

Research Article

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Ideophones in Arusa Maasai: Syntax, morphology, and phonetics

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Abstract: The present article is dedicated to the syntax, morphology, and phonetics of ideophones in Arusa Maasai. After examining the compliance of 69 ideophonic lexemes with the typologically driven prototype of an ideophone, the authors conclude that Arusa ideophones may range from canonical to non-canonical even within a single language module. When syntax, morphology, and phonetics are considered jointly, holophrastic and asyntagmatic ideophones are more canonical than ideophones used as verbal modifiers and parts of complex predicates, which are, in turn, more canonical than predicative ideophones. The extent of canonicity is inversely correlated with the systematicity and integration of ideophones in sentence grammar and their diffusion into other lexical classes: predicative ideophones have been fully incorporated into the category of verbs; for ideophones employed as verbal modifiers, a comparable incorporation into the category of adverbs has not been completed; for all the other types, especially holophrastic and asyntagmatic, ideophones still maintain their categorical individuality. Overall, ideophones constitute an “old” category in Arusa, one that is well advanced on its grammaticalization cline.

Keywords: Nilotic languages, Maasai, Arusa, ideophones, syntax, morphology, phonetics

1 Introduction

Ideophones are defined as depictions (Dingemanse 2012, 658), i.e., “vivid representation[s] of an idea in sound” (Doke 1935, 118). Ideophones “bring events to life” (Dingemanse 2012, 666) and enable speakers to experience the activity or situation that is being (re)-presented (ibid. 655). They communicate the experience of reality by “simulat[ing] actions and states] through language” (Voeltz and Kilian-Hatz 2001, 3, see also Kilian-Hatz 2001, Kunene 2001). This is possible because of iconic properties that are inherent to ideophones, their meaning, and form being (closely) related (Diffloth 1980, 50, Iwasaki et al. 2007, Dingemanse 2012, 657).¹ Iconic representations associated with ideophones typically pertain to the domains of sound, motion, temporal unfolding, visual perception, non-visual sensation, and inner psychological and

¹ Iconicity found in ideophones may itself be of two types: imagic/absolute or diagrammatic/relative (Dingemanse 2012, 658–259, Dingemanse et al. 2015, 606). Iconic images are “signs whose form is related to the referent by means of a ‘natural’ similarity” (Nänny and Fischer 2006, 462). Iconic diagrams are “arrangement[s] of signs, none of which necessarily resembles its referent but whose relationships to each other mirror the relationships of their referents” (ibid.). To put it differently, it is not the sign and its components that are iconic but rather the links and connections among them (Klamer 2001, 168, 178).

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cognitive states (Kilian-Hatz 1999, 31–52, Dingemanse 2012, 661, Dingemanse et al. 2015, 607). These domains can be arranged according to the following hierarchy: sound > movement > visual patterns > other sensory perception > inner feelings and cognitive states (Dingemanse 2012, 663). In any given language, the access to a “higher” level/system presupposes the use of the “lower” levels/systems (*ibid.*). The various levels of the hierarchy are related through family resemblance (compare Evans and Green 2006 and Janda 2015): a lower-level domain shares some similarities with the domain located immediately above, which is, in turn, similar to a domain that occupies a subsequent place in the hierarchy. This means that the entire hierarchy does not exhibit a single semantic value that would be present across all the domains. Nevertheless, the overarching – though not defining – semantic characteristic of ideophones could be viewed as their “sensory” (Dingemanse 2012, 666) and/or “perceptuomotor” meaning (Dingemanse et al. 2015, 607).

