afraid’ > *koli-en* ‘to frighten’. In one case the causative seems to have frozen before the stative: *booteni* ‘to be sad’. There is one example in our data of the suffixal nature (and of the closed vowel) of *-i*, in which the verb seems to derive from a noun: *bv-ɔlaat-ab* ‘greed’ ~ *uləti* ‘to be greedy’.

4.3.11 Anticipative *-əli*

The meaning of this extension is that of an action carried out early, or in advance. It triggers vowel harmony: *ɲɔɔfɔ* ‘to eat’ > *ɲoofɔ-əli* ‘to eat early’, *raago* ‘to die’ > *rəəgo-əli* ‘to die too soon, to die young’.

4.3.12 Aesthetic *-iinəj*

This unusual extension is apparently unknown in other Joola varieties. It adds an aesthetic dimension or positive valuation to the basic meaning of the verb. It may be added to either active or stative verbs: *ɲɔɔfɔ* ‘to eat’ > *ɲoof-iinəj* ‘to eat in a nice manner; *hir* ‘to be salty’ > *hir-iinəj* ‘to have the right amount of salt’. It is apparently quite productive.

4.3.13 Intensive or derogatory *-ikoor*

This suffix has a unique property, in that its vowels are intrinsically closed but do not trigger the closing of the preceding vowels. Yet it is a suffix, since the nominal forms of the derived verbs take the default determiner. It adds an intensive and somewhat derogatory value to the bare stem: *lɔ* ‘to fall’ (citation form *jalɔaj*) > *lɔikoor* ‘to fall heavily’ (citation form *jalɔikooraj*); *sonji* ‘to hurt’ > *sonjikoor* ‘to hurt badly’; *bɔj* ‘to hit’ > *bɔjikoor* ‘to hit hard’. However, if the

stem has an intrinsic positive meaning, the derived verb remains positive: *hɛɛn* ‘to smell good’ > *hɛɛnikoor* ‘to smell wonderful’. This suffix is apparently productive, but the values of some derived verbs are not always easily predictable: *naaŋ* ‘to go, to walk’ > *naaŋikoor* ‘to limp, to walk in a strange way’. *ikoor* is attested on one noun whose stem does not exist as a verbal one, but still has a derogatory meaning: *hʊ-basikoor-əh* / *kʊ-basikoor-ək* ‘sheaf of rice of poor quality’.

4.3.14 Assistive causative *-ʊnɛn*

This suffix, probably a compound of *-ʊn* and the causative *-ɛn*, is rare and has various senses, depending on both the meaning of the bare stem and the cultural background. In the few occurrences that we have found, the meanings range from purely assistive to purely causative: *bɔɔm* ‘to dance’ > *bɔɔm-ʊnɛn* ‘to help dance’ (said about adults making/helping the children dance); *rɔk* ‘to work’ > *rɔk-ʊnɛn* ‘to help someone to work’ or ‘to make someone work hard’; *naaŋ* ‘to go’ > *naaŋ-ʊnɛn* ‘to follow, to track, to join’.

4.3.15 Instrument and applicative *-um*¹⁹

A productive deverbative suffix *-um* is used to form deverbal nouns denoting instruments: *bʊʊt* ‘to fish’ > *mu-buut-um-əm* ‘bait’; *gəʊy* ‘to navigate, to paddle’ > *e-gəʊy-um-əj* ‘paddle (noun)’. A small number of verbs, however, seem to bear this suffix too. Some of them may be held to derive from instrumental nouns, which in turn come from verbs: *ŋɔt* ‘to sleep’ > *si-ŋotum-əs* ‘dream (noun)’, *ŋotum* ‘to dream’; *jab* ‘to start’ > *bu-jəbum-əb* ‘start (noun)’, *jəbum* ‘to start’. We found one case where the instrumental suffix is apparently attached to a noun (although there might be a verbal form, absent from our data): *a-faal-aw* ‘friend’ > *bə-fəɔlum-əb* ‘friendship’, *fəɔlum* ‘to be friends’.

This instrumental suffix is also used in verbal predicates as an applicative, introducing a new argument in object position with a semantic role of instrument (*rɔk* ‘to work’ > *rok-um* ‘work with (an instrument)’) or locative complement. The locative complement may express the origin or the path but not the goal of a movement: *fur* ‘to go out’ > *fur-um* ‘to go out coming from/through’, *lɔ* ‘to fall’ > *lo-um* ‘to pass by’.

¹⁹ Most occurrences of this suffix justify positing a closed vowel (i.e. triggering vowel harmony), but in a few examples (see below) the vowels remain open. This contradiction cannot be explained so far.

4.3.16 Denominative -et

This is the only denominative suffix, i.e. a suffix that transforms a noun into a verb. It is quite unusual, since in the Joola languages (and in many of the languages of the region in general) it is very often the case that the same lexical stem can be used either as a verb or a noun with no other marking than a noun class assignation: *cuuk* ‘to discuss’ ~ *kə-cuuk-ək* ‘discussion’. Here are a few examples of the -et suffix: *kɔ-kɔnt-ak* ‘dirt’ > *kɔnt-et* ‘be dirty’, *ha-kɔɔr-ah* ‘smoke’ > *kɔɔr-et* ‘to smoke (intr)’, *a-mukɛl-aw* ‘servant, slave’ > *mukɛl-et* ‘to serve s.o.’. When attached to nouns denoting useful things that are usually picked up or collected, this suffix expresses associated motion and -et verbs mean ‘to go and collect X’: *hɔ-mɛŋgɔ-ah* ‘mango’ > *mɛŋgɔ-et* ‘to go and collect/pick up mangoes’; *hɔ-ɔl-ah* ‘oyster’ > *ɔl-et* ‘to go and collect oysters’. When suffixed to a verb (which is very rare in our data), -et seems to add a meaning of remoteness: *ɲɔɔfɔ* ‘to eat’ > *ɲɔɔfɔ-et* ‘to eat away from home’; *ɲaɔŋ* ‘to go’ > *ɲaɔŋ-et-um* ‘to take away’.

4.3.17 Lexical reduplication

Within verbal derivation, total or partial reduplication is generally used in conjunction with the -en extension, whose causative meaning is often hard to detect, or with the pluractional/reciprocal -ɔɔr extension, with no reciprocal meaning but rather a pluractional one. Verbs derived in this way generally denote actions performed little by little, or in some kind of repetitive manner leading to partitioning: *fɔm* ‘to jump over’ > *fɔmfɔmɔɔr* ‘to hop’. Except for the example just cited, the original CVC verb stem is not attested as such, or has a quite different meaning: *ɲɔɲgɛn* ‘to stutter’ (< *ɲɔg), *lɔlɔŋgɛn* ‘to shake’ (< *lɔŋg); *ɲiɲiren* ‘to shiver’ (< *ɲir); *babakɛn* ‘to shiver’ (but *bak* ‘to tighten a knot’); *sɔsɔbɛn* ‘to rain little by little’ (< *sɔb); *ililoor* ‘to rock, to swing’ (< *it). In one case, reduplicated forms with the -en suffix and with the -ɔɔr suffix are both attested: *kikilen* ‘to roll sth.’ / *kikiloor* ‘to roll’ (< *kil).

5 Other categories

5.1 Adjectives

There are very few intrinsically adjectival stems: *ar* ‘female’, *in* ‘male’²⁰, *əmək* ‘big’, *haan* ‘old’, *onkol* ‘new’. The stem **tut* ‘small’ is not attested as such but yields the forms *tuta* ‘small’ and the verbal form *tiit-i* ‘to be small’.

Most adjectival modifiers derive from verbs following a relative clause pattern. They are formed with the completive suffix *-um*²¹ (see §6.3) and require the *C_xa-* (AGR2) agreement prefix series as the subject relativisers do (see Table 6 above): *al* ‘to be ripe’ > *C_xa-al-um* ‘ripe’; *hut* ‘to be white’ > *C_xa-hut-um* ‘white’. Thus most adjectives derive from stative verbs. For the verbs bearing the stative suffix *-i* or the passive suffix *-ɪ*, the adjectival ending is just *-m*, the same form as the completive suffix *-um* after a vowel (see Table 13): *joobi* ‘to be cold’ > *C_xa-joobim* ‘cold’; *tɔj* ‘to break’ > *tɔɪ* ‘to be broken’ > *C_xa-tɔɪm* ‘broken’.

