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Ideophones in Sena (Bantu, Mozambique)

ROZENN GUÉROIS
CNRS, UMR 8135 LANGAGE, LANGUES ET CULTURES D'AFRIQUE
UNIVERSITY KWAZULU-NATAL

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Abstract

Based on a recently collected fieldwork corpus, this paper offers an overview of ideophones in Sena, a Bantu language spoken along the Lower Zambezi River in central Mozambique. By closely examining the different features (phonology, morphology, syntax and semantics) of Sena ideophones, this paper aims to identify the language-internal aspects of ideophones. The claim is that Sena ideophones are best treated as a distinctive word class whose members can be used in a variety of syntactic constructions. A crucial aspect of their syntactic properties is their ability to be used as holophrastic predicates.

Keywords: ideophones; word classes; holophrastic predication; Sena; Bantu.

1. Introduction

This paper provides a detailed description of ideophones in Sena, an Eastern Bantu language coded as seh (ISO 693-3), nucl1396 (Glottolog) and N44 in Guthrie's (1967-71) referential classification. It is spoken along the lower Zambezi valley in central Mozambique in the provinces of Sofalá, Tete, Zambézia and Manica. The number of speakers is estimated to be more than 1,600,000 speakers (Instituto Nacional de Estatísticas 2017).

There is a vast body of literature on ideophones, but despite important typological research (e.g. Hinton, Nichols & Ohala 1994; Voeltz & Kilian-Hatz 2001; Dingemanse

2012; Haiman 2018; Akita & Pardeshi 2019), there is no strict consensus on either the definition or the functions of ideophones across languages. It appears that crosslinguistically there are different profiles of languages when it comes to defining ideophones. Classically considered as "vivid representations[s] of an idea in sound" (Doke 1935: 118), they were later defined as "marked words that depict sensory imagery" (Dingemanse 2012: 655). Ideophones have iconic properties that convey depiction associated to sensory perceptions as well as motion, temporal unfolding, feelings and cognitive states (Kilian-Hatz 1999: 31–52; Dingemanse 2012: 661; Dingemanse et al. 2015: 607). Controversies exist in terms of word class affiliation, i.e. whether ideophones can be subsumed under (an)other word class(es) or constitute their own part of speech. In African studies, ideophones are either analysed as a subcategory of adverbs (see, e.g. Doke 1931: 221 for Shona, sna), or they are considered as a distinct word class (Cole 1955).

By closely examining the different features (phonology, morphology, syntax and semantics) of Sena ideophones, this paper aims to offer a first analysis of this type of lexemes in the language, and reach a language-internal definition of ideophones. I argue that Sena ideophones are better treated as a separate word class, featuring phonological, morphological and syntactic properties not otherwise attested in other word classes.

The article is organized as follows. The basic morphosyntactic aspects of Sena word classes are presented in Section 2. Section 3 provides main properties of Sena ideophones as well as the inventory used in this study. Sections 4 to 7 examine their properties in terms of phonology, morphology, syntax and semantics, respectively. Finally, Section 8 offers some discussion and conclusions.

The data used in this paper come from Prieto (2015), which includes a dictionary section in which a fairly large number of ideophones were found, and two periods of fieldwork carried out by the author in Maputo (fall 2021) and in the town of Caia and its surroundings, in the north of the Sofalá Province (summer 2022). Throughout the paper, I use a phonological notation for the linguistic data. Note, however, that <y> stands for the palatal approximant /j/, as conventionally practiced in Bantu studies.

2. Major word classes in Sena

In many respects, Sena is a typical Bantu language: its morphology is highly agglutinative and ruled by a gender system of agreement classes, and it follows a basic

SVO word order.[1] The canonical syllabic structure is CV, where C stands for any consonant, including prenasalized consonants, affricates, glides, and labialized/palatalized consonants. By default, the nucleus is the vowel, but syllabic nasals commonly appear noun-initially as a result of vowel apocope between a nasal onset and a following labial or coronal consonant, followed by homorganic nasal assimilation (e.g. noun class prefix 3 *mu-* > *ṇ-* in *ṇsoro* 'head'). There are no closed-syllable words in Sena. The only exception to this generalization is ideophones, as examined in detail in §4.2. Unlike most Bantu languages, Sena does not have phonemic tones. It instead shows a rather predictable accentual system associated to the penultimate syllable, similar to that found in Swahili (swh).

The rest of this section briefly describes major word classes in Sena, i.e. word classes which have inflecting members, ruled by a predominantly head-marking morphology characterized by an extensive system of noun class agreement (gender-number agreement patterns). These are nouns, adnominal modifiers and verbs. Adverbs are also presented at the end of the section.

Sena nouns are generally bi- or trisyllabic. As a typical Bantu language, it has an elaborate system of noun classes (gender-number agreement patterns) numbered from 1 to 18. Structurally, nouns minimally consist of a stem to which a noun class prefix is assigned. Most classes function in singular/plural pairs. Compare, e.g. singular class 1 *ṇ-kazi* 'woman' versus plural class 2 *a-kazi* 'women'. Class 15 *ku-* serves to form infinitives (e.g. *ku-roŋga* 'to speak'), hence it is glossed as INF throughout. The language also retained the three historical Proto-Bantu locative classes *pà (class 16), *kù (class 17), and *mù (class 18) (Meeussen 1967; Grégoire 1975), realized as *pa-*, *ku-* and *mu-*, respectively (e.g. *pa-ɲyumba* 'at home'). In the NP, nouns by default appear phrase-initially and function as the head of the construction. In verbal clauses, they usually serve as subjects and/or objects. There is no different marking of nouns in different argument positions or different oblique roles.

Nouns as heads of NPs may combine with adnominal modifiers, which usually follow them and agree with them through class prefixes. Adnominal modifiers include adjectives, demonstratives, possessives, numerals/quantifiers, and interrogatives. Some of these modifiers share the same agreement paradigm, others have their own.

[1] For more information on what typical Bantu languages are, the reader is referred to general works such as Williamson and Blench (2000: 11–42), Nurse and Philippson (2003) and Van de Velde et al. (2019).

In this paper, for ease of reading, agreement prefixes within noun phrases are all glossed as AGRP for 'agreement prefix', then followed by the noun class number.[2]

Like most Bantu languages, Sena has rich agglutinative verbal morphology. The verbal complex consists of a string of affixes and clitics assigned to specific verbal slots that are ordered around the verb root contained in the radical slot. As can be seen in Table 1, a range of grammatical information is conveyed by these elements.

Slots	pre-initial	initial	post-initial	pre-radical	radical	pre-final	final	post-final
Functions	TAM negation	subject	TAM AM	object	**verb root**	derivation TA	TAM	PLA locative subject pronouns in relatives, etc.

Table 1: The morphological structure of the finite verb in Sena (based on Güldemann 1999's terminology).

The example in (1) illustrates the ordering and type of information that may be encoded in the verb form, with temporal and aspectual information (present *na-* prefix), subject and object agreement (*ndi-*, *ku-*), and derivational suffixes (applicative *-ir*).

(1) *ine ndinakut^{h}amaŋgira*
ine ***ndi-na-ku-t^{h}amaŋg-ir-a***
PRO1SG SP1SG-PRS-OP2SG-run-APPL-FV
'I'm going to chase you away.' (Story_HareCobra_#31)

Like a typical Bantu language, Sena displays nominative-accusative alignment. The unmarked and default word order is Subject-Verb(-Object)(-Adjunct/Oblique). The initial agreement slot of the conjugated verb form invariably expresses agreement with the subject (except in relative constructions). NP arguments whose identity is recoverable from the context can freely be omitted. This is especially true for subjects, which are indexed through verb agreement anyway.

[2] Readers are referred to Güldemann & Fiedler (2019) for an overview on noun classes and gender in Bantu and beyond.

Adverbs, along with nouns and verbs, are an open word class. In particular, the derivational prefix *ci-* (class 7) is a productive way of creating adverbs, especially manner adverbs. Most of them include reduplication (e.g. *ciɲɟala-ɲɟala* 'always with hunger' < *ɲɟala* 'hunger'), but non-reduplicated *ci-* adverbs are also attested (e.g. *ciɱpira* 'in the shape of a ball' < *ɱpira* 'ball'). Several temporal adverbs are also based on the class prefix *ci-*, e.g. *cino* 'now', *cipo* 'never', *citi-citi* 'midnight', *cit^{h}aŋkwi* 'at the beginning, formerly', etc., however the lexical (or grammatical) sources from which they derive are synchronically not retrievable. Other temporal adverbs are uninflected, e.g. *rero* 'today', *maŋgwana* 'tomorrow' or *kare* 'formerly'. As for locative adverbs, they usually take one of the three locative prefixes, e.g. *pa-kati/ku-kati/ɳ-kati* 'in the middle'.

3. Sena ideophones: main characteristics and inventory

Ideophones are "marked words" (Dingemanse 2012: 654) in the sense that they stand out from other lexemes. How markedness manifests itself may differ from language to language and has to be defined in language-internal terms. This section summarizes the main characteristics of this word class in Sena (§3.1) and provides basic information on the inventory used in this study (§3.2).

3.1 Main characteristics

The Sena language has been the subject of a number of studies led mostly by missionaries since the late 19th century. Anderson's (1897) short grammatical account does not discuss ideophones at all. Torrend (1900: 173–176) refers to ideophones as "*informal words*" which can be used as *adjectives* (after *li* 'be'), *adverbs* or *interjections*. Only a few examples are provided for each use, and none are accompanied by additional comments or analysis. There is no subsection on ideophones in Moreira (1924). A couple of ideophones can be identified as part of superlative constructions (p. 51). The author refers to them as "*invariable nouns*". A few other ideophones are found in temporal expressions, such as *dzua pióo* 'at sun rise' (p. 159) or *dzua toɓi* 'after sunset' (p. 160). Alves (1939: 40–41) talks about *adverbs* and proposes a handful of examples. The studies by Funnell (2004) and Kiso (2012) focus on some specific

aspects of Sena grammar. None describes ideophonic words. Finally, Prieto (2015) is divided into several sections, including a Sena-Portuguese lexicon and a short grammatical sketch. In the latter, ideophones are treated in one paragraph, where the author refers to them with the label "*onomatopeic adverbial expression*" (Prieto 2015: 413). Here too, a handful of examples are given. Crucially, even if Prieto's grammatical analysis of ideophones is very superficial, his Sena-Portuguese lexicon (p. 3–234) has the advantage of providing a significant number of ideophones (at least 400), which serve as the main source for the current study.

The way these different authors classify ideophones is unfortunately not based on any given definition. The variety of attributes provided and italicized above shows to what extent the authors disagree about their status. The rest of this section is devoted to the main characteristics of Sena ideophones. Only high-level points are highlighted here. Details are provided in the different following sections.

With regard to phonology (§4), ideophones in Sena only contain phonemes that also belong to the general phoneme inventory of the language. The most salient phonological properties of ideophones are the following: i) they recurrently resort to vowel lengthening (in a system where long vowels are non-phonemic); ii) they exhibit several strategies of reduplication; iii) they include a handful of items with closed syllables (CVC pattern), a syllabic structure unattested in other parts of speech; and iv) in a prosodic system marked by stress, ideophones exhibit tones.