Ideophones have attracted little attention in Maasai scholarship, and Karani (2018) is the only linguist who has formulated some explicit generalizations about their properties. In his study of argument alternations, Karani argues that in Parakuyo – a Maasai variety spoken in the north-eastern part of Tanzania – ideophones constitute “a separate word class” (*ibid.* 49) used to increase the colorfulness, liveliness, and dramaticism of communication, whether in narrative or dialogue (*ibid.* 48). Ideophones are attributed with this categorial independence even though the inventory of the ideophonic category is small (with only 27 lexemes being identified) and the ideophones attested function syntactically as other lexical classes, namely nouns, verbs, adjectives, and, particularly often, adverbs. In an adverbial function, ideophones express two types of meanings: manner and “intensity,” “emphasis,” or “degree” (*ibid.* 49–50). This relation to other lexical classes may reflect the fact that, although some ideophones are onomatopoeic and thus have a radical origin, many others are apparently derived from nouns, verbs, adjectives, and adverbs (*ibid.* 49). Finally, Karani proposes that ideophones exhibit “unique phonological and morphosyntactic properties” (*ibid.* 49). This bold statement is, however, not discussed in detail, nor is it supported by examples. The other mention of ideophones in Maasai is found in the dictionary compiled by Payne and Ole-Kotikash (2008). In this otherwise commendable work, ideophones are distinguished as one of the “categories,” although it is unclear whether such a categorial status can be understood as on par with other lexical classes. Significantly, the number of ideophones is even smaller than in Karani’s (2018) study, with only three ideophonic lexemes being listed. All of them are imitations of sounds.

The present article aims to improve our knowledge of ideophones in Maasai by offering the first systematic analysis of these types of lexemes in Arusa – a Maasai variety spoken in northern Tanzania close to Mount Kilimanjaro. Specifically, we will examine the form of Arusa ideophones in terms of their phonetics, morphology, and syntax. This examination will be developed within a crosslinguistically informed and prototype-driven approach to ideophony, i.e., by testing the members of the ideophonic class for their compliance with the formal properties associated with the typological ideal of an ideophone (Andrason 2020, Heine forthcoming, see also Dingemanse 2012, Ibarretxe-Antuñano 2017). To achieve this goal, this article is structured in the following manner: in Section 2, we present our framework; in Section 3, we introduce evidence from Arusa; in Section 4, we evaluate this evidence within the adopted framework; and in Section 5, we conclude this study.

2 Framework and research strategy

As mentioned in Section 1, our study of Arusa ideophones is developed within a typologically informed and prototype-driven approach to ideophony. Accordingly, we understand the category of ideophones as a radial network organized around an ideal representative – the prototype. This prototype is defined cumulatively as a set of properties that have been postulated given their cognitive salience and prevalence in ideophones attested in specific languages (Andrason 2020).²

As far as the form of ideophones is concerned – the topic of our research – a prototypical ideophone is associated with a set of phonetic, morphological, and syntactic features (see Andrason 2020, 2021a,

² Regarding prototype-driven categorial radial networks, consult Evans and Green (2006), Janda (2015), and Andrason and Dlaki (2017, 2020).

drawing mainly on Voeltz and Kilian-Hatz 2001, Dingemanse 2012, Lahti et al. 2014, Ibarretxe-Antuñano 2017, see also Heine forthcoming). With regard to syntax, a prototypical ideophone constitutes a “complete autonomous utterance” (Andrason 2020, 130, Heine forthcoming). This means that, when used within a larger sentence (i.e., with an adjacent clause or a series of clauses), the ideophone appears extra-clausally: it does not entertain syntagmatic relationships with the core clause, is separated from the said clause by a pause or contouring, and is located at the sentence margins (Andrason 2020, 130, see also Childs 1994, 122–3, 2003, Kilian-Hatz 2001, 157, 162, Beck 2008, 38, Dingemanse 2011, 145–8, 158, 2012, 656–7, Heine forthcoming). With regard to morphology, a prototypical ideophone is a primary underived root: it does not contain specific derivative morphemes (which would be different from the root itself) or inflectional affixes – the only derivative strategy being expressive and involving repetition of the radical element through reduplication and multiplication (Andrason 2020, 127–8, see also Voeltz and Kilian-Hatz 2001, 2, Msimang and Poulos 2001, Childs 2003, 8, Beck 2008, 4–5, 8, 16, Dingemanse 2012, 656, Lahti et al. 2014, 335, Ibarretxe-Antuñano 2017, 212). With regard to phonetics, a prototypical ideophone contains aberrant sounds and sound configurations, exploits vocalic and consonantal length as well as tones and harmony to a larger extent than elements of sentence grammar,³ and is coarticulated with distinctive phonation and prosody (e.g., breathy or creaky voice, whispering or loud volume, and characteristic melody) (Andrason 2020, 125–6, see also Voeltz and Kilian-Hatz 2001, Childs 2003, 118–9, Blench 2010, Dingemanse 2011, 134–6, 158, 2012, 656, Akita et al. 2013, Ibarretxe-Antuñano 2017, 211, Andrason 2017, 146).⁴