5.2 Ideophones

Keeraak has three kinds of ideophones, or “marked words depictive of sensory imagery” (as put by Dingemanse 2012):

(a) Quality-specific ideophones, used as intensifiers for a single notion carried by quality verbs or by adjectival stems:

<i>col</i>	with <i>jan</i> ‘to be red’	<i>sof</i>	with <i>fatɔ</i> ‘to be silent’
<i>far</i>	with <i>hut</i> ‘to be white’	<i>cum</i>	with <i>sof</i> ‘be hot’
<i>tir</i>	with <i>len</i> ‘to be black’	<i>janŋ</i>	with <i>-onkol</i> ‘new’

(b) Action-specific ideophones that accompany action verbs, adding various meanings, including, but not limited to, intensive ones:

<i>tir</i>	‘tightly’	with <i>bak</i> ‘to attach’
<i>fac</i>	‘abruptly’	with <i>furul</i> ‘to come out’
<i>hah</i>	‘inappropriately’	with <i>hilen</i> ‘to interfere in a conversation’

²⁰ The nouns *annaraw* ‘woman’ and *anniinəw* ‘man’ are in fact contracted noun phrases, *an-aw a-ar-aw* ‘female person’ and *an-aw ə-inə-əw* ‘male person’ respectively.

²¹ In this adjectival use, in contrast to the ordinary relative clauses (which may also be inflected in other ways), the completive suffix is substituted with the default determiner when the antecedent is definite.

(c) onomatopoeic, noun-specific ideophones, introduced by the quotative verb *an* ‘to say’ or by *kaan* ‘to do’:

<i>ffʊ</i>	describes the rapid movement of an arrow
<i>fəɾ ~ frʊ-frʊ</i>	describes the rapid movement of a passing bird
<i>maq</i>	describes the rapid movement of a cat or a child
<i>haah</i>	very relieved

There can be variants and also homophones among ideophones (see the ideophone *tɪr* above, which can modify both ‘be black’ and ‘attach’) as well as vowel length contrast (see *hah* / *haah* above).

5.3 Locative morphemes

Keeraak has a rich system of locative morphemes (adverbs, interrogative adverbs, relativisers and also two prepositions) formed with (a) spatial morphemes based on the locative pseudo-classes (see §3.1) and used to specify the nature of the referred space, and (b) a set of spatial deictic suffixes, specifying the distance from the speaker, completed by an anaphoric suffix:

(a) Spatial morphemes:

<i>-t-</i>	limited and precise space
<i>-b-</i>	large or vaguer space
<i>-d-</i>	inner space

The three distance deictics are also used to form the demonstratives (see Table 5 above). As with the demonstratives, the remote deictic morpheme (*-a*) requires the prenasalised series (i.e. *-nt-* / *-mb-* / *-nd-*) of the spatial morphemes, and the distal (*-u*) is closed and thus triggers vowel harmony.²² Remarkably, in some cases the spatial *-d-* seems to trigger the closing of surrounding vowels.

(b) distance deictics	<i>-ɛ</i>	close to the speaker
	<i>-u</i>	close to the hearer, or remote or separate from the speaker

²² The three series of demonstratives, which involve open vowels, closed vowels and prenasalised consonants evoke the origin of consonant alternation in Atlantic, as postulated by Doneux (1991: 140).

	-a	remote from speaker and hearer
anaphoric	-ɔ	

Besides their use as noun classes markers in the word for ‘place’, the spatial morphemes are used to form the locative indefinite adverb (*tin / bin / din* ‘somewhere (else) in a limited / large / inner space’²³), distributive adverbs ‘anywhere, everywhere’ (see 3.1.3), a spatial preposition in a remarkable paradigm (*taatɔ*, *baabɔ*, *daadɔ* ‘at someone’s place’, formed on the pattern used for ‘other’, see Table 5), and the interrogative locatives: *ɔ-t-aj?* ‘where (limited space)?’, *ɔ-b-aj?* ‘where (large space)?’ *u-d-aj?* ‘where (inner space)?’. The distance deictics combine with the spatial morphemes to form locative adverbs, and with the anaphoric suffix to form locative clitics and relativisers (Table 8).

Table 8. Locative adverbs and pronouns

<i>Location:</i>	limited space	large space	inner space
here (close to the speaker)	<i>ɔ-t-ɛ</i>	<i>ɔ-b-ɛ</i>	<i>u-d-ɛ</i>
there (close to the hearer)	<i>u-t-u</i>	<i>u-b-u</i>	<i>u-d-u</i>
over there (far from speaker and hearer)	<i>ɔ-nt-a</i>	<i>ɔ-mb-a</i>	<i>u-nd-ə</i>
where?	<i>ɔ-t-aj?</i>	<i>ɔ-b-aj?</i>	<i>u-d-aj?</i>
somewhere	<i>t-in</i>	<i>b-in</i>	<i>d-in</i>
anywhere, everywhere	<i>tan-ɔɔ-tan</i>	<i>ban-ɔɔ-ban</i>	<i>dən-ɔɔ-dən</i>
there (anaphoric clitic)	<i>=t-ɔ</i>	<i>=b-ɔ</i>	<i>=d-o</i>
where (relative adverb)	<i>t-ɔ</i>	<i>b-ɔ</i>	<i>d-o</i>

Finally, the distance deictics are used to form locative copulas (see Table 9), which are morphologically related to demonstratives but have a predicative function. They are used in non-verbal locative sentences with a noun (e.g. *ɛjagɔmaj j-ɔɔ-j-ɛ* ‘the dog is close to me’) or a personal pronoun as subject, and also in two complex conjugations, the Statal Perfect and the Ongoing Present (see §6.4.1). The personal markers show a *-m-* agreement marker for singular and *-(bɔ)k-* for plural.²⁴

Table 9. The locative copulas

²³ Originating from the noun for ‘place’ (*-in*) devoid of the default determiner.

²⁴ However, younger speakers sometimes deviate from this original agreement and produce a form with a *-m-* marker for first plural (e.g. *uli ɔɔm-ɛ* ‘here we are’ instead of *uli bokɔɔkɛ*), and with a *-j-* for second plural (*jɔɔj-ɛ*).

	close to me	close to you	far from you and me but visible
Persons			
SG	<i>ɔɔm-ɛ</i>	<i>ɔɔm-ʊ</i>	<i>ɔmm-a</i>
PL	<i>(bʊ)kɔɔk-ɛ</i>	<i>(bʊ)kɔɔk-ʊ</i>	<i>kɔŋk-a</i>
Nouns			
CLɛ	<i>jɔɔj-ɛ</i>	<i>jɔɔj-ʊ</i>	<i>jɔjj-a</i>
CLka	<i>kɔɔk-ɛ</i>	<i>kɔɔk-ʊ</i>	<i>kɔŋk-a</i>
CLst	<i>sɔɔs-ɛ</i>	<i>sɔɔs-ʊ</i>	<i>sɔs-a</i>

5.4 Adverbs

This section lists words or expressions that can be used adverbially, i.e. to add some specification to the predicate. In many temporal adverbs, one can recognise a nominal formation involving a noun class prefix. However, these pseudo-nouns do not trigger class agreement. Table 10 lists deictic temporal adverbs referring to days and years. These two sets are formed similarly, with basic stems for elements closer to the present (i.e. ‘yesterday’, ‘today’, ‘tomorrow’, ‘last year’, ‘this year’, and ‘next year’), further elements being derived with common patterns:

Table 10. Deictic temporal adverbs

	DAY	YEAR
-4	<i>hukenum jaaja</i>	<i>sunkenum jaaja</i>
-3	<i>hukenum</i>	<i>sunkenum</i>
-2	<i>intibare hoken</i>	<i>intibare sonken</i>
-1	<i>hoken</i>	<i>sonken</i>
0	<i>humməare</i>	<i>kajle</i>
+1	<i>kajom</i>	<i>bolaj</i>
+2	<i>intibare kajom</i>	<i>intibare bolaj</i>
+3	<i>kajomom</i>	<i>bolajenom</i>
+4	<i>kajomom jaaja</i>	<i>bolajenom jaaja</i>

Other temporal adverbial expressions include:

- *tvotolaar* ‘during the day’, *hojɔnnar* ‘in the afternoon / evening’, *dvokar* ‘at night’, *dvorabar* ‘in the morning’, which all bear an adverbial ending *-ar* also visible in locative nouns in adverbial use (see 5.5)
- *jaa* ‘later during the day’
- *looh* ‘never, not even’
- *mɪnaa* ‘just after’
- *mɪnɛ* ‘now, soon’
- *mɛɛmɪnɛ* ‘right now, at once’ meaning ‘not anymore’ with negative forms
- *haahe (maa)* ‘soon’
- *taate* ‘a short while ago’
- a series of adverbs formed with the N defective class for time: *n-ɔ* ‘formerly’ (lit. ‘at that moment’, see 5.3) also used for ‘when’, *na-kɛɛl* ‘another time’ (lit. ‘at another imprecise time’ see 3.1.3), *nan-ɔɔ-nan* ‘anytime’ (ibid.), *naanay* ‘formerly, before’, *ninnaan* ‘on occasion’, i.e. ‘often, next time’, *nun-naanɔ* ‘once, some moment’ (see ‘other’ in Table 5), and also *ɔɔm* ‘once again’, *hojɔɔlɔɔmah* ‘finally’ (from *-jɔɔlɔm* ‘last’), *fijɔ* ‘a long time’.