With regard to morphology (§5), ideophones are uninflected, and, with a few exceptions, deprived of derivational morphology. Ideophones thus have the appearance of being underived roots. A frequent morphological process, however, involves the reduplication, triplication or multiplication of the radical element, something which is a common characteristic of ideophones cross-linguistically (see, e.g. Voeltz & Kilian-Hatz 2001: 2; Childs 2003: 8; Dingemanse 2012: 656; Andrason 2020: 127–128). Many Sena ideophones which describe a property or manner have the shape of verb roots. The relationship between verbs and ideophones has long been postulated in Bantu (Doke 1954; Fortune 1961; Childs 1994). In Sena, the presence of derivational morphology in a handful of ideophones suggests a one-way derivational mechanism, that is deverbal derivation. Deverbal ideophones in Sena could be analyzed as defective verbs, but since they share the same properties as the other ideophones, they are treated as ideophones.

With regard to syntax (§6), Sena ideophones can appear in three different constructions summarized in (2).

(2) - Complement of cognate verbs (adverbial use)
- Complement of copula verbs or light verbs (complex predicates)
- Ideophonic predicates (predicative and holophrastic use)

This wide distribution results in different degrees of syntactic integration. When they combine with cognate verbs, they behave as manner adverbs co-expressing the event expressed by the verb, such as 'he fell IDEO(falling)'. They form complex predicates when they combine with copula verbs ('be' + IDEO) or light verbs ('do' + IDEO). When they are used predicatively and holophrastically, Sena ideophones function as "complete autonomous utterance[s]" (Andrason 2020: 130). They can substitute for verbs and function on their own as predicates with the capacity to induce argument positions. This corresponds to the prototypical syntactic definition of ideophones (Childs 1994; Dingemanse 2012: 656–657; Andrason 2020: 130).

Finally, with regards to semantics (§7), all semantic fields identified by Dingemanse (2012: 663), i.e. movements, all types of sensory perceptions, inner feelings and cognitive states, are covered by Sena ideophones. A complementary pattern ruled by phono-semantic principles is observed in many deverbal ideophones. The first pattern correlates vowel lengthening with a single, durative and usually intense event (e.g. *nyáːŋgu* 'licking'), while the second pattern semantically associates reduplication (or multiplication) with a recurrent, repetitive or rhythmic event (e.g. *nyaŋgú-nyaŋgú* 'licking repeatedly').

3.2 The inventory

Bantu languages differ considerably as to their number of ideophones. Large inventories are posited for Duala (dua, Cameroon, Meinhof 1912), Nkundo (lol, North-Western DRC, Hulstaert 1938), and a number of central Bantu languages such as Tumbuka (tum, Malawi, Tanzania, Zambia, Young 1932). At the other end of the spectrum, Rundi (run, Burundi, Meeussen 1959) and Gusii (guz, Kenya, Whiteley 1956) are two Bantu languages with seemingly few ideophones. In between, there are languages like Tswana (tsn), where "ideophones do appear to be fewer in number and to be less frequently used in Tswana than in many other Bantu languages" (Cole 1955: 370). Unfortunately, speaking of large or small inventories does not say anything about exact numbers, and as can be expected, the differences in size assessment may easily be attributed to different definitions of the authors and/or the depth at which

ideophones have been described in each language. A dedicated study is needed to avoid these pitfalls.

Earlier work on Sena (§3.1) does not convey a precise idea of the number of ideophones and even less of their frequency in the language. In terms of numbers, the 412 lexemes found in Prieto probably represent just a sample. Prieto himself states that "[t]here is a whole dictionary of onomatopoeic and alike sentences to be written yet."[3]

As for my own fieldwork corpus, excluding elicitation, a total of almost 6:30 hours of naturalistic data were recorded and transcribed.[4] These include radio broadcasts, conversations, life stories, folktales and descriptions of cultural practices. I also included poems written in the 1970s by two Sena speakers while they were living and studying in Zobwe, Tete Province. In Table 2, the different audio files are listed by genre. The number of recordings (with an indication of their total length in time) and the number of types and tokens are specified for each genre. In total, across the different genres, there are 175 instances (tokens) of ideophones for 54 types.

Genre	**Number of recordings (+ recording time)**	**Type number of ideophones**	**Token number of ideophones**
radio broadcasts	2 recordings (00:33:36)	1	1
life stories	11 recordings (03:03:50)	6	14
descriptions	9 recordings (00:50:47)	7	23
conversations	4 recordings (00:36:05)	5	37
folktales	12 recordings (01:02:33)	23	81
poems	11 recordings (00:21:40)	16	19

Table 2: Occurrences of ideophones (in types and tokens) based on available discourse genres. (Guérois 2021 – 2022 field data)

Among the discourse genres listed in Table 2, radio broadcasts and life stories have very few ideophones overall. The discourse genre 'descriptions' closely follows, with at most one or two ideophones for recordings between 5 and 15 minutes. Two very short recordings (between 01:30 and 2:00 minutes) have 10 and 7 ideophone tokens, respectively, but with 15 occurrences of *gedé* 'completing, concluding an action'. The last three discourse genres in Table 2, conversations, folktales and poems, have

[3] Translated from the original: «Há um dicionário inteiro, ainda por escrever, de frases onomatopeicas e similares.»

[4] As the raw data is still being processed, this corpus has not yet been made available in open access.

proportionally more ideophones. That conversations and folktales contain a considerable number of ideophones is not surprising, considering that ideophones are used for dramatic enhancement through sound effects. The speaker not only narrates the event but also dramatizes for his audience (or interlocutor) by the means of an ideophone (the linguistic feature), which may be accompanied by a simultaneous imitation, in the form of a gesture (the extralinguistic feature). It is also not surprising to find ideophones in poems, as this genre not only embraces orality through rhythm, sonic qualities and acoustic resonance, but also invokes imagery, just as ideophones typically do. Four ideophones extracted from poems are used in this study.

Another interesting fact, which would deserve more in-depth research, is speaker variation. The current corpus suggests that monolingual Sena speakers tend to use ideophones more frequently than non-monolingual speakers. Coincidently, monolingual Sena speakers are more likely to live in rural areas and usually have a lower level of scholarly instruction.

The inventory of ideophones used in the present study brings together the 54 types of ideophones found in fieldwork data and those provided in Prieto's lists. The final corpus is thus based on a total of 466 ideophones.

4. Phonological aspects

This section describes the most salient phonological properties of Sena ideophones. It first delves into the segmental inventory (§4.1), then examines the different syllabic shapes (§4.2), and ends with the suprasegmental level (§4.3).

4.1 Segmental inventory

An often-stated criterion in defining the ideophone class is their ability to incorporate phonemes not otherwise attested in the phonological inventory of the language (see, e.g. Samarin 1971: 135–136; Childs 1994; Voeltz & Kilian-Hatz 2001; Dingemanse 2012: 656; Andrason 2017: 146; Andrason 2020: 125–126). Ideophones in Sena do not make use of special phonemes. The segmental inventory in Sena consists of five vowels and 44 consonants. Vowel length is not a contrastive feature in the language, but vowel lengthening plays a crucial role in ideophones, as discussed in §4.2. Each of the five vowels participates in the expression of ideophones. There is no strict rule as to the nature of co-occurring vowels in ideophones. Some ideophones display

identical vowels, as in (3). Some combine high/close vowels (4a), front vowels (4b) or back vowels (4c). Others put vowels with different features together (5).

(3)	i-i	*gwiɓídî*	‘being entered, introduced’
	e-e	*ndéŋgere*	‘left aside, useless’
	a-a	*dára*	‘aged, from a previous round’
	o-o	*toro*	‘swelling of pregnant belly’
	u-u	*gugú:du*	‘be dry (soil, spread maize, cloth, heart, etc.)’

(4)	a. i-u	*cíŋgu*	‘turning around to look behind’
	u-i	*cúbwi*	‘splashing sound’
	b. e-i	*yetí*	‘shining, sparkling’
		cipézi-pézi	‘naked’
	c. o-u	*gómú*	‘negate completely’
		ó:bvu	‘rotten’

(5)	i-o	*zikó:*	‘very deep’
	o-i	*o:tsí*	‘sound of sneezing’
	u-e	*ɓúré:*	‘straight (for hair)’
	a-u	*katú-katu*	‘lukewarm (liquid, food)’

Sena has a rich consonantal system including implosives and a large series of prenasalized clusters and affricates. Although some consonants are less frequent than others, as is the case with the other word classes, the whole consonantal inventory is represented in ideophones. Voiced bilabial and dentals are by default implosive. Very few words in the language have the plosives /b/ and /d/. Ideophones are no exception: only four ideophones in the corpus, listed in (6), have them. The minimal (or near) pairs show the contrast between plosives and implosives.

(6)	a. *dúdu:ru*	‘sound of impact on the ground’
	dudú:rú	‘something turned dry (lake, pan, bone)’
	b. *bwí-bwi-bwí*	‘making bubbles on the water surface’
	ɓwí-ɓwí-ɓwí	‘throwing food in the mouth’
	c. *dí-dí-dí*	‘sound of running strides or door knocking’
	dé-dé-dé	‘sleeping on the back’

d. *bó(ː)* ‘spreading out, spilling’
ɓóːdo ‘be damaged’

There does not seem to be any strong correlation between Sena ideophones and sound symbolism (§7.2).

4.2 Syllabic shapes

The different shapes of Sena ideophones are listed in Table 3. The vast majority are not distinct in shape from non-ideophonic words, in that they maintain the canonical CV syllable structure of the language (but see below for exceptions). There are both mono- and polysyllabic ideophones.

Shape	Ideophone	Meaning
monosyllabic	*zwí*	‘act of throwing’
disyllabic	*ná.wa*	‘be in a seated position’
polysyllabic	*ɾu.ɓu.du*	‘with big belly button’
	ɓo.ndo.kó.te	‘woman sitting with knees bent’
	dzí.ndzí.rí.ki.ti	‘recalling sth. forgotten (& going back)’

Table 3: Syllabic structure of Sena ideophones.

Monosyllabic ideophones are proportionally few (81 out of 466, i.e. 17%), but still far more frequent than in other word classes. Most ideophones in Sena are disyllabic. By default, they have a C-initial structure. Vowel-initial ideophones are rare. The whole corpus-based list is provided in Table 4.

Ideophone	Meaning
enwá-enwá	‘being visible (game, fugitive)’
ófu-ófu	‘sound of pig’s grunt’
óːbvu	‘being rotten’
oːtsí	‘sound of sneezing’
oyó-oyo	‘speaking at the same time’
uyá-uyá	‘movement triggered by strong winds’

Table 4: V-initial ideophones in Sena.

Although ideophones overall follow regular phonotactic rules, they may violate certain structure conditions. A first phonological anomaly has to do with the extensive use of vowel lengthening, a feature shared with interjections such as *wá::* ('exclamation of surprise'), *ʒí::* ('exclamation of surprise'), *á::y* ('exclamation of pain').[5] In a system where long vowels are non-phonemic, vowel lengthening is used for expressive purposes in ideophonic words. With the exception of fully-reduplicated ideophones used to express recurrent, repetitive or rhythmic events (see §7.2), it seems that all ideophones can be subjected to vowel lengthening. Depending on intensity, vowels can be extra-long, with no apparent limit on the length. Lengthening occurs in mono- as well as polysyllabic ideophones as shown in Table 5. Where lengthening occurs in polysyllabic ideophones is not always predictable. In disyllabic ideophones, it may be on the last vowel (e.g. *ɓídó::*) or the first one (e.g. *dé::fu*). In longer ideophones, lengthening may not apply to the first vowel; it is restricted to either the last (e.g. *bveséré::* and *ɗoɗorído:*) or penultimate vowel (e.g. *ndungú::ndu* and *ɓondokó:te*).