The prototype of an ideophone outlined earlier organizes the ideophonic category (although it does not define it): it designates the precise location of the categorical center and periphery and, like an assessment or measuring tool, determines the position of all possible members, i.e., language-specific instantiations, in this abstract space. Instantiations that comply with (nearly) all prototypical features are canonical and occupy the center of the category; in contrast, instantiations that comply with only a few prototypical features are non-canonical and populate the category’s periphery. Accordingly, the category adopts the shape of a radial network, with its members emanating from the center to the periphery and with fuzzy boundaries overlapping with other categorical networks. Overall, the model implies that a language-specific ideophone and/or the entire ideophonic category of a language may violate the prototype to a lesser or larger extent and in a variety of ways.⁵ Consequently, neither ideophones found within a single language nor ideophonic categories attested across different languages need to exhibit the same or even similar extents of canonicity (see Andrason 2020, 2021a, Heine forthcoming).⁶

Given the model of the ideophonic category presented earlier, our research strategy will involve the following: We will test the Arusa ideophones for their compliance with the formal prototype of an ideophone

³ Regarding the notion of “sentence grammar,” consult Heine et al. (2013) and Heine (forthcoming).

⁴ Additional types of phonetic aberrancy associated with the prototype of an ideophone may appear at the level of the entire ideophonic lexical class found in a specific language. For instance, aberrancy may stem from “skewed distributions” (Andrason 2020, 126), i.e., differences in the frequency of the occurrence of certain phones/phonemes and their combinations in ideophones and other lexical classes. Similarly, length and tone may render ideophones aberrant in a language. This stems from the fact that length and tone tend to play an important role in ideophones, even in languages in which these two features are absent from all the other lexical classes (Andrason 2020, 125–6). The only other exceptions tend to be interjections (Andrason and Dłali 2020).

⁵ As is typical of prototype-driven categories, since any prototypical features may be violated, no feature needs to be viewed as definitional and/or essential (Janda 2015).

⁶ One of the most important clusters of violations of the ideophonic prototype concerns syntax. Very often, ideophones can be used as structural, fully syntagmatic elements of a clause, apart from allowing for the holophrastic uses mentioned earlier. Specifically, ideophones may function as a predicate or a part of a predicate (thus, often headed by quotative markers or dummy speech/do verbs) as well as a verbal, clausal, or adnominal modifier (Andrason 2020, 130, 2021a, 20, 24–5, see also Ameka 2001, Msimang and Poulos 2001, 238–9, Voeltz and Kilian-Hatz 2001, 3, Childs 2003, 123, Dingemanse 2012, 657). In all such cases, an ideophone may approximate or be syntactically indistinguishable from a verb, adverb, and/or adjective (Marivate 1985, Childs 1995, Ameka 2001, Nuckolls 2001, Schafer 2001, Beck 2008). This is arguably related to the grammaticalization of an ideophone or the entire ideophonic category in a language – the more grammaticalized and integrated, the more diffused in order they are (Dwyer and Moshi 2003, Dingemanse 2011, 2017, Dingemanse and Akita 2017, Andrason 2021a, Heine forthcoming).

with regard to syntax, morphology, and phonetics. This will allow us to study the ideophonic category in a principled manner, i.e., to describe its most relevant properties and to explain its global structure.