The following quantitative / qualitative adverbs were found:

- *məəmək* ‘very, a lot, too much’
- *jak* ‘well, nicely’²⁵
- *fɛ* ‘all, completely’
- *mɪnam* ‘that way’
- *ɔatuta* ‘a few, slowly’²⁶,
- *ɔatuta ɔatuta* ‘little by little’,
- *maa* ‘in this (pointed) direction’ sometimes meaning ‘a little’ and with negative forms ‘not at all’,
- *bamɪna* ‘only’.
- The expression *nɔɔn bəjəm* is used as an intensifier, expressing the high degree of the predicate. Sometimes *noon* (‘as, like’) may be used alone, with the same intensive meaning:

²⁵ *-əmək* is also used as an adjective (see §5.1 above), and *-jak* may be used as a verb or an adjective.

²⁶ See §5.1 above.

- (6) sɪ-naŋ-as si-suum-e nɔɔn
 CLsi-rice-DETSi AGR1si-be.good-PUNCT as
 ‘The rice is very good’

An epistemic adverb deserves to be mentioned, *manɔɔman* ‘definitely’, since it follows the pattern for ‘any’ (see 3.1.3) and may point to a former defective class M for manner (‘in any manner’) when compared to the subordinating *mɔ* ‘how, as’, to the interrogative *mɔ bɔɔ* ‘how, in which manner?’ (*mɔ* combines here with the question word *bɔɔ* ‘of what type?’) and to *mɪnam* ‘that way’.

5.5 Prepositions

The following simple prepositions were found: *dɪ* ‘in, at, with’, *bɛɛ* ‘till’, *loh* ‘close to’, *ɲala* ‘beside’, *nɔɔn* ‘as, like’. Among them, *dɪ* is remarkable, given its wide range of meanings and uses. Besides its original locative meaning, ‘in’, it is used as a generic locative, a comitative, and an indirect object marker. It may also be part of prepositional expressions such as *bɛɛ dɪ* ‘towards (for ongoing processes), to²⁷, with (things)’, and *baab dɪ* [baabrɪ] ‘at (s.o.’s place)’²⁸; it also appears in the coordinative construction *N1 PRO+dɪ N2* as in *Aasambu kɔ dɪ* [kɔrɪ] *Koko* ‘Aasambu and Koko’. The directional *bɛɛ* also combines with *ɲala* to express a movement toward something (*bɛɛ ɲala X* ‘towards X’) and with *mala* ‘because of, for’ (cf. *mala waa ?* ‘why’ (lit. ‘because, for what?’) to express a beneficiary: *aʊ ʊrɔk bɛɛ mala kɔŋɔɔlɪ* ‘(you) work for your childrens’. In contrast, the (locative) origin is expressed verbally (with the verb *fur* ‘going out’ possibly combined with a centripetal suffix). Finally, a grammaticalized (impersonal) form of the verb *ɲaŋɔ* ‘to remain’, in the form of the bare stem, is used as a preposition for ‘except’ (*ɲaŋɔ X* ‘except X, lit. ‘remain(ing) X’). This form is not fully grammaticalized since it can receive the past suffix *-ɛɛn*.

²⁷ With the meaning ‘till, to’, *dɪ* is obligatory for place nouns (*ɔŋaɲ bɛɛ dɪ kaloka* ‘go to the mangrove’ except for toponyms (*ɔŋaɲ Usuij* ‘go to Oussouye’).

²⁸ The form *baab* has less frequent variants based on the spatial morphemes paradigm: *taat*, *daad* (see §5.3.).

In addition, spatial relations may be expressed by a few particular locative morphemes from nominal origin. These are used with specific class exponents, without the default determiner and without any preposition, but instead require an agreeing genitive marker:

- (7) a-pul-aw ɔɔmɔ **h-indenər** h-ala bu-mɛŋɔ-ab
 Cla-child-DEta COP.LOC CLhu-under AGR0hu-GEN CLbu-mango-DEtbu
 ‘The child is under the mango tree’

Such locative nouns include *totar* ‘in the middle’ (related to *hɔ-tota-ah* ‘middle’), *hatijar* ‘on, above, at the top’ (cf. *-tijər* ‘first’ in 3.2), *hotaamaar* ‘below, under, at the bottom’ (< *ka-taama-ak* ‘bottom’), all sharing an *-ar* suffix also visible in temporal adverbs (see 5.4.), *kojɛɛɛɛɛnda* ‘behind’ (< *bojɛɛɛɛɛndab* ‘back’), and *hototɔɔra* ‘between’ (< *hɔ-totɔɔr-ah* ‘centre, middle’). These nouns may be used as adverbs (e.g. *hotaamaar* ‘below’) and also, devoided of their adverbial suffix, as noun modifiers (e.g. *ɛ-loɔf-aj ɛ-taama-aj* ‘the bottom (of) the house’).

For ‘in front of’, the spatial relation is usually not specified (‘in front of the house’ is usually spelled ‘where the house is (located)’). When needed the speakers will use a relative clause (‘facing X’) with the verb *jorɔɔr* ‘to face (to)’. The expression of other spatial relations requires a posture verb such as *kagɔ* (followed by *di* + noun) ‘to lean against’, *gand-ɪ* (followed by a locative noun) ‘to hang + PASS’.

6 The verbal system

6.1 Organising principles

Keeraak has a rich verbal system, with simple forms composed of subject prefixes and TAM suffixes, and complex forms including auxiliaries, particles, and copulas. In this section we present the paradigms and their semantic values, leaving aside the question of non-verbal predication and syntactic features more generally.

The overall system can be presented in two ordered levels of complexity. At a first level, simple (hereafter “primary”) verbal paradigms consist of TAM morphemes suffixed to the inflected root (prefixed with agreement or personal markers). At a second level, complex forms are constructed using inflected auxiliaries, copulas, or particles, followed by the verb root, which is also inflected with the subject markers. We are going to follow this organisation for the presentation of the verbal system, and complete the picture by presenting the negative

inflections, and finally the past suffix *-εεn* and the dependent forms. For space reasons, we do not provide here the complete table of the paradigms with their fused forms, but will illustrate them while describing their formation patterns, for which some morphological questions are still pending. The semantic values and labels²⁹ given here for these verbal paradigms are provisional and warrant further investigation into their uses.

6.2 The free pronouns and the two sets of bound subject indices

Besides free personal pronouns, Keeraak has two sets of personal subject indices immediately preceding the verb stem, a short, vocalic set and an extended set with an additional *n*-. Table 11 below also includes paradigms of personal object and possessive indices. Object indices are suffixed to the verb stem but infixed before the completive TAM suffix (see 6.3. about syntax).