Shape	Ideophone	Meaning
monosyllabic	*gwí / **gwí::***	'with strength'
disyllabic	*ɓí.ɗó / ɓí.**ɗó::***	'dark, black'
	*dé.fu / **dé::**.fu*	'be empty (stomach, food bag)'
trisyllabic	*bve.sé.ré / bve.sé.**ré::***	'listening'
	*ndu.ngú.ndu / ndu.**ngú::**.ndu*	'getting calm (body pain, sea wave)'
four-syllable	*ɗo.ɗo.rí.ɗo / ɗo.ɗo.rí.**ɗo:***	'waiting for s.o. in vain'
	*ɓo.ndo.kó.te / ɓo.ndo.**kó:**.te*	'woman sitting with knees bent'

Table 5: Vowel lengthening in Sena ideophones.

Examples (7) and (8), extracted from the same conversation, illustrate the use of the ideophone *pʰwí* in similar contexts and with equivalent meaning, with and without vowel lengthening.

(7) *ufa ɓasi uɗama(ra) kwenda uku, ɓasiya pʰwí::!*
u-fa *ɓasi* *u-ɗa-mara* *ku-enda* *uku* *ɓasiya* ***pʰwí::***
14-flour only AGRP14-PFV.REL-finish INF-go 17.DEM.I 5.basin IDEO(full)
'(…) flour only which ended up going there, a full basin!' (Conv.06_MaMa-BeCh-CeTh#262)

[5] Vowel lengthening in other parts of speech may occur for emphasis or insistence, but it seems much less frequent.

(8) *ora zonsene uŋgafika kwenda kafuŋgura ɓasiya unagumana ɓasiya pʰwi!*
ora *zi-onsene* *u-ŋga-fika* *ku-enda* *ka-fuŋgura* *ɓasiya*
10.time AGRP10-all SP2SG-SIT-arrive INF-go AM.ITV-open 5.basin
u-na-gumana *ɓasiya* ***pʰwí***
SP1-PRS-meet 5.basin IDEO(full)
'Any time when you arrive and open the basin, you find the basin completely full.' (Conv.06_MaMa-BeCh-CeTh_#268)

In some cases, vowel length participates in the distinction between ideophones. This is interesting because this is the only domain of the language where vowel length plays a distinctive role. Examples of minimal pairs based on vowel length are provided in (9). Again, the length depends on the intensity conveyed.

(9) a. *ɗára* 'aged, from a previous round'
ɗá::ra 'in large number'
b. *gá* 'sound of cutting with strength'
gá:: 'rising, ascending (sun, light)'
c. *bvu-bvú-bvu-bvu* 'spending helplessly'
bvú:-bvú:-bvú: 'movement of wind or fan'
d. *pfé-pfé-pfé* 'installing/hanging on walls'
pfé:: 'replying unitedly to a song'

Another exceptional feature of Sena ideophones is their ability to end in consonants. This is found with six items only (1,3%), listed in Table 6. Except for *pʰurúŕ::*, all are monosyllabic. The single occurrence with a nasal coda, *mvú::n*, has a long vowel. All the others end in a long trill [r::] following a short vowel. Free variation between C-final *cúŕ::* and V-final *cú::* suggests that lengthening may occur either on the trill, or on the vowel, but not both. Consonantal codas as well as trill lengthening are not found in other parts of speech.

Ideophone	Meaning
mvú::n	'smelling bad'
gwíŕ::	'in abundance'
tíŕ::	'being squeezed and plentiful'
ɗúŕ::	i) 'silent with fear (in front of chiefs)' - ii) 'fading away (for plant)'
cúŕ:: ~ cú::	'spilling (for liquid)'
pʰurúŕ::	i) 'unrolling mat' - ii) 'trying to fly away (trapped bird)'

Table 6: C-final ideophones in Sena.

Two sentences with C-final ideophones are provided in (10) and (11).

(10) *nyama zidagureye zikanuŋkʰa, ziri mvú::n!*

nyama	*zi-da-gura = eye*	*zi-ka-nuŋkʰa*	*zi-ri*
10.meat	AGRP10-PFV.REL-buy = PRO1	SP10-PST.IPFV-smell.bad	SP10-be

mvú::n

IDEO

'The meat s/he bought was smelling bad, it stinks!' (Elicitation)

(11) *tsaŋga iri dúŕ:: na dzuwa*

tsaŋga	*i-ri*	***dúŕ::***	*na*	*dzuwa*
5.weed	SP5-be	IDEO	by	5.sun

'Weeds faded away because of the sun.' (Elicitation)

4.3 Suprasegmental level

As mentioned in §2, Sena does not have tones, but rather stress or accent associated to the penultimate syllable of phrasal domains, and realized through phonetic properties such as loudness and higher pitch. Amidst this predictable stress system, it is interesting to observe that ideophones have a special prosody which makes the distinction between high tones (H), indicated with an acute accent, and zero tones (Ø). The coexistence of stress-like and tone-like properties within the prosodic system of a language is not unique to Sena. It is discussed in detail by Downing (2019) for Tumbuka, a Malawian Bantu language in which tonal contrasts emerge in ideophones only.

In Sena, many tonal patterns on ideophones can be isolated, as listed and illustrated in Table 7 for non-reduplicated ideophones, and Table 8 for reduplicated ideophones. The tone position in an ideophone does not depend on phonological rules; it is largely unpredictable and must be learnt for each ideophone. The two lists below do not claim to be exhaustive; more research is needed to determine to which extent these tone patterns are strictly assigned to ideophones, and whether they are consistently used across speakers. Crucially, none of these patterns are attested elsewhere, except H:: for interjections. Unlike polysyllabic ideophones, monosyllabic ideophones all seem to

attract a high tone. As can be seen, high-toned syllables may be pronounced longer, but this is not systematic.

Tone pattern	Ideophone	Meaning
1-syllable		
H::	*bzwé::*	'dry a little, in part'
HH::	*ɗúŕ::*	i) 'silent with fear (in front of chiefs)'
		ii) 'fading away (for plant)'
2-syllable		
Ø.Ø	*to.ro*	'swelling of pregnant belly'
Ø.H	*ɓo.fó*	'be damaged, deformed (following some pressure)'
Ø.H::	*zi.kó::*	'very deep'
Ø:.H	*bvu:.mbú*	'leaving suddenly'
H.Ø	*cé.tu*	'glowing, sparkling'
H:.Ø	*ɓé:.p^{h}e*	'experiencing emotional distress'
H.Ø::	*cé.te::*	'in silence'
H.H	*fú.mbú*	'in vain'
H.H:	*ɓí.ɗó:*	'dark, black'
3-syllable		
Ø.Ø.Ø	*kwi.kwi.nya*	'buttocks swaying'
Ø.H.H::	*bve.sé.ré::*	'listening'
Ø.H.H	*dzo.ró.ró*	'standing on feet, be vertical, erected'
Ø.H:.H	*so.ró:.ré*	'tearing, extracting sth. stuck'
H.H::.Ø	*bzwé.ré::.re*	'being smooth (skin, bark, surface)'
H.H.H	*ɟé.ré.ré*	'well lit, burning (light, fire)'
H.Ø::.Ø	*ɗó.ndo::.ro*	'well straight on the way'
4-syllable		
Ø.Ø.H:.Ø	*ta.mba.rá:.re*	'sitting with stretched legs'
Ø.Ø.H.Ø:	*ɗo.ɗo.rí.ɗo:*	'waiting for s.o. in vain'
Ø.Ø.H.H	*pa.pa.rá.rá*	'extending (wings, arms) while walking'
H.H.H.H	*p^{h}á.ná.má.ná*	'observing, watching someone'
5-syllable		
H-H-H-Ø-Ø	*dzí.ndzí.rí.ki.t^{h}i*	'recalling sth. forgotten (& going back)'

Table 7: Tone patterns in non-reduplicated Sena ideophones.

Tone pattern	Ideophone	Meaning
monosyllabic reduplication		
H-H-H	*ɟó-ɟó-ɟó*	‘dripping’
H-Ø-H	*ɾú-ɾu-ɾú*	‘comforting gesture to calm a crying child’
H-Ø-Ø	*fá-fa-fa*	‘filling up too much, exceeding’
disyllabic reduplication		
Ø.Ø-Ø.Ø	*tsa.ɾi-tsa.ɾi*	‘having last convulsions before dying’
Ø.H-Ø.Ø	*ɾa.sá-ɾa.sa*	‘throwing’
Ø.Ø-H.H	*ɾi.kwi-ɾí.kwí*	‘stuck in the throat’
Ø.H-Ø.H	*ca.ɾí-ca.ɾí*	‘bypassing, deviating’
H.H-H.H	*ɓú.ɾú-ɓú.ɾú*	‘in movement (water, liquid)’
H.H-Ø.Ø	*fí.ɗá-fi.ɗa*	‘with lots of cash’
H.Ø-H.Ø	*ó.fu-ó.fu*	‘sound of pig’s grunt’
trisyllabic reduplication		
Ø.H.H-Ø.H.H	*ɓa.ɾá.ɾá-ɓa.ɾá.ɾá*	‘walk in an uncontrolled way’
Ø.Ø.Ø-H.Ø.Ø	*ke.ŋke.re-ké.ŋke.re*	‘sound of foreign language’
Ø.Ø.Ø-Ø.H.H	*dzo.ro.ro-dzo.ró.ró*	‘standing on feet, be vertical, erected’
Ø.Ø.H-Ø.Ø.Ø	*pe.ke.té-pe.ke.te*	‘movement of confusion, disorder (in the forest)’

Table 8: Tone patterns in reduplicated Sena ideophones.

Ideophonic tones can be contrastive and contribute to semantic variation. For instance, the three ideophones in (12) are all derived from the verb stem *ɓeruka* ‘surface, float’ (see §5.1 for deverbal ideophone formation), but differ in their syllabic shapes as well as their tone pattern. Very often, vowel lengthening is combined with a H tone on the syllable (but cases of toneless long vowels such as *bvu:mbú* ‘leaving suddenly’, *céte::* ‘in silence’ or *ɗóndo::ro* ‘well straight on the way’ in Table 7 also exist). This leads to two tone patterns in case of disyllabic ideophones: H::.Ø as in *ɓé::ru* or Ø.H:: as in *ɓerú::*. Reduplicated (or triplicated) patterns usually do not involve vowel lengthening, and the assignment of the tone-bearing syllable is less predictable. The tone pattern Ø.H-Ø.H-Ø.H is found in *ɓerú-ɓerú-ɓerú*.

(12) *ɓé::ru* ‘emerging, surfacing’ = from bottom to the surface
ɓerú:: ‘floating on the surface’ = at the surface already
ɓerú-ɓerú-ɓerú ‘moving back and forth on the surface’ = with movements
< verb *ɓeruka* ‘surface, float’

As can be seen, the meaning of these three ideophones is very close. It seems that the H::.Ø tone pattern (*ɓé::ru*) depicts the length of the action of floating up, until it eventually reaches the end point (the surface). In contrast, the Ø.H:: pattern (*ɓerú::*) depicts an unbounded action. The regular Ø.H-Ø.H-Ø.H pattern in triplicated *ɓerú-ɓerú-ɓerú* seems to convey the rhythm of movement. Further research would be needed to check whether there is any correlation between the tone pattern and the lexical aspect the ideophone encodes. Tone variation alone is, however, not responsible for the nuances of interpretation observed in (12). Nor is it associated to specific meaning, as reported, e.g. for Ewe (ewe), where raised pitch (high tone) is symbolic of niceness, pleasantness, goodness and small dimension, whereas unraised pitch (low tone) indicates badness, unpleasantness and big dimension (Ameka 2001: 30).