Table 11. Personal markers

	free pronouns	subject indices	<i>n</i> -subject indices	object indices	possessive suffixes
1SG	<i>ijye</i>	<i>ɪ-</i>	<i>ni-</i>	<i>-ɔm</i>	<i>-umbə ~ -umboom</i>
2SG	<i>aw</i>	<i>ʊ-</i>	<i>nʊ-</i>	<i>-ɪ</i>	<i>-ɪja</i>
3SG	<i>ɔɔ</i>	<i>a-</i>	<i>na-</i>	<i>-ɔɔl</i>	<i>-ɔɔla ~ -ɔɔlɔl</i>
1PL.INCL	<i>ɔla</i> ³⁰ , <i>ɔlaal</i>	<i>u-...-aa(l)</i>	<i>nʊ-...-aa(l)</i>	<i>-ɔlaa(l)</i>	<i>-ɔlɔlaal > -ɔllaal</i>
1PL. EXCL	<i>uli</i>	<i>u-</i>	<i>nʊ-</i>	<i>-ooli</i>	<i>-ɔlɔli</i>
2PL	<i>mijool ~ mojool</i>	<i>ɟi-</i>	<i>(dɪ) ɟi-</i>	<i>-ool</i>	<i>-ɔlɔl</i>
3PL	<i>bokɔ</i>	<i>kʊ-</i>	<i>(dʊ) kʊ-</i>	<i>-ul</i>	<i>-ɔlul</i>

For the 2nd and 3rd person plural, the *n*-forms and the short forms are identical, but in some inflections, the *n*- morpheme is substituted by *dɪ*, which is homophonous with (and probably identical to) the polyfunctional (locative) *dɪ* preposition, as is also the case for the class agreement morphemes in the same contexts. These complex forms with *dɪ* appear with the Consecutive and in the auxiliated form used for the negation of Present.

²⁹ In order to avoid confusion, capitalised names are used here for language-specific morphological categories (e.g. Consecutive, Future, Perfect) but lower case (e.g. consecutive, future, perfect) for semantic concepts or functions which may be expressed in multiple ways across languages.

³⁰ *ɔla* is a dual ('you and me'), and can only be found in the free pronoun paradigm. For other paradigms the inclusive form is used.

Note that Keeraak has an inclusive and exclusive opposition (and even a dual in the free series) for the first person plural. The inclusive suffix (-*aal*) never undergoes harmony and loses its final -*l* when followed by the completive suffix.

For the complete list of the free class pronouns (class consonant-*ɔ*) and subject agreement markers see section 3.1.2.

There are several reasons to posit real 3rd person markers, distinct from class agreement. Remarkably, the short 3rd person subject prefixes are identical to the standard noun class prefixes of nouns denoting human beings (singular A, plural KU ~ BUKO). These subject prefixes may also be used when referring to nouns bearing different prefixes, as long as they denote human beings; in addition, 3rd person object and possessive forms cannot be deduced from noun class markers. The important point to note is that, in contrast with the personal affixes, there is only one set of subject agreement markers for noun classes.

The free personal pronouns can be used in isolation, after a preposition or in focus position before the verb for subject-focusing verb forms. In the latter case, for primary paradigms, a bound (agreement) subject prefix (short form) is still needed. The motivation for the distribution of the short vs. the *n*-forms is not fully understood. So far, two rules can be stated: the *n*-forms never appear after the free pronouns, and the short forms never appear at the beginning of an independent assertive clause, except for the negative inflections.

The short subject prefixes are used:

- for the Basic form (including its uses as imperative) and the Hortative
- after the free pronouns, i.e. for the subject-focusing paradigms
- before the verb stem in the Futures and the Habitual (complex forms)
- in most of the negative paradigms (except the auxiliated forms)
- with the various dependent forms, and also with the verb in subject relative clauses

The *n*-forms are used in the remaining contexts, that is:

- for the Consecutive (with a *di* variant for 2PL and 3PL as well as for class markers)
- for the Punctual
- for the Terminative
- for the complement-focusing forms
- for the Future 3 auxiliary

- on the verb stem for auxiliated forms using the *mɔ* particle (Statal Perfect, Ongoing Present, Progressive, Ongoing Present/Progressive negative)
- in the auxiliated form of the Present negative (with a *di* variant for 2PL and 3PL)
- for the verb in object relative clauses.

This distinction between the two series is not relevant for the class markers except for the Consecutive and the negation of Present for which the same *di* (most likely the locative preposition) is required.

6.3 The basic TAM oppositions and primary paradigms

The affirmative Keeraak verbal system can first be described following two basic oppositions criss-crossing the simple and complex paradigms: (i) subject-focusing vs. complement- (or nonsubject-) focusing inflections marked by short vs. *n*-forms for subject markers, and (ii) inflections with the three following TAM suffixes in complementary distribution: *-um* for completive (compare the past reading with dynamic verbs and the present with stative ones), *-em* for concomitance (by default with the time of speech, hence a present reading for all verb types), and \emptyset for irrealis or non-actualised forms, including futures, habituals, consecutive, and dependent forms, but not the negative inflections, which have their own suffixes. The system looks unbalanced, since in the same verbal slot (post-radical position) an aspectual marker (*-um*) contrasts with a temporal one (*-em*). Remarkably, the present suffix *-em* can also be used in dependent clauses as a concomitant in past contexts, which looks like a typical feature of imperfectives. Furthermore, the *-em* forms are also compatible with the past suffix. However, the *-em* suffix does not convey other expected values of imperfectives (such as habitual or proximal future). There is another element, *emmi*, used to form the Habitual and the Progressive (see below), which we have analyzed as an imperfective marker. Therefore, despite the fact that *-em* was probably once a true imperfective, its position in the system today points to a temporal rather than aspectual meaning.

Table 12 summarises the various primary paradigms (here for the 2SG) and indicates which set of personal subject affixes is used (here *nu-* vs. *u-*).

Table 12. The primary paradigms (example with the root *RɔK* ‘work, make’, 2SG, and *jɛɛnaj* ‘knife’)

	free pronouns or complement	subject 2SG	RAD	RDP	TAM	PTCL
Basic form		<i>o-</i>	<i>ROK</i>		\emptyset	
Hortative		<i>o-</i>	<i>ROK</i>		\emptyset	<i>ma</i>
Consecutive		<i>no-</i>	<i>ROK</i>		\emptyset	
Punctual		<i>no-</i>	<i>ROK</i>		<i>-ε³¹</i>	
Terminative		<i>no-</i>	<i>ROK</i>		<i>-εban</i>	
Completive Verb Focus		<i>no-</i>	<i>ROK</i>	<i>-ROK</i>	<i>-om</i>	
Completive Subj. Focus	<i>aw</i>	<i>o-</i>	<i>ROK</i>		<i>-om</i>	
Completive Comp. Focus	<i>jεenaj</i>	<i>no-</i>	<i>ROK</i>		<i>-om</i>	
Present Subj. Focus	<i>aw</i>	<i>o-</i>	<i>ROK</i>		<i>-εm</i>	
Present Comp. Focus	<i>jεenaj</i>	<i>no-</i>	<i>ROK</i>		<i>-εm</i>	

Before presenting each verb form, we should add that the completive suffix *-om* has three possible realisations, conditioned by the phonological environment; one of them (*mi*) produces a confusing homophony with a TAM auxiliary (*εmmi*) in certain contexts. These three realisations are: *-om* after sonorants, except *r*, and after plosives, except *j* (see examples in Table 13); *-mi* after all the nasals, which are in turn assimilated as bilabials; and lastly, *-m* after vowels, and also after *-j* and *-r*, in which case the consonant is deleted and the preceding vowel lengthened.

Table 13. The three realisations of the completive suffix *-om* (here for Completive Subject Focus inflection)

suffix	context	verb root	inflected form (1SG)	translation
<i>-om</i>	after plosive	<i>rɔk</i>	<i>ijye i-rɔk-om</i>	‘I have worked’
<i>-mi</i>	after nasal	<i>noŋen</i>	<i>ijye i-noŋem-mi</i>	‘I have built’
<i>-m</i>	after vowel	<i>ɲɔɔfɔ</i>	<i>ijye i-ɲɔɔfɔ-m</i>	‘I have eaten’
<i>[VC>V:] -m</i>	after <i>j</i> , <i>r</i>	<i>hej</i>	<i>ijye i-heε-m</i>	‘I have seen’

³¹ The suffix *-ε* is dropped after a vowel (radical, extension or object index ending), e.g. *εmutej ε-lob-olo-Ø* ‘it is raining !’ (lit. ‘the sky is raining toward us’).

Primary verb forms consist of a subject prefix, the verb stem, and a TAM marker. Only the TAM suffixes used in main or independent clauses are presented here. We will start with the forms falling outside of the focusing opposition and the completive (*-um*) vs. present (*-em*). The Basic (or unmarked) verb form includes a short subject prefix and a verb stem with no suffix (\emptyset). This form is used in some basic questions (see (27) below), and in various dependent or subordinate forms such as paratactic conditionals (8), and, with the second person, also in injunctions as an imperative. The Hortative is formed by the adjunction of a *ma* particle.

- (8) **o-jukɛr** jaa janakaw fiɔ, nɔ-haafɛn-ɛ **u-fuum**
 2SG-look COND CLja-sun-DETja long n.2SG-may-PUNCT 2SG-be.blind
 ‘If you look at the sun too long, you may become blind’

Another form, namely the Consecutive (or Aorist), with the *n*-subject prefixes this time, has no TAM suffix: it is a kind of dependent form (not directly asserted), whose uses range from injunction, to narratives (tales), and to apodosis in complex sentences (9).

- (9) **nɔ nammarɔk kɛb, nanɛg**³²
 nɔ na-ɛmmɪ a-rɔk kɛb, **na-nɛg**
 when n.(3SG):IPFV 3SG-work only n.3SG-be.tired
 ‘Whenever he works, he’s tired’

Two inflections hold a specific place in the system because they have specific suffixes and a perfective value that must be distinguished from the (*-um*) Completive as follows. Firstly, the Punctual is formed with an *-ɛ* suffix, which may originate from the proximal deictic *-ɛ*. This deictic origin could explain its evidential component: without other temporal specifications such as past adverbials, it refers to a recent *event*, typically witnessed by the speaker (10); with stative verbs it refers to temporary states, implying a process in the background, as exemplified below in (17).

- (10) **ɛ-bɔɔs-ɛj** **ɛ-fak-ɛ** ≠ ɛ-bɔɔs-ɛj ɛ-fak~fak-um hɔkɛn

³² When the actual phonetic outcome of the sentence differs significantly from its morpheme-by-morpheme breakdown, both transcriptions are presented.

CL_e-cow-DETe AGR|_e-escape-PUNCT CL_e-cow-DETe AGR|_e-escape~VFOC-COMPL yesterday
'The cow escaped' ≠ 'The cow escaped yesterday'

Secondly, the Terminative is formed with an *-eban* suffix. Considering its terminative overtones, this suffix is very likely to be a grammaticalisation of the verb root *ban* ‘finish’; it is used to indicate that an action has already been completed and does not need to be done anymore, which suggests an actional perfect (Maslov 1988: 65): it gives an intensive value to stative verbs.

- (11) **ni-tut-ɛban** ɛ-man-aj j-umboom fɛ
n.1SG-sell-TRM CL_E-rice-DETe AGR0-1SG.POSS all
‘I sold all my rice’

Another form with a perfective value is the reduplicated Completive. It is formed with the *-om* completive suffix, combined with a reduplication of the verb stem. The semantics of this form is not easy to distinguish from the other forms conveying completive values. Apparently it is not used for describing a succession of events, but rather occurs in questions and answers about what one has done. As proposed by Sagna (2008: 150) for the reduplicated form in Joola Banjal, by contrast with the perfective *-e* form, the focus here seems to be laid on the description of the fact (12) rather than on the occurrence of the event (as is the case with the *-ε* suffix). This feature corresponds more or less to the characteristics of verb focus (Robert 2010), so we have tentatively labeled this form as Completive Verb Focus.

- (12) D_i hɔ-jam-ah nɪ-rək~rək-om bare ɪ-jal-ɔowa
 LOC CLhu-rainy.season-DEThu n.1SG-work~VFOC-COMPL but 1SG-harvest-NEG
 ‘During the rainy season, I did work (a lot) but I did not harvest (much)’

Lastly, four forms can be contrasted, that is, Completive and Present focusing forms, each paired in subject focus vs. complement focus forms. We must add a caveat: although these focusing forms are clearly used for expressing subject and complement focus respectively, in some cases they appear to have only a weak focusing effect. These other uses require more investigation in order to find out what triggers the choice of the focusing forms.

Table 14. The complex paradigms with *mɔ* (example with the root *rɔk* ‘work, make’, 2SG *nɔ-* and *jɛɛnaj* ‘knife’)

	free pr./ complt	subj. 2SG	COP/ AUX	PTCL	subj. 2SG	RAD	TAM	Actual realisation
Statal perfect	<i>aw</i>		<i>ɔɔmɔ</i>	<i>mɔ</i>	<i>nɔ-</i>	<i>RɔK</i>	<i>-ɔm</i>	<i>[aɔmɔnɔrɔkɔm]</i>
Ongoing Present	<i>aw</i>		<i>ɔɔmɔ</i>	<i>mɔ</i>	<i>nɔ-</i>	<i>RɔK</i>	<i>-ɛm</i>	<i>[aɔmɔnɔrɔkɛm]</i>
Progressive (subj. foc.)	<i>aw</i>	<i>ɔ-</i>	<i>ɛmmɪ</i>	<i>mɔ</i>	<i>nɔ-</i>	<i>RɔK</i>	<i>-ɛm</i>	<i>[aɔ ɔmmɪ mɔ nɔrɔkɛm]</i>
Progressive (comp. foc.)	<i>jɛɛnaj</i>	<i>nɔ-</i>	<i>ɛmmɪ</i>	<i>mɔ</i>	<i>nɔ</i>	<i>RɔK</i>	<i>-ɛm</i>	<i>[jɛɛnaj nɔmmɪ mɔ nɔrɔkɛm]</i>

The first two forms are formed with a locative copula followed by the *mɔ* particle and then the verb stem inflected with the *n*-forms, bearing the completive (*-ɔm*) vs. the present (*-ɛm*) suffix. The locative copula is actually the second degree one (‘close to you’) and shows agreement with the subject as described in Table 9 (see §5.3), through a single form for the singular, another one for the plural and the following pattern for class agreement: *C_{xx}-ɔɔ-C-ɔ* (e.g. *kɔɔkɔ* for KA-class, *jɔɔjɔ* for E-class).

The identical form of the copula for most persons explains why the free pronouns are generally required with this paradigm. The locative copula gives the verb a meaning of ‘being (there) in the process of...’. The *-ɔ* present in the copula is probably the deictic suffix, since, for the Present form (only), it can be substituted by the two other deictics, *-ɛ* for proximal and *-a* for distal. However, speakers indicate that with the *-ɔ* copula, the verb form does not give information on the place where the process happens, whereas with *-ɛ*, insistence is laid on its happening here, while *-a* marks a process that takes place in a distant place (or at least different from here).

The meaning of the form with the *-ɛm* present suffix is quite clear: ‘I am presently (in the process of) doing...’. Despite this frequent translation, we have not called it a progressive because, in contrast with other inflections (i.e. Progressives; see Table 14 above and example (21) below), it does not imply a progression in the development of the process over time, nor does it clearly refer to the entrance into the process. Due to the fronted free pronouns, this form is sometimes translated as a presentative: ‘here I am doing this...’. It may also be used in the

apodosis of a paratactic structure to express a past action concomitant with that of the protasis. We have chosen “Ongoing Present” as a tentative label because of the locative copula.

The meaning of the symmetrical paradigm formed with the completive suffix is more difficult to characterise. For stative verbs expressing a quality, this form is clearly used to express permanent states (16), as opposed to the temporary states expressed with the Punctual (17). With dynamic verbs, this form has a completive meaning, referring to a past event with an epistemic value of certainty. Even more typically, it is not used to describe an event as such but rather implies that the action has been done *with a specific purpose*, and has reached its point of achievement. That is why it often appears with a kind of explanatory value (18). Therefore this form would sound strange in utterances like ‘I have beaten the child’ or ‘The dog has eaten the meat’ because, as explained by the consultants, one would have to ask for what reason, what for, what is the result. For these various reasons we have tentatively labeled this form as Statal Perfect (see Maslov 1988).

(16) Kəjufəək kəmə kələnum

Kə-jufə-ək kəkʊ mə **kə-ləen-om**
 CLka-shirt-DETka COP.LOCka mo AGR1ka-be.black-COMPL
 ‘The shirt is black (normal state)’

(17) Kə-jufə-ək **kə-ləen-ε**

CLka-shirt-DETka AGR1ka-be.black-PUNCT
 ‘The shirt is black (e.g. for a white shirt stained with charcoal)’

A person who was asked whether she had informed her husband that she was going out answered:

(18) iŋje əmə mə **n-ŋuc-om** ka-jut-ak ɪ-walən tə
 PRO.1SG COP.LOC.SG mo n.1SG-write-COMPL CLka-letter-DETka 1SG-leave there
 ‘(no, but) I left a notice’ (lit. ‘I have written a notice (that) I left there’)

These complex forms have various shortened realisations: e.g. for (*ɛjagumaj*) *jəjʊ mə egecum* ‘(the dog) is vicious’, one finds *jəmə egecum*, *jəmə egecum* or *jəmɛɛgecum* (considered less correct).