5. Morphological aspects

5.1 Derivation

Compared to other word classes, Sena ideophones display very little morphology, a characteristic shared by most African languages with ideophones (Childs 1994: 185). First, Sena ideophones are uninflected words. Unlike adnominal modifiers and (most) verb forms, they do not take agreement prefixes. This suggests a stronger syntactic independence, or "syntactic aloofness" in Kunene's (1978: 13) terms.

As for derivational morphology, two types of ideophones may be distinguished: (i) those which have the shape of primary roots with no derivational affixes (e.g. *rámbá* 'lying, resting, sleeping' or *zíyí::* 'without return, for good') and (ii) those which are derived from verbs. The rest of this section is devoted to the second type.

The majority of ideophones in Sena have the shape of verb roots, i.e. verbs without derivational and inflectional suffixes (including the final vowel *-a* of the verb, the applicative *-ir* ~ *-er*, the causative *-is* ~ *-es,* the neuter/reflexive *-ik* ~ *-ek*, and the reciprocal/associative *-an*). Two main patterns emerge. In the first, ideophones copy full verb roots as in (13) for simple ideophones and (14) for reduplicated ideophones. Since Sena phonotactics forbids syllable codas (with the exception of a handful of ideophones listed in Table 6, §4.2), a final vowel is added to C-final verb roots. The value of this added vowel is difficult to predict. If disyllabic (or more) verb roots have identical vowels, the added vowel often harmonizes (e.g. in *tʰíndini*, *tʰúkutu* and *ɓarárá-ɓarárá*), but this rule of vowel harmonization does not always hold, as e.g. in *funukúré*. The choice for the vowel added to ideophones derived from monosyllabic verb roots (*zikó::*, *redé-rede*, *ɓwekú-ɓweku*, *topó-topo*) does not seem to follow any principle.

(13) Simple full verb root

zikó::	‘very deep’
< *ku-**zik**-a*	‘to be deep’
funukúré	‘movement of opening’
< *ku-**funukur**-a*	‘to open’
tʰíndini	‘in silence, refusing to talk’
< *ku-**tʰindin**-a*	‘to be silent, refuse to talk’
tʰúkutu	‘landing carefully’
< *ku-**tʰukutiz**-a*	‘to land carefully’

(14) Reduplicated full verb root

ɓarárá-ɓarárá	‘walk in an uncontrolled way’
< *ku-**ɓarar**-ik-a*	‘to be uncontrolled’
reɗé-reɗe	‘as equals’
< *ku-**reɗ-an**-a*	‘to do sth. in the same way’
ɓwekú-ɓweku	‘speaking a lot and unnecessarily’
< *ku-**ɓwek**-a*	‘to speak a lot and unnecessarily’
topó-topo	‘falling asleep’
< *ku-**top**-a*	‘to get very tired, fall asleep’

In the second pattern, illustrated in (15)-(16), ideophones copy only the first part of verb roots but leave out the coda. This corresponds to the initial CV segments of monosyllabic roots or the initial CVCV segments of disyllabic (or trisyllabic) roots. Again, reduplication (or triplication) may operate (16) or not (15). Vowel lengthening is more prone to occur in non-reduplicated ideophones (see §7.2).

(15) Simple partial verb root

ɓofó	‘be damaged, deformed (following some pressure)’
< ***ku-ɓofor-a***	‘to damage, deform, squeeze (following some pressure)’
bvú::	‘heating, warming up (sun)’
< ***ku-bvuk-a***	‘to heat, warm up (sun)’
bzwé::	‘dry a little, in part’
< *ku-**bzwer**-er-a*	‘to dry a little, in part’

(16) Reduplicated partial verb root

ɟó-ɟó-ɟó	‘dripping’
< *ku-**ɟoɟ**-a*	‘to drip’

ɗerú-ɗerú	‘swinging, rocking’
< *ku-**ɗerump**^{h}-a*	‘to swing, rock’
wá-wá-wá	‘pouring and spreading (salt in pan, water on land)’
< *ku-**wadz**-a*	‘to pour and spread (salt in pan, water on land portion)’

Following Steriade’s (1988) formal account of reduplication, referred to in Ameka (2001: 31), it is likely that the second pattern above (partial reduplication) derives from the first pattern (full reduplication), i.e. reduplication of verb roots is total, and then followed by pruning of the final segment of the reduplicated material.

More rarely, some segmental material is added to the derived ideophone, as in (17), but the examples are too few to make any generalizations.

(17)	***ɗyókó-ɗyoko***	‘craving for food’
	< *ku-**ɗy**-a*	‘to eat’
	timɓwí-timɓwi	‘with tightened belt; suffering because of s.o.’
	< *ku-**timɓ**-a*	‘to tighten too much (rope, belt)’

Among these two examples, the shape of *timɓwí-timɓwi* is intriguing, as it looks as if the passive suffix *-(i)w* was added to the verb root *timb*. Similarly, the recurring segment *erere* in the four ideophones *t^{h}emberé::re* ‘sick in bed’, *remberé::re* ‘about to fall’, *jéréré* ‘being alight’ and *bzwéré::re* ‘being smooth (skin, bark, surface)’, suggests the presence of the applicative morpheme *-er*. Unlike *timɓwí-timɓwi*, synchronic underived verb forms are not attested for these four ideophones. Even though it is not unusual to have verbs with applicative morphology but no verbal base, a verbal origin might still be postulated. The possible presence of passive and applicative morphology in a handful of ideophones is interesting in two respects. First, it would provide some exception to the generalization that ideophones have no derivational morphology. Second, it would confirm that this type of ideophones is indeed derived from verbs, and not the other way around. This is in line with what a number of Africanist scholars have proposed for other languages, including Meyer (this volume), Courtenay (1976), Childs (1994) and Doke (1954), although the latter also advocate for a two-way derivation (verb > ideophone and ideophone > verb) in Lamba (lam).

Deverbal ideophones are often used with the verb to which they are morphologically related, as in (18), where the ideophone *ɓwandzú* ‘being open, uncovered, discovered’ follows the conjugated verb *ɓwandzuka* ‘be open, uncovered,

discovered' (see §6.1 for more details on this construction). This is, however, not systematic. In (19), the same ideophone is used without its cognate verb.

(18) *ŋ̣kazi ure, ŋguwo zace zaɓwandzuka na mp^{h}epo ɓwandzú*
*ŋ̣-kazi ure ŋguwo zace za-**ɓwandzuka** na mp^{h}epo*
1-woman 9.DEM.III 9.cloth 9.POSS3SG SP9.PFV-be.uncovered with 9.wind
ɓwandzú
IDEO(being uncovered)
'That woman, her cloth has been uncovered by the wind, [IDEO].' (Elicitation)

(19) *ṇsuwo uri ɓwandzú*
*ṇ-suwo u-ri **ɓwandzú***
3-door SP3-be IDEO(being open)
'The door is open.' (Elicitation)

The derivation of ideophones from verbs is very productive in Sena, and it is not clear whether there are any restrictions in terms of semantics or types of verbs. From the available data, it rather looks as if almost any verb could yield an ideophone with an associated depictive function. Possible exceptions exist with verbs which already trigger the formation of adverb-like words in *ci-* (§2). The two forms in (20) formally differ in the presence or absence of the derivational prefix *ci-*. Whereas the adverb *cikwatakwata* morphologically and semantically derives from the verb stem *kwata* 'hold, take', the origin of the ideophone *kwatakwata* 'leaning' and its semantic assignment are unknown. It is not possible to predict at this stage when verbs will be derived adverbially with *ci-* and when they use the "bare" ideophonic verb form only.

(20) *ci-kwata-kwata* 'willing to touch and take everything around'
kwata-kwata 'leaning'

It is also not clear from the corpus whether verbs or nouns can be derived from ideophones. The few verbs listed in (21) are possible candidates. Notably, the ideophones they (possibly) derive from are all onomatopoeic. This is particularly evident for animal sounds, such as *wú-wu-wú* and *mé:-mé:*. In these two cases, a deverbal derivational direction seems less likely. The direction of the last three pairs of examples is less obvious, but their mimetics is such that it is easy to conceive a de-ideophonic derivational process. Onomatopoeic ideophones appear as relevant sources to create new verbs.

(21) *ku-**wut**-a* ‘to bark’
*< **wú-wu-wú*** ‘sound of dog barking’
*ku-**memes**-a* ‘to bleat’
*< **mé:-mé:*** ‘sound of goat bleating’
*ku-**fot**-a* ‘to make a silent fart’
*< **fó::*** ‘sound of a silent fart’
*ku-**gagaɗ**-a* ‘to cut in pieces with a hoe, machete, knife’
*< **gá*** ‘sound of cutting with strength, in one go’
*ku-**nyenyen**-a* ‘to gnaw’
*< **nyenyena*** ‘gnawing’

5.2 Reduplication (and multiplication)

Many ideophones are formed by total reduplication (*gaɓí-gaɓi*), which may extend to triplication (*fyé-fye-fye*) and even multiplication (*bvu-bvú-bvu-bvu*). Albeit rarer, partial reduplication is also attested, either initial reduplication (*kwikwinya*) or final reduplication (*dzoróró*). Submorphemic segments such as *erere* (with or without vowel lengthening), occurring in *t^{h}emberé::re*, *remberé::re*, *jéréré* and *bzwéré::re*, are rare.

Shape	Ideophone	Meaning
total reduplication	*ɾwá-ɾwá*	‘with eyes wide open, without blinking’
	gaɓí-gaɓi	‘movement of choppy water’
	p^{h}eperú-p^{h}eperu	‘staggering’
triplication	*fyé-fye-fye*	‘staying mute, not reporting a culprit’
multiplication	*bvu-bvú-bvu-bvu*	‘spending helplessly’
first syllable repeated	*kwikwinya*	‘buttocks swaying’
last syllable repeated	*dzoróró*	‘standing on feet, be vertical, erected’
with recurring segments	*t^{h}emberé::re*	‘sick in bed’
	remberé::re	‘about to fall’
	jéréré	‘being alight’
	bzwéré::re	‘being smooth (skin, bark, surface)’

Table 9: Reduplication patterns in Sena ideophones.

Reduplication is a recurrent derivational mechanism in Sena. As can be seen from Table 9, reduplication may be full or partial. Reduplication of reduplication, or double reduplication, resulting in four identical segments, is also commonly attested. Full

reduplication involves base forms which have the segmental structures CV (*ɾwá-ɾwá* 'with eyes wide open, without blinking'), VCV (*oyó-oyo* 'speaking at the same time'), CVCV (*gaɓí-gaɓi* 'movement of choppy water') or CVCVCV (*pʰeperú-pʰeperu* 'staggering'). While reduplication applies to disyllabic (or trisyllabic) ideophones, triplication most often targets monosyllabic ideophones. Since Sena has both prefixal and suffixal morphology, it is difficult to determine the base and the reduplicated part. Reduplication of the otherwise very rare CVC pattern (§4.2) is not attested. Partial reduplication of ideophones involves reduplication of the final CV (*dzoróró*) or the initial CV of the base form (*kwikwinya*).