The other two forms with the *mɔ* particle are two present progressives (labeled Progressives), one for subject focus and the other for complement focus. They are formed with the imperfective copula³³ *emmi*, followed by the *mɔ* particle and the verb stem suffixed with the present suffix (-*em*). For the subject-focusing form, the free pronoun is fronted in subject position, followed by a verb phrase with the *emmi* copula prefixed with short subject prefixes, and followed by the *mɔ* particle and the present verb stem inflected with *n*-forms. As a copula, *emmi* inflects for person, as can be seen with the presence of the 1PL inclusive suffix, both on *emmi* and the verb stem, in (19). For complement focus, the short forms are replaced by the *n*-form on *emmi* (20). Considering the presence of *emmi* in the Habitual too (see §5.4.2), we analyse this morpheme as indicating an imperfective process. When combined with the (*mɔ*) particle and the (-*em*) present morpheme, this imperfective would then be interpreted as a present progressive, as suggested by one consultant's explanation of a sentence with the verb 'to work': "it means that I was working before and I am still working now". This form also expresses the notion of an effort being involved in doing the action. With the Progressive, stative verbs have an inchoative reading (21).

(19) ulaal ɔmaam mɔ nurɔkaalem

ulaal	u-emmi-aal	mɔ	nu-rɔk-aal-em
PRO.1PL.INCL	1PL-IPFV-INCL	mo	n.1PL-work-INCL-PRS

'We (including you) are the ones who are working'

(20) ɛ-lɔw-aj n-emmi mɔ nɪ-tɔkɔŋ-em

CLe-meat-DETe	n.(1SG)-IPFV	mo	n.1SG-chew-PRS
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'It is meat I am eating'

(21) iŋɛmmi mɔ niɟuwətiem

iŋɛ	emmi	mɔ	nɪ-ɟuwəti-em
PRO.1SG	(1SG):IPFV	mo	n.1SG-be_sick-PRS

'I am getting sick'

³³ The label "imperfective copula" has been chosen to indicate that *emmi* functions as a predicative inflecting morpheme used only in complex verb forms, but not as a regular copula (i.e. in non-verbal predication).

Since it involves the present suffix *-em*, the Progressive does not allow clitic objects and requires the use of the *di* preposition followed by the pronominal object (see §6.3). The prepositional phrase is usually repeated after a focused nominal object (22):

- (22) e-kereŋ-əj, sɪ-naaŋ-as j-εmmɪ mɔ ε-ɲɔɔfɔ-εm **di** **sɔ**
 CL_e-hen-DETe CL_{si}-rice-DETSi AGR0_e-IPFV mo AGR2_e-eat-PRS LOC PROSi
 ‘The hen, it is rice that it is eating’

6.4.2 Habitual and Futures

While the semantics of the Habitual and the Futures is relatively straightforward, their morphosyntactic analysis is still a problematic issue. Several factors indicate that some of them were originally periphrastic constructions with auxiliaries. However, because of irregularities in their inflections, as well as some hesitations on the part of the consultants (who sometimes correct a form after having uttered it spontaneously), we consider them as auxiliated forms in the process of being grammaticalised. Table 15 gives an overview of this second series of complex paradigms.

Table 15. Habituals and Futures (example with the root *rɔk* ‘to work’, 2SG, and *jεɛnaj* ‘knife’)

	PRO/ noun	? SBJ 2SG	COP/AUX	SBJ 2SG	RAD	TAM	Actual realisations
Habitual (foc. subj)	<i>aw</i>	? ʊ-	<i>εmmɪ</i>	ʊ-	<i>RɔK</i>	∅	<i>[aʊ ɔmmɔrɔk]</i> <i>[jεɛnaj nɔmmɔrɔk]</i>
Habitual (foc. comp)	<i>jεɛnaj</i>	? nʊ -	<i>εmmɪ</i>	ʊ-	<i>RɔK</i>	∅	
	PRO/ noun		PTCL /AUX				Actual realisations
Future 1			<i>min</i>	ʊ-	<i>RɔK</i>	∅	<i>[mɔnɔrɔk]</i>
Future 2			<i>m(in)inne</i>	ʊ-	<i>RɔK</i>	∅	<i>[mɔnnɔɔrɔk]</i>
Future 3 (foc. subj)	<i>aw</i>	(?ʊ-)	<i>εm(i)nε</i>	ʊ-	<i>RɔK</i>	∅	<i>[aʊ ɔmnɔ ɔrɔk]</i>
Future 3	<i>jεɛnaj</i>	<i>n(?ʊ)-</i>	<i>εm(i)nε</i>	ʊ-	<i>RɔK</i>	∅	<i>[nɔmnɔɔrɔk]</i>

(foc. comp.)							
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For the two Habituals (subject vs. complement focus) we find the imperfective copula *emmi* again, but in a different morphosyntactic environment: in both cases, it is followed by the verb stem inflected with the short forms, and without a TAM suffix. Whether the short subject prefixes (vs. vowel assimilation) are required with *emmi* for the subject-focusing form is not clear: they seem to be present in the singular but not in the 2nd and 3rd person plural; there is also no class agreement and no inclusive marker on *emmi*. The complement-focusing forms yield the same ambiguity for the *n*-subject prefixes.

The subject focus form is found in general statements with the dynamic verbs, as in (23) and (24). We have noted subtle nuances in the uses of “complement focus” (or the *n*-forms): for the dynamic verbs (25) as well as the stative ones (26), they seem to give an occasional meaning to the process when there is no fronted complement.

- (23) *sɪ-jagum-as, emmi sɪ-ɲɔɔfɔ ɛ-lɪw-aj*
 CL_{si}-dogs-DET_{si} (CL).IPFV AGR₁_{si}-eat CL_e-meat-DET_e
 ‘Dogs eat meat’ ~ ‘It is the dogs that eat meat’

- (24) *dɪ hɔ-k-ah nɛmmɪ ɪ-rɔk*
 LOC CL_{hu}-night-DET_{hu} n.1SG.IPFV 1SG-work
 ‘I work (only) at night time’ ~ ‘It is (only) at night time that I work’

- (25) *nɛmmɪ ɪ-rɔk dɪ hɔ-k-ah*
 n.1SG.IPFV 1SG-work LOC CL_{hu}-night-DET_{hu}
 ‘Sometimes I work at night time’ ~ ‘I happen to work at night time’

- (26) *nɛmm(ɪ) ɪ-nɛg*
 n.(1SG):IPFV 1SG-be.tired
 ‘I happen to be tired sometimes’

Finally, Keeraak has three distinct futures, not including the possibility for the last one to distinguish between a subject-focusing and a complement-focusing form. Future 1 is a morphologically straightforward form, using a *min* particle followed by the verb inflected with the short subject prefix forms. This *min* is clearly the same morpheme as the one used to

introduce a subordinate clause with purposive meaning; *min* is also used in narratives as a coordinating conjunction with the sense ‘after, then’. Future 1 is a proximal or immediate future meaning ‘I am now going to..., I am about to do...’ (27) and implies intentionality on the part of the subject, as can be seen with the meaning taken on by the stative verb ‘to be tired’ in (28).

- (27) a. *u-paaj baj ?*
 2SG-go where
 ‘Where are you going?’
- b. *min ɪ-paaj Kaabrus*
 FUT1 1SG-go Kabrousse
 ‘I am going to Kabrousse (right away)’

- (28) *min a-næg*
 FUT1 3SG-be.tired
 ‘He is going to get himself tired’

Future 2 is used to indicate a delayed future, to refer to an action that will happen later, at a time which has not arrived yet.

- (29) *ε-hənə jaa (ε-)ban, ε-jagum-aj ε-lɪw-aj munne ε-təkəŋ*
 AGR2e-drink COND (AGR1e-)finish CLe-dog-DETe CLe-meat-DETe FUT2 AGR1e-chew
 ‘Just after drinking, the dog will eat meat.’

Although the speakers refuse to break down the verbal phrase, several elements lead us to identify here a grammaticalising complex form made of *min* (‘then, after, so that’) fused with an irregular auxiliary *inne* ‘must’ whose vowels are colored by the subject indices of the following (auxiliated) verb. First, Future 2 shows an apparently very irregular inflection, e.g. 1SG *munneerək*, 2.SG *mɔnnəwək*, 3SG *munnaarək*, 2PL *munnejirək*, 3 PL *mɔnnəkərək*, which becomes clearer with the class markers (here with the verb ‘to eat’), e.g. CLsi *munne-sɪ-ɲəwəŋ*, CLu *munne-u-ɲəwəŋ*. Second, in a narrative, we have found the same sequence (*min* and the auxiliary *inne*), clearly identifiable thanks to an intervening pronominal phrase (30). According to the consultant’s comment, *inna* introduces here a delay between the two events: without this

morpheme, the clause introduced by *min* would mean that as soon as she grew up, then (*min*) she found a husband.

- (30) Tɔ aj-umbom a-aŋk-um min ɔɔ fɔf unna
 there mother-POSS.2SG 3SG-grow_up-COMPL so_that PRO.3SG too must
 a-haw ə-niinə-əw Bukɪl
 3sg-have CLa-man-DETa Boukil
 ‘That is where my mother grew up until she too found a husband in Boukil’

In addition, this auxiliary was clearly identified by a consultant in other uses outside the Future 2, with the meaning ‘s/he will have to...’. And finally, the same *inne* can also be recognised in the auxiliary used to form the negative future (see Table 16), *t-inne*, where it may be suffixed to the locative morpheme *t-* (see 5.3).

Future 3 (the predictive future) is formed with a morpheme *emine*, usually shortened to *emne*, with vowels assimilating with the personal markers (see Table 15). Its difference from Future 2 is not a temporal but a modal one: Future 3 is a future of prediction. It implies that once a condition is fulfilled, the event will necessarily take place. In the absence of a condition, the value is that of likelihood. It is the only possible Future after a conditional clause (31). The complement-focusing form (or *n*-form) is often used to indicate what will be done after a first event (32), even in gnomic contexts. The subject-focusing form is used with the sense ‘in any case, at any rate, I will...’ or, with a lexical subject, to call the attention of the addressee to a predictable risk (33).

- (31) ʊ-rɔk^ʊ ʒaa ʒak, n-ɛmne ɪ-ʒɔɔŋ-ʊl-ɪ st-katab-as
 2SG-work COND well n.(1SG)-FUT3 1SG-buy-CTP-OBJ.2SG CLsi-shoe-DETSi
 ‘If you work well, I will buy you shoes’

- (32) n-ɛm(ɪ)nɛ ɪ-ʒaaŋ Sigicoor, ɪŋje ba-rɔk-ɛɛr ɪ-ban
 n.(1SG)-FUT3 1SG-go Ziguinchor PRO.1SG CVB-work-CVB 1SG-finish
 ‘I will go to Ziguinchor once I have finished working’

- (33) ɛ-jagum-ay ɛmine ɛ-tɔkɔŋ ɛ-lɪw-ay
 CLe-dog-DETe (CL).FUT3 AGR1e-chew CLe-meat-DETe

‘(watch out) the dog might/is going to eat the meat!’

When the verb stem is suffixed with *-εεr*, Future 3 refers to a more vague and less certain event in the future:

(34) *Nɔmnɔɔ hawεεr!*

nɔ-εm(i)nε ɔ-haw-εεr

n.2SG-FUT3 2SG-have-REM.FUT

‘(come on) you will pass it one day ~ another time!’ (to somebody who just failed his exam)

6.5 Negation

All the negative inflections share a common *-wa* (*-ɔɔwa* for the perfective) morpheme suffixed to the verb stem or to the negative auxiliary, except for the negatives used in relative clauses, where *-wa* is replaced by *-t-* suffixed with the completive *-ɔm* (35). All of the negative paradigms are inflected with the short personal prefixes (36) except in the two negations of Present and Ongoing Present / Progressive: for these auxiliated forms, the auxiliary is inflected with the short forms, while the verb stem bears the *n*-forms. Here again, several forms show assimilation or contraction with the subject prefixes. The negative forms are presented in Table 16, with ‘x’ standing for the short forms of subject prefixes and ‘*n*-x’ for *n*-forms.

Table 16. The patterns of negative inflections (except for relative clauses)

	subj.pref.	particle/auxiliary	subj.pref.	RAD	suffix
NEGATION OF :					
Basic form and perfectives ³⁴			x	RAD	<i>-ɔɔwa</i>
Consecutive and Hortative		<i>t(i)</i>	x	RAD	<i>-wa</i>
Future(s)		<i>tinne</i>	x	RAD	<i>-wa</i>
Present	x	<i>lεε(t)-wa</i>	<i>n</i> -x	RAD	
Ongoing Present, Progressive	x	<i>lεε(t)-wa mɔ</i>	<i>n</i> -x	RAD	<i>-εm</i>
Habitual	x	<i>ndɪ-wa (~ ndɔ-wa)</i>	x	RAD	
Focus		<i>intɪ-wa (~ intaa)</i>	various types of phrases		

³⁴ This label covers the Punctual, Terminative, Statal Perfect and the Completives.

- (35) ka-julɔɔn-ak ka-ndɪ-t-ɔm ku-lɔlɛn dɪ rab
 CLka-rooster-DETka AGR2ka-NEG.HAB-NEG.REL-COMPL AGR1ka-crow LOC daylight
 ‘The rooster that does not crow in the morning’

- (36) ɪndɛɛrɔk ~ ɪndɔwa ɪrɔk
 ɪ-ndɪ-wa ɪ-rɔk dɪ hɔ-jam-ah
 1SG-NEG.HAB-NEG 1SG-work LOC CLhu-rainy_season-DEThu
 ‘I do not work during the raining season’

6.6 The past suffix

All of the verbal inflections may bear the *-ɛɛn* past morpheme (suffixed to the verb stem), except for the Basic form (including its imperative uses). The process is thus located with regard to a moment in the past and its consequences are not valid at the time of speech (37):

- (37) ɪɲɔɔmɪɪrɔk-ɛɛn-ɛm
 ɪɲje ɔɔmɔ mɔ nɪ-rɔk-ɛɛn-ɛm
 PRO.1SG COP.LOC.SG mo n.1SG-work-PST-PRS
 ‘I was working’ (when you interrupted me)

The *-ɛɛn* suffix can be reduplicated to refer to a more remote past. Interestingly, this past suffix can be used with future inflections, giving them a modal (38) or counter-factual reading, as exemplified in (39).

- (38) mɪn ɪ-rɔk-ɛɛn bare ɪ-ɲaaɲ-ɔɔwa
 FUT1 1SG-work-PST but 1SG-go-NEG
 ‘I should have worked but I did not go’

- (39) ɪlakɔɛɛnɛmmɪ ute, nɛmnɛɛrɔkɛɛn
 ɪ-lakɔ-ɛɛn-ɛɛn-mɪ ute, nɛmnɛ ɪ-rɔk-ɛɛn
 1SG-sit-PST-PST-COMPL here FUT3.1SG 1SG-work-PST
 ‘If I had been here, I would have been going to work’

6.7 The converb and the dependent predicates

We will conclude this section by mentioning some verbal morphemes used to form dependent predicates. These dependent predicates combine only with the Basic form of the verb (with short personal prefixes).

6.7.1 *ki*

The second verb of a complex predicate can be introduced by the preverbal particle *ki* (glossed LNK – verbal linker), followed by the (inflected) Basic form:

- (40) *ban napaaj kaajesul kabaŋak kala hɔbɔŋkah*
 ban na-paaj kɪ a-ŋɛs-ɔl ka-baŋ-ak k-ala hɔ-bɔŋk-ah
 then n.3SG-go LNK 3SG-search-CTP CLka-skin-DETka AGR0ka-GEN CLhu-antelope-DEThu
 ‘...then he went to get an antelope’s skin’

Min can also be used in the same syntactic contexts, but then refers to an event that is about to happen at the present moment. *Kɪ* can combine with *min* (i.e. *min kɪ*) to indicate that the process will happen after another action has been completed.