Total reduplication is not the exclusive property of ideophones in Sena. It is a recurrent morphological process also attested in nouns (22), adjectives (46), verbs (23) and adverbs (24). However, only ideophones allow partial reduplication, triplication and multiplication.

(22) *kunacitao ṇsoŋkʰo, kunaɓuruka ṇsoŋkʰo-ṇsoŋkʰo, ndi kweko kunapʰatene ɓasa.*
ku-na-cita=o *ṇsoŋkʰo* *ku-na-ɓuruka* ***ṇsoŋkʰo-ṇsoŋkʰo***
AGRP17-PRS-do.REL=PRO2 10.tax AGRP17-PRS-go.out.REL 10.tax-RED
ndi *kweko* *ku-na-pʰat=ene* *ɓasa*
COP 17.DEM.II AGRP17-PRS-take.REL=PRO1SG 5.work
'Where they charge taxes, where taxes are levied (go out), it is where I work.' (Life.Story_DoDa_#89)

(23) *onoyu anakʰara ɓwera kandimenya-menya pano*
onoyu *a-na-kʰara* *ɓwera* *ka-ndi-**menya-menya*** *pano*
1.DEM.III AGRP1-PRS-be.REL come AM.ITV-OP1SG-beat-RED 16.DEM.I
'That one who keeps coming and beating me here.' (Story_HareTurtle_#88)

(24) a. *cinɟala-nɟala* 'always with hunger'
< *nɟala* 'hunger'
cimanɟa-manɟa 'with empty hands'
< *manɟa* 'hands'
cipʰata-pʰata 'willing to touch everything around'
< *kupʰata* 'to take, seize'
cisuzi-suzi 'looking with curiosity'
< *kusuzumira* 'to observe, watch, spy on'

6. Syntactic and distributional aspects

This section explores the syntactic and distributional aspects of ideophones and the different degrees of syntactic integration they exhibit. Before doing so, it is worth mentioning that ideophones in Sena are predominantly used in affirmative declarative utterances, but also frequent in subordinate clauses, especially relatives. This is not the case with other utterance types such as questions, imperatives and negatives, where ideophones are not attested, except for the negative sentence in (25).

(25) *ŋkʰaɓe kwenda kwene gumu-gumu tayu, kwenda kabvundzira*
ŋkʰaɓe *ku-enda* *ku-ene* ***gumu-gumu*** *tayu*
NEG INF-go AGRP15-INT IDEO(walking insecurely palpating) NEG
ku-enda *ka-bvundzira*
INF-go AM.ITV-ask.for
'(…) to go dating (lit. asking for) is not about going randomly here and there (lit. it is not going randomly here and there, go dating).' (Poem_Kubvundzira)

6.1 Collocational ideophones

Collocational ideophones are those which co-express the event expressed by a verb. They function similarly to manner adverbs or converbs (defined as dependent verbs marking adverbial subordination). Most often, the ideophone is deverbal and combines with its source verb, as in (26)-(27), where ***bó::*** and ***cé::*** follow a conjugated form of the verb roots *bom* 'spill' and *cek* 'cut', respectively. In these constructions, ideophones are to a certain extent similar to so-called "cognate objects" (Jones 1988; Levin 1993), with the difference that they do not exhibit nominal features. Since they denote the same meaning as the verb, they are also optional. Their function is merely expressive.

(26) *madzi abomeka bó::!*
ma-dzi *a-**bom**-ek-a* ***bó::***
6-water SP6.PFV-spill-NTR-FV IDEO(spilling)
'The water spilled/spread.' (Elicitation)

(27) *iye akaceka cé:: mbaramba*
iye *a-ka-**ceka*** ***cé::*** *mba-ɾamba*
PRO3SG SP1-PST.IPFV-cut IDEO(act of cutting) CVB.SP2-fall
'He was cutting, and they fell down.' (Story_HareLion_#10)

By default, the ideophone immediately follows its cognate verb, even if the latter has a complement. In (28), *nyenyena* intervenes between the verb and its object *pyatʰu* ‘our belongings’. The privileged after-verb position of the ideophone is, however, not mandatory. In (29), the ideophone *ɓwandzú* appears sentence-finally and is separated from its cognate verb by the complement *na mpʰepo* ‘by the wind’.

(28) *tiri kupinyenyena nyenyena pyatʰumbo tepo kupiɗya*

ti-ri	*ku-pi-**nyenyena***	***nyenyena***	*pi-atʰu=mbo*
SP1PL-be	INF-OP8-gnaw	IDEO(gnawing)	8-belonging(POSS1PL)=too
tepo	*ku-pi-ɗya*		
like.this	INF-OP8-eat		

‘We are gnawing our belonging too, eating it this way.’
(Conv.05_BeCh&CeTh_#24)

(29) *ŋ̣kazi ure, ŋguwo zace zaɓwandzuka na mpʰepo ɓwandzú*

ŋ̣-kazi	*ure*	*ŋguwo*	*zace*	*za-**ɓwandzuka***	*na*	*mpʰepo*
1-woman	9.DEM.III	9.cloth	9.POSS3SG	SP9.PFV-be.uncovered	by	9.wind

ɓwandzú
IDEO(being uncovered)
‘That woman, her cloth has been uncovered by the wind.’ (Elicitation)

Collocational ideophones may also combine with non-cognate verbs. These verbs can be semantically close, but not morphologically related. In (30), the ideophone *dwá::ra,* used to characterize something dried, combines with the verb *wuma* ‘dry’. Again, the ideophone is optional, and again, it is located between the verb and its complement.

(30) *mapira awuma dwá::ra na dzuwa*

ma-pira	*a-**wuma***	***dwá::ra***	*na*	*dzuwa*
6-maize	SP6.PFV-dry	IDEO(very dry)	with	5.sun

‘Maize dried with the sun.’ (Elicitation)

More exceptionally, ideophones may precede the verbs to which they are semantically related, as in (31), with *káwo* preceding *atʰawa suro*. Crucially, in this example the prototypical SV structure is also reversed to VS, literally ‘fleeing fled the hare’. It is likely that this permutated word order is pragmatically determined (further research is needed on this topic).

(31) *piɗamara kuɗya iye nyimo zonsene gédé | káwo at^{h}awa suro*
[pi-ɗa-mara ku-ɗya iye nyimo zi-onsene gédé]$_{SUB}$
AGRP8-PFV.REL-finish INF-eat PRO3SG 10.bean AGRP10-all IDEO(completed)
[káwo a-t^{h}awa suro]$_{MAIN}$
IDEO(fleeing) SP1.PFV-flee 1a.hare
'After having eaten all the beans, the hare fled.' (Story_HareTurtle_#58)

Finally, manner-adverbial ideophones may modify verbs which are not semantically linked. This is the case in the verses of a poem in (32), where the verb form *tinafika* 'we (will/are to) arrive' governs the preposed ideophone *nsaŋga-nsaŋga* as a manner adverb.

(32) *t^{h}aŋgwi ndife ana ako*
tinadzabwerera
nsaŋga-nsaŋga tinafika mbatik^{h}ariratu
t^{h}aŋgwi ndife ana ako ti-na-dza-bwer-er-a
because COP.PRO1PL 2.child AGRP2.POSS2SG SP1PL-PRS-AM.VTV-return-APPL-FV
nsaŋga-nsaŋga *ti-na-**fika** mba-ti-k^{h}ar-ir-a=tu*
IDEO(quickly)-RED SP1PL-PRS-arrive CVB-SP1PL-stay-APPL-FV=EMPH
'because we are your children | we are to come back | as soon as possible we are to come and remain for good.' (Poem_SenaSena)

6.2 Complements of copula verbs or light verbs

Ideophones may appear as complements of copula verbs or light verbs. In such combinations, the meaning and subcategorization properties are no longer conveyed by the verb, but by the ideophone itself. Complex predicates involving a semantically fairly empty verb and an ideophone are cross-linguistically widespread (cf., among others, Childs 1994: 187; Schultze-Berndt 2001: 360–367; Güldemann 2008: 280; Dingemanse 2012).[6]

Sena has two copula verbs: *ri* and *k^{h}ara*. The copula verb *ri* is defective, with inflection markers limited to subject information and two TAM distinctions, namely zero-marked present and imperfective past *k^{h}a- ~ ka-*. The copula *ri* is typically used to express identity and inclusion predication, introducing nominal and adjectival predicates. Ideophones introduced by *ri* are thus used predicatively, a property

[6] Also see the contributions by Meyer, by Treis and by Authier in this special issue, which all discuss these constructions for their languages.

otherwise shared by nouns and adjectives. Many examples of *ɾi* + ideophone are available in the corpus, see (10), (11) and (19). Another example is provided in (33) with *ɾi* + *pyá-pya-pya*. Note that the presence of the copula verb is optional. When absent, the ideophone becomes a holophrastic predicate on its own (see §6.3), as is *gúgúdú* 'being dry' in the same example.

(33) *agumana aɾi pyá-pya-pya, ama' uma ʒá gúgúdú*
a-gumana *a-**ɾi*** ***pyá-pya-pya*** *a-mala* *uma* *ʒá*
SP1.PFV-meet SP1-be IDEO(wrapping)-RED SP1.PFV-finish dry already
gúgúdú
IDEO(being dry)
'He found (it), it was wrapped up and had already dried.' (Story_HareLion_#45)

The semi-copula *k^{h}ara* 'be, stay' is used both predicatively and as a copula in non-verbal predication. Unlike *ɾi*, *k^{h}ara* behaves as a regular verb (or almost) in terms of morphology, and replaces *ɾi* when TAM features other than present and imperfective past are expressed. In contrast to *ɾi*, examples of *k^{h}ara* + ideophone are rare. Only three occurrences were found, one of which is given in (34).

(34) *ap^{h}are akamenya bora, piɗafika asupayi, onsene ak^{h}ara ɗúɾ::!*
a-p^{h}are *a-ka-menya* *bora* *pi-ɗa-fika*
2-youth SP2-PST.IPFV-beat 5.ball AGRP8-PFV.REL-arrive
a-supayi *a-onsene* *a-**k^{h}ara*** ***ɗúɾ::***
2-policeman AGRP2-all SP2.PFV-be/stay IDEO(silent in fear)
'The youth were playing football; when the police arrived, all stayed silent in fear.' (Elicitation)

It also happens that the occurrence of ideophones is conditioned by individual verbs, which function as "dummy" or "introductory" verbs (Childs 1994: 187), best known in typology as light verbs (Jespersen 1965). The basic meaning of these ideophonic complex predicates relies on the ideophone and not on the supporting verb, whose original meaning tends to be bleached, as the English verb 'take' in 'take a walk'. At least two verbs fulfill this role in Sena, namely *cita* 'do, make' and *bveka* 'feel, hear'. While the combination *cita* + ideophone is highly productive, the use of the light verb *bveka* appears to be more restricted. In (35), the only example retrieved from the corpus, *bveka* combines with the ideophone *cúbwi*

'splash' to express 'plunge' (literally 'hear splash').[7] It is likely that other ideophones expressing a sound may be used with the light verb *bveka*. It is also likely that *cita* would be accepted in the same context.

(35) *iye bveka cúbwi muɲcera mure*
iye ***bveka*** ***cúbwi*** *mu-ɲ-cera* *mure*
PRO3SG feel/hear.NARR IDEO(splash) 18-3-well 18.DEM.III
'He plunged into that well.' (Story_HareTurtle_#96)

The light verb *cita*, on the other hand, seems to combine with any ideophone to express actions that are normally denoted by dynamic verbs. In (36), *cita* + *gwiɓídĩ* means 'enter'. It is naturally followed by a locative complement. In these constructions, the light verb *cita* does not serve, however, to predicate qualities or other stative situations. In this sense, one might conclude that *cita* used with ideophones has not completely lost its original semantics and still conveys a dynamic interpretation. These ideophonic constructions thus differ from those based on copula verbs seen above which feature identity and inclusion predication.

(36) *ŋkazi aŋgacita gwiɓídĩ ɲnyumba, menyerwatu*
ŋ-kazi *a-ŋga-**cita*** ***gwiɓídĩ*** *ɲ-nyumba*
1-woman SP1-SIT-do IDEO(being entered, introduced) 18-9.house
meny-er-w-a=tu
beat.NARR-APPL-PASS-FV=EMPH
'The woman, as soon as she gets home, is beaten right away.' (Conv.06_MaMa-BeCh-CeTh_#366)

Complex predicates based on *cita* + ideophone are frequently attested in relatives. Two consecutive relative clauses based on this combination are provided in (37). In the first, *cita* + *zwi* express 'throw'. In the second, *cita* applies to two subsequent ideophones, *nt^{h}úngúrú* 'sound of joy and satisfaction' and *mezi* 'way of swallowing any food'. This last case is interesting in that it shows that ideophones can be juxtaposed. Note that no pause or prosodic break between *nt^{h}úngúrú* and *mezi* is heard, probably because they participate in the same event.

[7] Note that bare verb stems, i.e. without subject and TAM marking, as *bveka* in (35), are frequently heard in Sena narratives when a sequence of events occurs (hence they are glossed NARR for narrative). Other examples are found in (41) with *fika* 'he arrived' and in (62) with *funa* 'it wanted'.

(37) *pinaciteye zwí muṇcera mure, pinaciteye nt^{h}úngúrú mezi …*
*pi-na-**cit**=eye* ***zwí*** *mu-ṇ-cera* *mure*
AGRP8-PRS-do.REL=PRO1 IDEO(throwing) 18-3-well 18.DEM.III
*pi-na-**cit**=eye* ***nt^{h}úngúrú*** ***mezi***
AGRP8-PRS-do.REL=PRO1 IDEO(sound of joy) IDEO(swallowing)
'When he throws (it) in that well, and when he noisily (and) happily swallows (it), …' (Story_HareTurtle_#134)

Although the combination *cita* + ideophone generally yields intransitive constructions, it may be used transitively. In (38), the noun phrase *suro ure* 'that hare' functions as the object licensed by the predicative construction *cita cíŋgu* 'turn around to look behind'.

(38) *piɗafika iye aṇfikira na kuk^{h}oɗoro, pinaciteye cíŋgu suro ure …*
pi-ɗa-fika *iye* *a-ṇ-fik-ir-a* *na* *ku-k^{h}oɗoro*
AGRP8-PFV.REL-arrive PRO3SG SP1-OP1-arrive-APPL-FV by 17-back
*pi-na-**cit**=eye* ***cíŋgu*** *suro* *ure*
AGRP8-PRS-do.REL=PRO1 IDEO(turning around to look behind) 1a.hare 1.DEM.
'When he (the hare) arrived, he arrived behind his back. When he (the turtle) turns around and looks at that hare behind ….' (Story_HareTurtle_#50)

Crucially, in all these examples, the ideophone cannot be separated from the light verb by any other constituents. This rigid order constitutes further evidence that they form a syntactic and semantic unit.

6.3 Ideophonic predicates

Very often, ideophones occur in verbless clauses and act as holophrastic predicates by themselves. The event is expressed by the ideophone, which does not take any verbal morphology and functions as the comment of a topic-comment sentence. The ideophone also determines the argument structure of the clause, in that it controls the semantic roles assigned to the noun phrases present in the clause, a function typically fulfilled by verbs.

More often, it combines with a single noun phrase assuming the semantic role of agent. In (39), ***míyó::*** (< verb stem *miyoŋga* 'flee') and ***p^{h}é::*** designate the act of fleeing and hiding and the act of staying still and watching silently, respectively. The action

is performed by the agentive participant *kamba* ‘turtle’, which functions as the subject argument of both ideophonic predicates.

The whole sentence is verbless: ideophones express events which would otherwise be expressed by inflected verbs in a sequence of independent clauses, and the remaining constituents express the participants of the event (i.e. *iye kamba* ‘he the turtle’ in (39) as subject argument) and optionally, adjuncts (i.e. *ɳkʰundu-ɳkʰundu mwa ɳɟira mure* ‘on that side of the path’ as locative adjunct).

(39) *então iye kamba míyó:: ɳkʰundu-ɳkʰundu mwa ɳɟira mure pʰé::*
então *iye* *kamba* ***míyó::*** *ɳ-kʰundu-ɳkʰundu*
then PRO3SG 1a.turtle IDEO(fleeing to hide) 18-9.side-RED
mu-a *ɳɟira* *mure* ***pʰé::***
AGRP18-CONN 9.path 18.DEM.III IDEO(staying still and watch)
‘Then, (he) the turtle fled and hid on that side of the path, he stayed still and watched.’ (Story_HareTurtle_#90-91)

Very often, the ideophone forms an independent (verbless) clause on its own, and the previously expressed agent does not need to be repeated. In (40), the ideophone *tsari-tsari* is used alone to depict the action of convulsing before dying endured by the cobra (*nyoka*), mentioned previously in the sentence. In (41), the ideophone *kwí::*, which depicts the action of entering discretely, is integrated into a sequence of events performed by the turtle, whose identity is known from context.

(40) *ɳkazace ure azakaɓuka mbasiya nyoka iri pepare tsari-tsari*
[ɳ-kazi=ace *ure* *a-za-ka-ɓuka]*$_{\text{MAIN}}$ *[mba-siya* *nyoka]*$_{\text{SUB}}$
1-woman=POSS3SG 1.DEM.III SP1-AM.VTV?-PST.IPFV-go.out CVB-leave 9.cobra
[i-ri *pepare]*$_{\text{INDPDT}}$ ***[tsari-tsari]***$_{\text{INDPDT}}$
SP9-be 16.DEM.III IDEO(having last convulsions before dying)
‘That woman had just gone out and left the cobra (it is) there having its last convulsions.’ (Story_AvengingCobra_#79)

(41) *fika patʰendere kwí:: iye amona suro akwenda*
[fika *pa-tʰendere]*$_{\text{INDPDT}}$ ***[kwí::]***$_{\text{INDPDT}}$
arrive.NARR 16-5.bush IDEO(fit in, enter to hide)
[iye *a-mu-ona* *suro]*$_{\text{MAIN}}$ *[a-ku-enda]*$_{\text{SUB}}$
PRO3SG SP1.PFV-OP1-see 9.hare SP1-PRS.PROG-go

‘He arrived at the bush, entered in it not to be seen. He saw the hare going.’ (Story_HareTurtle_#96)

In (42), the ideophone *ɗedzúɗedzú* refers to the act of flapping around when out of one’s environment, typically used for caught fish or birds. In the preceding sentence, we have learned that the hare ate the bait and got caught on the hook. Notably, it is employed with the comitative pronominal phrase *naye*, literally ‘with him’, which is a recurrent device in Sena oral speech, mostly found after verbs (more research is needed to better understand its function).

(42) *… amaŋga | ɗedzúɗedzú naye | pinaɱɓʰuseye kunɟa kure, "caa, ɓaa kamba ndiwe!"*
[a-maŋga]$_{\text{INDPDT}}$ ***[ɗedzú-ɗedzú na-iye]***$_{\text{INDPDT}}$
SP1.PFV-tie IDEO(flapping.around)-RED COM-PRO3SG
[pi-na-m̩-ɓʰusa = iye kunɟa kure]$_{\text{SUB}}$
AGRP8-PRS-OP1-pull.REL = PRO1 17.out 17.DEM.III
[caa ɓaa kamba ndiwe]$_{\text{INDPDT}}$
INTERJ friend.VOC 9.turtle COP.PRO2SG
‘… he (the hare) got caught. He flapped around desperately. When he (the turtle) pulls him out there: (the hare said) “Oooh, my friend Turtle, it’s you?!” (Story_HareTurtle_#135)

Note that prosody is not always indicative of the independent status of ideophonic predicates: whereas a neat break (represented by | in the first line) is heard around *ɗedzúɗedzú naye* in (42), *tsari-tsari* in (40) and *kwíː* in (41) are not prosodically detached from the rest of the sentence.

In addition to subject arguments, certain ideophonic predicates may also take objects with the role of theme or instrumental-comitative complements. In (43), the theme participant *kaderace* ‘his chair’ functions as the object of the following ideophonic predicate *kwêː* ‘pushing’, and the transitive construction literally reads as ‘the chair (he) pushed’. Note that depending on their discourse topicality, it is common for objects constituents to occur before the lexical verb. Although a dedicated study on information structure remains to be done, the object - ideophonic predicate order in (43) seems to instantiate a predicate-centered focus. In the same sentence, the second ideophone *náwa* ‘sitting’ also functions predicatively, but only takes the (agentive) subject argument mentioned earlier in the story, i.e. the lion.

(43) *[paŋga ŋkazace "ndo' kap^{h}ike ine ndinak^{h}ara pano",] kaderace kwê: náwa*
kaderace ***kwê:*** *náwa*
9.chair.POSS3SG IDEO(pushing) IDEO(sitting)
'(He (the lion) said to his wife: "go and cook, I'll stay here!",) he pushed the chair and sat.' (Story_HareLion_#28)

As in (37), the ideophones in (43) are juxtaposed without a pause between them. In (44), the ideophone *fíʃu* 'pulling the hook (when catching fish)' takes the instrumental adjunct *nao* 'with it' referring to the fishing pole mentioned in the preceding clause. Again, the adjunct precedes the ideophone. This order is not rigid though. In (45), for instance, the adjunct *na manyadzo* 'with shame' follows the ideophonic predicate *tsuri-tsuri*.

(44) *iye akamedza, piɗamaŋgeye nyama mbafiʃura ɳtete wace, nao fíʃu!*
iye *a-ka-medza* *pi-ɗa-maŋga=eye* *nyama*
PRO3SG SP1-PST.IPFV-fish AGRP8-PFV.REL-catch=PRO1 9.fish
mba-fiʃura *ɳ-tete* *o-ace* ***nao*** ***fíʃu***
CVB.SP1-pull.hook 3-fishing.pole AGRP3-POSS3SG with.PRO3SG IDEO(pulling hook)
'He was fishing. When he caught a fish, he pulled his fishing pole, he pulled the hook with it.' (Elicitation)

(45) *ɳtsikana, tsuri-tsuri na manyadzo, nde munaroŋga iye…*
ɳ-tsikana ***tsuri-tsuri*** ***na*** ***ma-nyadzo***
1-girl IDEO(looking down shamefully) with 6-shame
nde *mu-na-roŋga* *iye*
COP AGRP18-PRS-speak.REL PRO3SG
'The girl, looking down with shame, it is then she said…'
(Poem_Pakubvundzira)

Ideophonic predicates may be part of complex sentences where they function as the main (verbless) clause embedding a subordinate clause. In (46), the ideophone *odzí-odzí-odzí-odzí*, conveying the concept of walking feebly, without strength, functions as the main (verbless) clause introduced by the adverbial subordinate clause of condition/time *aŋgafamba* 'if/when she walks.' In (47), triplicated *ɓwekúɓweku* 'gabbling, making a lot of noise' is introduced by the locative relative clause *panak^{h}araco* 'where she is.' In (48), *p^{h}é::* acts as the predicate of *iye k^{h}oŋgo* 'he the

impostor.' Together, they form the main clause in which the temporal relative clause *piɗafika iye* 'when he arrives' is embedded.