6.7.2 *jaa* and *ban*

jaa, immediately postposed to the verb inflected with the Basic form, is used to form temporal or conditional clauses. Followed by the inflected (Basic) form of *ban* ‘finish’, the *jaa* clause means ‘after having done...’, as in (29) above. Otherwise, *jaa* takes on a conditional meaning; the main clause is then formed with the Future (31) or the Consecutive (*n*-prefixes and no TAM marker), as in (41):

- (41) *ɪ-hɔnɔ jaa bɔ-nɔk-ab, nɪ-lɛɛgɔ*
 1SG-drink COND CLbu-palm_wine-DETbu n.1SG-be_drunk
 ‘If/Whenever I drink wine, I get drunk’

Noticeably, *jaa* disappears in the negative, e.g. *ɔ-ban-ɔɔwa* ‘when you have not finished’.

Moreover, the sequence consisting of the verb followed by the Basic form of *ban* ‘finish’ is a recurring formula in narratives for expressing sequencing events: ‘after having...’; this use

of *ban* is in the process of grammaticalisation, since it can also appear in the same contexts uninflected. Furthermore, *ban* is also used, inflected or not, at the beginning of a clause, as a coordinating conjunction with the sense ‘then, after’, as in (40).

6.7.3 The converb *ba-...-eer* and the participial clause

In addition to the frequent use of nouns or nominalisations for expressing actions that could also be expressed by verbs (e.g. ‘my work is the watering of the plants’ for ‘I water the plants’, ‘I go to the cultivation’ for ‘I go farming’, or ‘I go to the work’ for ‘I go working’), and that of infinitives with different class markers in various constructions (such as the auxiliated one for comparatives), Keeraak also has a non-finite verb form used to express adverbial subordination. This converb has clear nominal features in that it is prefixed with the *ba-* class marker and suffixed with *-eer* (cf. Future 3 in §0), which combine to form nouns expressing the manner in which an action is done:

- (42) *ba-laaken-eer-ab* *b-ala* Antoinette
 CVB-cook-CVB-DETba AGR0ba-GEN Antoinette
 ‘Antoinette’s way of cooking’

As a converb, this form is used to form participial clauses. In this case the converb is not inflected but shows various verbal properties (compare (42) and (43)): it has a subject (the free pronoun is obligatory even in the presence of a lexical subject), it has no default determiner as nouns do, its complements are objects instead of genitives, and it may even introduce a complement clause. This form is used to express conditional (43) or temporal (44) subordination and is sometimes given as a variant of the *jaa* form.

- (43) *Nem(1)nε* *ɪ-paaj* *ɪ-suren,* *bʊ-rək-ab* *bɔ* *ba-baw-eer*
 n.1SG.FUT3 1SG-go 1SG-return AGR1ba-work-DETba PROba CVB-complete-CVB
 ‘I will go back home, when/provided that the work is completed’

When followed by *ban*, inflected with the Basic form, the converb takes on the temporal meaning only (‘once...’, ‘after having...’):

- (44) *Waa* *namna* *a-kaan,* *ɪnje* *ba-paaj-eer* *ɪ-ban ?* [*bapaajeēban*]

what n.3SG.FUT3 3SG-do PRO.1SG CVB-go-CVB 1SG-finish

‘What is he going to do, after I have left?’

Surprisingly we have found this form in main clauses too:

(45) hoken nɔɔ nɔɔaallom injɛ ba-ŋɔt-ɛɛr
 yesterday when n.2SG.go.CTP.COMPL PRO.1SG CVB-sleep-CVB

‘Yesterday when you came, I was sleeping’

To conclude this section on the verbal system, we must point out that, as well as numerous verbal extensions, Keeraak also has several auxiliaries for aspectual specifications (e.g. ‘to sit’ used as inchoative, ‘to return’ used as iterative, ‘to live’ used as persistent, etc.).

7 Conclusion

This first attempt at establishing a grammar of Keeraak is highly instructive in many respects. First, Keeraak shares with other Atlantic languages several morpho-syntactic features, including its rich and fully operative noun class system, a large inventory of derivational (mostly verbal) suffixes, a small number of true adjectives and many ideophones, and a remarkable set of demonstratives with three degrees of deictic distance. These features may be considered areal, since they are also found in distantly related languages such as the Nyun languages, but others features make Keeraak a typical Joola (and Bak) language. For instance, it does not show any consonant alternation, has a lateral fricative /ɬ/, three locative classes, locative copulas, complex TAM paradigms, and two sets of bound subject prefixes with an inclusive/exclusive opposition for the 1st person plural; all of these features are clearly related to those of other Joola languages, as are all the personal morphemes and most of the derivational suffixes.

However, although the Joola cluster is apparently quite homogeneous (at least as far as grammar is concerned, although lexicon shows much more variability), the use of existing descriptions is of no great help for the particular case of Keeraak. In fact, many features of the Keeraak language may be restricted to this particular lect, which might explain (to various extents) the impossibility of speakers of other Joola languages understanding this variety. Remarkable features of Keeraak include: the absence of /p/, which has been spirantised to /f/, realised [ɸ]; the inconsistency of vowel harmony (which is probably undergoing restructuring);

the “obligatory” default determiner; some specific verbal derivational suffixes such as the aesthetic or the assistive; and the *-(oo)wa* negative. Keeraak also makes extensive use of the three spatial deictics across several parts of speech, having systematised the combination of these distance suffixes with the three locative class morphemes (disconnected from the lexicon) used to specify the nature of the space (large, small, inner) to produce various morphemes. But most of all, Keeraak has a remarkable verbal system that differs from most existing descriptions of Joola languages.

The verbal system is probably the most complex part of Keeraak. For two reasons, it was difficult to sort out and analyse the twenty paradigms of this inflectional system: first, its complex morphology, and second, the morphophonological rules that blur the common underlying patterns. In terms of morphology, the main difficulties are threefold: (a) Keeraak makes use of two sets of bound subject prefixes in a complementary distribution that is at first puzzling; moreover, some verbal inflections also require the free personal pronouns; (b) focus and negation are expressed through verbal morphology; and most of all (c) as well as simple forms using TAM suffixes, the language also has complex verb forms consisting of an inflectional copula, particles, and also more or less grammaticalised auxiliaries (with personal prefixes both on the verb stem and on the auxiliaries). This morphological complexity is made harder to understand by the following morphophonological factors: (a) the complex paradigms are generally realised in shortened or fused forms after vowel assimilation, contraction, or haplology, and some inflectional paradigms show morphological irregularities; (b) there is a strong tendency to assimilate the vowels of the auxiliaries or verbal particles with the subject affixes, and in the case of complex forms it is sometimes difficult to decide whether the vowel includes an underlying subject affix or not; (c) the very common completive suffix has three possible realisations, conditioned by the phonological environment in which it occurs.

Some of the features discussed here, which were not unknown in the Joola literature, have been given a different analysis (e.g. the view of the reciprocal suffix as being rather a pluractional), and of course await more detailed studies. Other features, such as the unusual type of differential object marking, have apparently been overlooked. Further research will undoubtedly yield exciting findings, at least in the following domains: the verbal system, the semantic features of verbal extensions, syntax in general, and especially the relationship between transitivity and information structure.

Abbreviations

:	indicates a segmentable morpheme when the text is not segmented	n.	<i>n</i> -form (for bound personal subjects)
AGR0	agreement marker consisting of a single consonant	NEG	negation
AGR1	agreement marker (- <i>o</i> , - <i>l</i> , <i>ε</i> -series)	NEG.HAB	negation of habitual
AGR2	agreement marker (- <i>a</i> series)	NEG.REL	negation in relative clause
CLxx	noun class marker of class xx	OBJ	object
COMPL	completive	PASS	passive
COND	conditional or temporal verbal marker	PL	plural (for personal morphemes)
COP.LOC	locative copula	POSS	possessive
CTP	centripetal	PRF	perfect
CTP.RES	resultative centripetal	PRO	pronoun
CVB	converb	PRS	present
DET	default determiner	PTCL	particle
FUT1	immediate future	PST	past suffix
FUT2	delayed future	PUNCT	punctual
FUT3	predictive future	RDP	reduplication
GEN	genitival morpheme	REM.FUT	remote future
INCL	inclusive	REPET	repetition
IPFV	imperfective copula	SBJ	subject
LNK	verbal linker	SG	singular
LOC	locative preposition	TRM	terminative
MO	<i>mɔ</i> particle	VFOC	verb focus

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