(46) *iye kaŋ̣kitikiti, aŋgafamba odzí-odzí-odzí-odzí*
[iye ka-ŋ̣-kiti-kiti]$_{\text{INDPDT}}$ *[a-ŋga-famba]*$_{\text{SUB}}$
PRO3SG 12(DIM)-1-small-RED SP1-SIT-walk
[odzí-odzí-odzí-odzí]$_{\text{MAIN}}$
IDEO(walking/moving feebly, without strength)-RED
'She is very small. When she walks, she walks feebly, without strength.' (Conv.06_#177)

(47) *ciŋ̣kazi cire ciŋgaɓwera cisaɓweka maniŋgi, panak^{h}araco ɓwekúɓweku-ɓwekúɓweku-ɓwekúɓweku*
[ci-ŋ̣-kazi cire [ci-ŋga-ɓwera]$_{\text{SUB}}$ *ci-sa-ɓweka maniŋgi]*$_{\text{MAIN}}$
7(DIM)-1-woman 7.DEM.III SP7-SIT-come SP7-HAB-gabble much
[pa-na-k^{h}ara = co]$_{\text{SUB}}$ ***[ɓwekúɓweku-ɓwekúɓweku-ɓwekúɓweku]***$_{\text{MAIN}}$
AGRP16-PRS-be.REL = PRO7 IDEO(gabbling)-RED
'That woman, when she comes, she talks a lot of nonsense. Where she is, she makes a lot of noise.' (Elicitation)

(48) *iye k^{h}oŋgo piɗafika iye p^{h}é:: amona ʒá "nduyo porra azip^{h}ura"*
[iye k^{h}oŋgo [pi-ɗa-fika iye]$_{\text{SUB}}$ ***p^{h}é::]***$_{\text{MAIN}}$
PRO3SG 1a.impostor AGRP8-PFV.REL-arrive PRO3SG IDEO(observing, spying)
[a-mu-ona ʒá]$_{\text{INDPDT}}$ *ndi-uyo porra a-zi-p^{h}ura*
SP1.PFV-OP1-see there COP-3SG damn! SP1-OP10-remove.from.fire
'The impostor, when he arrived, observed/spied, and he saw him (the turtle): "This is him, damn, he removed them from the fire!"' (Story_HareTurtle_#49)

Following subordinate clauses, *odzí-odzí-odzí-odzí*, *ɓwekéɓweku* and *p^{h}é::* express on their own an event which would otherwise be expressed by means of a main verbal clause. Their presence is syntactically required in the sentence.

In rare cases, ideophonic predicates do not seem to induce any argument structure, not even agent. In (49), for instance, the ideophone *cúɓwi* 'splashing sound' appears at the sentence margin following the description of the bean falling into a well. It

appears as a fully autonomous and argument-less predicate (also see example (51b) below for another illustration).

(49) *nyimo ire yap^{h}unyuzika ŋk^{h}ugwa muṇcera mure | cúɓwi!*
[nyimo ire ya-p^{h}unyuzika]$_{\text{MAIN}}$ *[ŋk^{h}u-gwa mu-ṇ-cera mure]*$_{\text{SUB}}$
9.bean 9.DEM.III SP9.PFV-slip COP15-fall 18-3-well 3.DEM.III
[**cúɓwi**]$_{\text{INDPDT}}$
IDEO(splash)
'That bean slipped, fell into that well, splash!' (Story_HareTurtle_#108)

6.4 Summary

Ideophones do not seem to display strong syntagmatic restrictions. They can all co-express and/or specify the event expressed by a verb, or form complex predicates with copulas and light verbs. They can also all be used holophrastically or predicatively: no restrictions seem to apply, at least as far as the possibility of integrating subject arguments is concerned. The possible presence of object arguments, in turn, is conditioned by the lexical properties of ideophones. Examples (50)-(51) illustrate multiple syntagmatic uses of ideophones in Sena. In (50), the ideophone *oyó-oyo* 'speaking simultaneously', repeated twice, can be used predicatively following the copula verb *ri*, or the light verb *cita*. There is no difference in meaning between the two constructions.

(50) *ndagumana ant^{h}u ari/akucita oyó-oyo oyó-oyo*
*nda-gumana a-nt^{h}u a-**ri** / a-ku-**cita** **oyó-oyo-oyó-oyo***
SP1SG.PFV-meet 2-people SP2-be SP2-PROG-do IDEO(speaking simultaneously)-RED
'I met people talking all at the same time.' (Elicitation)

In (51), the ideophone *bzwó* 'dawning' is used twice. In (51a), it is the complement of the light verb *cita* 'do' inflected for the first person singular, which marks the speaker as the agent of the event 'waking up'. In (51b), *bzwó* is used holophrastically to refer to the time of daybreak.

(51) *ndiŋgacita bzwó kunendene ŋkwenderatu, bzwó kunendene ŋkwenderatu*

a. *ndi-ŋga-**cita** **bzwó** ku-na-enda=ine ndi-kwendera=tu*
SP1SG-SIT-do IDEO(dawning) AGRP17-PRS-go.REL=PRO1SG SP1SG-go.to=EMPH
'When I wake up, wherever I go, I do go.' (LifeStory_CeTh_#69)

b. ***bzwó** ku-na-enda=ine ndi-kwendera=tu*
IDEO(dawning) AGRP17-PRS-go.REL=PRO1SG SP1SG-go.to=EMPH
'At dawn, wherever I go, I do go.' (LifeStory_CeTh_#70)

7. Semantic aspects

This section is devoted to the semantic aspects of ideophones, addressing their general meanings (§7.1), the question of iconicity (§7.2), and the existence of idioms with ideophones and body parts (§7.3).

7.1 General meanings

Ideophones in Sena cover a large array of meanings that cover the five major semantic fields hierarchically identified by Dingemanse (2012: 663) along an implicational hierarchy as follows: Sound > Movement > Visual pattern > Other sensory percepts > Inner feelings and cognitive states. This hierarchy makes predictions about the existence of members in each field: if a language has ideophones expressing movement, then it also has ideophones for sound, etc. These five semantic categories are very broad and could easily be split into various sub-fields. Sound evokes any sensation perceived by the sense of hearing, and includes onomatopoeic sounds such as animal voices, wind blowing, etc. Movement illustrates an act or process of moving, any physical behavior which implies a change of place or position or posture, or a particular instance or manner of moving. Visual patterns cover a range of physical properties such as color, form, dimension, aspect, state, etc. The other category of sensory perception involves tactile, gustatory, and olfactory sensory domains. Examples of each category are listed in (52). Attention has been given to provide examples uncited so far.

(52) a. Sound

ɟigú-ɟigú	'sound of drawing water at the pump'
gegeɓede	'noisy sound of something falling'
gwiɗyó	'sound while eating or swallowing'

b. Movement

ɟidú-ɟidu	‘dancing in circles’
cʰó-cʰó-cʰó	‘jumping on one leg’
nɟú-nɟú-nɟú	‘hunkering down’

c. Visual pattern

ɗoríró::	‘being clean and transparent (water)’
dzá:	‘being very tall, giant’
ɓití-ɓiti	‘shining, glittering (skin, wood)’

d. Other sensory perceptions

ɟé::	‘spicy (food or drink)’
gú::	‘taste of sour food’
rebvú-rebvu	‘(too) sweet’
kʰámwa	‘wet’
nyanvúrú-vuru	‘getting goose bumps’

e. Inner feelings and cognitive states

ɗoɗoméké	‘being doubtful’
ɗúmé::	‘being afraid, with fear’
nóni	‘alone, lonely’
nyandú-nyandu	‘madly agitated’

Each of the semantic fields represented in (52) contains a large inventory of ideophones.

Deverbal ideophones usually display a one-to-one correspondence with the semantics of the verbs they are derived from. This explains why my main consultant was able to assign a specific meaning to many ideophones found in Prieto (2015) outside of their context. Postulating that the meaning of an ideophone depends on the context and is highly influenced by socio-pragmatic factors (Moshi 1993) is thus not entirely correct in Sena. Other ideophones do not have a clear connection to members of other word classes. Ideophones of onomatopoeic origin are proportionally very few in Sena, defying Doke’s (1935: 118) famous statement on the onomatopoetic properties of ideophones.[8]

A few ideophones are polysemous, as can be seen in (53).

[8] In Doke’s (1935: 118), an ideophone is “a vivid representation of an idea in sound. A word, often onomatopoeic, which describes a predicate, qualificative or adverb in respect to manner, color, smell, action, state or intensity.”

(53) *dúŕ::* i) ‘silent with fear (in front of chiefs)’
ii) ‘fading away (for plant)’
pʰurúŕ:: i) ‘unrolling mat’
ii) ‘trying to fly away, for trapped bird’
timɓwí-timɓwi i) ‘with tightened belt’
ii) ‘suffering because of someone’
pʰá-pʰá-pʰá i) ‘move and sound of bird landing’
ii) ‘when crop starts growing and fields get green’

7.2 Iconicity in ideophones

In this subsection, I examine how certain phonological properties of ideophones (particularly deverbal ideophones) may correlate with the manner in which an action is performed. The shape of many deverbal ideophones follows two complementary patterns ruled by phono-semantic principles. The first pattern involves vowel lengthening, resulting in CV:(::) or CV:(::)CV shapes. Consonant lengthening is also attested, albeit rarer and restricted to the trill /r/ (see Table 6). The prolongation of a sound is an expressive means of describing a single, durative and usually intense event which may be extended in space or time. The ideophone *fó::* (< *kufota* ‘to fart silently’) expresses a single occurrence of the act of farting silently. The second pattern relies on reduplication, triplication and further repetition of an ideophonic basis, with the semantic effect of expressing a recurrent, repetitive or even rhythmic event. Onomatopoeic ideophones such as *wú-wu-wú* ‘sound of dog barking’ or *mé:-mé:* ‘sound of goat bleating’ are vivid examples. More examples are provided in (54), in which ideophones are paired according to these two phono-semantic principles. Notably, the triplication and even further repetition of monosyllabic ideophones, as *pé-pé-pé* in (54a) and *tʰé-tʰé-tʰé* in (54b), generally applies to events made up of small actions (here short sounds) which repeat over and over.

(54) a. *pé::* ‘sound of a long and continuous breath/blow’
pé-pé-pé ‘sound of a repetitive gesture which involves air movement, such as waving a fan’
b. *tʰé::* ‘sound of soft and continuous wind blowing’
tʰé-tʰé-tʰé ‘sound of soft wind blowing repetitively’
c. *nyá::ŋgu* ‘licking’
nyaŋgú-nyaŋgú ‘licking repeatedly’

d. *pʰurúɾ::* ‘trying to fly away (for trapped bird)’
pʰurú-pʰuru ‘trying repeatedly to fly away (for trapped bird)’

In (55)-(56), ideophones derived from the verb stem *goɗoma* ‘kneel’ are illustrated. In (55), *gó::ɗa* follows the copula verb and the event described, a woman on her knees, is static and durative. In (56), the reduplicated *goɗá-goɗa* supports the repetitive and rhythmic motion implied in the verb *kufamba* ‘to walk’.

(55) *maye ure taŋ̣gumana, ari gó::da*
maye *ure* *ta-ŋ̣-gumana* *a-ɾi* ***gó::da***
1.mother 1.DEM.III SP1PL.PFV-OP1-meet SP1-be IDEO(kneeling)
‘That mother, we met her (she is) kneeling.’ (Elicitation)

(56) *kufamba goɗá-goɗa*
ku-famba ***goɗá-goɗa***
INF-walk IDEO(kneeling)-RED
‘To walk on the knees.’ (Elicitation)

These phono-semantic principles, according to which the shape of ideophones mirrors the physical characteristics of the actions they refer to, are in fact strongly linked to the so-called “diagrammatic iconicity” (Downing & Stiebels 2012), which establishes visual resemblance between the form of the sign or linguistic expression and its meaning.

In terms of sound symbolism, only a few (possible) correspondences between sound and meaning could be detected. The most promising example is the (aspirated) voiceless bilabial stop /p$^{(h)}$/, which is associated with air movement in at least three onomatopoeias: *pé::* ‘sound of a long and continuous breath/blow’, *pé-pé-pé* ‘sound of a repetitive gesture which involves air movement, such as waving a fan’, and *pʰá-pʰá-pʰá* ‘move and sound of bird landing’. The use of the aspirated voiceless velar stop /k^{h}/ in *kʰosó-kʰoso* ‘sound of coughing a lot’ evokes abrupt vocalization. The aspirated voiceless alveolar stop /t^{h}/ at the beginning of onomatopoeias correlates with a soft or quiet sound, e.g. *tʰó-tʰó-tʰó* ‘sound of drops of water dripping’, *tʰé-tʰé-tʰé / tʰé::* ‘sound of soft wind blowing repetitively/once’, and *tʰúkutu* ‘landing gently’. These examples are too few, however, to speak of phonesthemes, and there is plenty of data that counters the above suggestions.

As for vowels, they do not seem to be affected by sound symbolism. No direct meaning may easily be associated to a vocalic sound. Furthermore, the process whereby vocalic variation triggers variation in meaning does not exist in Sena ideophones. This is illustrated in the minimal pairs in (57) based on vowel substitution. No systematic sound-meaning correspondences have been detected for vowels. The pairs of ideophones in (57) differ only in the quality of their vowels, and although a semantic connection might be detected, namely different sound types in (57a), alignment in (57b), and loss of order in (57c), the choice of vowels in each pair seems arbitrary.

(57) a. *dré-dré* ‘sound of fart’
dró-dró ‘sound of jumps made by medium-sized animals (e.g. goat)’
b. *ɗerú-ɗerú* ‘balancing’
ɗurú-ɗuru ‘in a line or in a group (people walking)’
c. *dzedzé-dzedzé* ‘losing balance, staggering’
dzudzú-dzudzú ‘causing confusion’

7.3 Ideophone-body part collocations

Several ideophones in Sena combine with body part nouns. Two body parts are particularly conducive to attracting ideophones, i.e. *maso* ‘eyes’ (58) and *ṇtima* ‘heart’ (59).

(58) *maso* ‘eyes’ + ideophone
maso goma-goma ‘with a look of pain’
maso guɗu-guɗu ‘with closed or heavy eyes (because of drowsiness)’
maso muni-muni ‘with half-closed eyes’
maso tʰuɓu-tʰuɓu ‘with swollen eyes’
maso cetú-cetu ‘with threatening eyes’ or ‘with bright eyes’
maso mbú:: ‘with staring eyes’
maso ɾwá-ɾwá ‘with eyes wide open, without blinking’

(59) *ṇtima* ‘heart’ + ideophone
ṇtima ɓakú-ɓakú ‘with heart beating’
ṇtima parú-paru ‘with heart beating in fear’
ṇtima ɓii ‘with fearful heart, with apprehension’

ṇtima gugú::ɗu ‘with dry heart, with no empathy/compassion’
ṇtima ɾépé-ɾépé ‘with the desire to do or eat sth.’
ntima ɗyókó-ɗyoko ‘with the desire to eat sth.’

Often, the ideophone directly follows the body part noun (60), albeit a possessive modifier can easily be inserted between both elements (61).

(60) *taŋgumana pakati mbakabvina maso ɾwá-ɾwá*
ta-ṇ-gumana *pa-kati* *mba-ka-bvina* ***ma-so***
SP1PL.PFV-OP1-meet 16-within CVB-PST.IPFV-dance 6-eye
ɾwá-ɾwá
IDEO(eyes wide open)
‘We found him here dancing, his eyes (are) wide open (in trance).’ (Elicitation)

(61) *(wandipaŋgiza mano ako, mano ako niŋga ukaka,)*
maso ako cetú-cetu, kuyetima niŋga nyenyezi
ma-so *ako* ***cetú-cetu*** *ku-yetima* *niŋga* *nyenyezi*
6-eye AGRP6.POSS2SG IDEO(bright) INF-shine like 10.star
‘(You showed me your teeth, your teeth like sesame seeds,) your eyes are bright, shining like stars.’ (Poem_Ndiri.Ncitulo)

Syntactically, ideophones that take body parts subjects can be predicates on their own (see §6.3), as in (60) and (61) above, or form a complex predicate with a copula (see §6.2), as in (62) below, which literally translates as ‘my heart was with the desire to eat something’.

(62) *papaya pikayionene ṇtimaŋga ukʰari ɾépé-ɾépé funa kuyiɗya*
papaya *pi-ka-yi-ona=ine*
9.papaya AGRP8-PST.IPFV-OP9-see.REL=PRO1SG
*ṇ-**tima**ŋga* *u-kʰa-ɾi* ***ɾépé-ɾépé*** *funa*
3-heart.POSS1SG SP3-PST.IPFV-be IDEO(desire to eat sth.) want
ku-yi-ɗya
INF-OP9-eat
‘The papaya, when I saw it, I felt the desire to eat it, I wanted to eat it.’(Elicitation)

Two other body parts are found in idioms with ideophones, i.e. *ŋkʰope* ‘face’ (63) and *mimba* ‘belly, stomach’ (64), but these combinations are less productive. Further note

that *yezi-yezi* ‘out of control like a drunk’ and *zígu:* ‘with sudden gesture shifting away from someone’ in (63) express movements or gestures which are not restricted to the face; they also naturally combine with the noun *manungo* ‘body’.

(63) *ŋkʰope* ‘face’ + ideophone

ŋkʰope gaɗa-gaɗa	‘with big and/or open face’
ŋkʰope nyasi-nyasi	‘with upset face ready to cry’
ŋkʰope yárá-yárá	‘with false joyful facial expression while feeling resentful’
ŋkʰope yézí-yézí	‘out of control like a drunk’
ŋkʰope zígu:	‘with sudden gesture shifting away from s.o.’

(64) *mimba* ‘belly, stomach’ + ideophone

mimba mba-mba-mba	‘with full stomach’
mimba dé::fu	‘with empty stomach’
mimba toro	‘swelling of pregnant belly’

Example (65), extracted from naturalistic data, illustrates the use of *mimba toro* ‘swelling of pregnant belly’.

(65) *pakusemba mai uyu, mwana ne nensa dì mimba toro, mwana ʃí:*

pa-ku-semba	*mai*	*uyu*	*mwana*	*ne*	*nensa*	*dì*	*mimba*
16-INF-marry	1.mother	1.DEM.I	1.child	NEG	be.difficult	COP	9.belly
toro			*mwana*	*ʃí:*			
IDEO(swelling of pregnant belly)			1.child	IDEO(standing straight, well mounted)			

‘When this woman got married, the child, it was not difficult to get pregnant, the child is now here standing.’ (Conv.06_MaBeCe_#343)

8. Conclusion: Toward a definition of ideophones in Sena

From the features discussed above, we first conclude that Sena ideophones may assume functions or distributions typically conveyed by other word classes. They have the ability to behave like adverbs or converbs, both in terms of distribution (mostly sentence-final) and function (descriptive or manner adverbs). This is especially the case when they combine with verbs from which they are morphologically derived, resulting in constructions that literally translate as ‘cut cutting’. Together with copula verbs, ideophones form complex predicates, e.g. *ri ɓíɗó::* ‘be dark, black’. In this environment, the syntactic behavior of ideophones shows more affinities with that of

nouns and adjectives, although ideophones do not share the morphological properties displayed in nouns and adjectives. In other syntactic environments, ideophones are used predicatively on their own, that is they substitute the verb and take thematic arguments. Unlike normal verb forms though, ideophonic predicates do not require concordial agreement with the nominals with which they pattern. Nor do they contain any type of inflectional or derivational morphology. Finally, they behave like interjections in the sense that they both express emotions, are easily lengthened or repeated with a characteristic prosodic pattern, and overall, they are phonologically and syntactically less constrained than other word classes. However, what clearly distinguishes ideophones from interjections is the capacity of the former to participate in the clause construction and have arguments.

What makes a lexeme an ideophone in Sena? Among the different word classes in the language, ideophones are distinctive in their phonology, their morphology, and above all their syntax. First, vowel (and more rarely consonant) length — in a system where long vowels are non-phonemic — is a defining property of Sena ideophones. Second, only the category of ideophones contains elements with closed syllables. Third, in a prosodic system marked by predictable stress, ideophones exhibit tone patterns. Morphologically, unlike most lexical word classes, including nouns, adjectives, verbs and adverbs, ideophones have no (or very little) morphology. The high frequency at which reduplication is applied in ideophones is also not seen in other word classes, excepts adverbs in *ci-* (§2). Triplication and multiplication, commonly found in ideophones, are not attested elsewhere, with the exception of interjections. Syntactically, ideophones can display a variety of functions, as explained in the preceding paragraph, but a crucial aspect of their syntactic behavior which distinguishes them from all other word classes - except interjections - is their capacity to be used independently and holophrastically.

In light of the above elements, Sena ideophones can be deemed as a distinct word class in the language on a par with nouns, adjectives, verbs, adverbs, etc. This is in line with the analyses usually adopted by Bantuist scholars, starting with Doke (1954) for Southern Bantu languages.

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Abbreviations

1, 2, 3... = noun class
1SG/PL, 2SG/PL = grammatical persons
.I, .II, .III = demonstrative series (.I 'proximal', .II 'medial', .III 'distal')
AGRP = agreement prefix
AM = associated motion
APPL = applicative
COM = comitative
CONN = connective
COP = copula
CVB = converb
DEM = demonstrative
DIM = diminutive
EMPH = emphatic
FV = final vowel
HAB = habitual
IDEO = ideophone
INF = infinitive
INT = intensive
INTERJ = interjection
IPFV = imperfective
ITV = itive
NARR = narrative
NEG = negation
NTR = neuter
OP = object prefix
PASS = passive
PFV = perfective
PLA = plural addressee
POSS = possessive
PRO = pronoun
PROG = progressive
PRS = present
PST = past
REL = relative
RED = reduplication
SEQ = sequential
SG = singular
SIT = situative
SP = subject prefix
VOC = vocative
VTV = ventive

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CONTACT

rozenn.guerois@cnrs.fr