3 Evidence

The evidence presented in this section is drawn from a series of fieldwork activities carried out in the Arusa region in 2019 and 2020. In the course of this research, we collected 69 ideophones that complied with the semantic-pragmatic definition of ideophones provided in the introductory part of this article. This “function-first” approach, common in typological studies (Croft 2003, 13–4), allows us to avoid circularity, should our samples be based on phono-/morpho-syntactic premises. The collected lexemes, whose formal aspects – syntactic (Section 3.1), morphological (Section 3.2), and phonetic (Section 3.3.) – we will examine in detail, are listed in the alphabetical order:⁷

List 1: Ideophones in Arusa

<i>būh</i> ‘a thud sound when something is falling down’	<i>ḡḡ</i> ‘at all – about lack, absence, emptiness’
<i>būrubūru</i> ‘noisily – when rolling down’	<i>ḡḡb</i> ‘sound of gulping’
<i>būss</i> ‘a thud sound when something is falling down’	<i>(ʔ)ḡrḡr</i> ‘sound of braying’
<i>jūk</i> ‘bright, striking – of a black color’	<i>pá</i> ‘depiction of flapping with a machete’
<i>tjambul</i> ‘sound of immersing in water’	<i>páa</i> ‘sound of rain’
<i>tjúkútjúkóo/tjúkútjúkóo</i> ‘depiction of throwing something away in the air’	<i>pás</i> ‘sound of breaking something’
<i>tjúm</i> ‘still – about standing’	<i>páu</i> ‘hard – of hitting’
<i>tjúr(r)</i> ‘urinating sound’	<i>pél</i> ‘brightly – of being white’
<i>tjítj</i> ‘at all – about lack, absence, emptiness’	<i>píal</i> ‘brightly – of being white’
<i>tjír</i> ‘at all – about a lack of milk’	<i>píd/ípíd</i> ‘quickly – of jumping’
<i>dēdēu/dēdē</i> ‘depiction of detaching things’	<i>pío</i> ‘depiction of bad smell’
<i>dóss/dóssu</i> ‘depiction of uprooting something’	<i>píp</i> ‘at all – about lack, absence, emptiness’
<i>kán</i> ‘completely – about being dry’	<i>píu</i> ‘all of it – of licking something’
<i>káu</i> ‘completely – about being dry’	<i>púr(k)úk</i> ‘sound of hooves’
<i>kél</i> ‘depiction of killing’	<i>púrkú/púruk</i> ‘quickly – of running’
<i>kílikíli</i> ‘sound of drinking something’	<i>rrábal</i> ‘depiction of falling into mud’
<i>kírikíri</i> ‘sound of galloping’	<i>rrí</i> ‘depiction of starting to run together’
<i>kírr</i> ‘at all – about lack, absence, emptiness’	<i>rús/írús</i> ‘sharply – of piercing something’
<i>kóross</i> ‘sound of breaking’	<i>súnusún/ísúnusún</i> ‘sound of sneezing’
<i>kóik</i> ‘sound of breaking wind’	<i>súrr/ísúrr</i> ‘quickly – of getting out’
<i>kúlukúlu</i> ‘sound of pouring’	<i>sjóo</i> ‘depiction of an attempt to hug at the end of a song’
<i>kúm/íkúm</i> ‘hard bang sound’	<i>j(w)áa</i> ‘sound made when roasting or boiling’
<i>kúmúkúm</i> ‘sound imitating walking’	<i>jírtít</i> ‘depiction of slipping’
<i>kúrrkúrr/kúrr</i> ‘sound of thunder; depiction of digging’	<i>jwál</i> ‘sound made by a thin stick while beating’
<i>kúrúúm/íkóróm</i> ‘sound of crunching’	<i>táb</i> ‘tightly – of holding’
<i>kwáh</i> ‘sound of breaking wood’	<i>téeté</i> ‘depiction of a child tottering’
<i>kwára</i> ‘sound of beating’	<i>tíak/ítíak</i> ‘sound of dropping something’
<i>lábíláb</i> ‘depiction of drinking like a dog’	<i>tíb</i> ‘sound made when piercing something with a spear’
<i>míligít</i> ‘quickly – of swallowing’	<i>tírr</i> ‘sharply – of cutting’
<i>mútjá</i> ‘depiction of tastelessness’	<i>tírrmám</i> ‘still – of standing’
<i>mój</i> ‘completely – of finishing’	<i>tírrja</i> ‘quietly’
<i>ḡám</i> ‘depiction of any fast motion’	<i>tókótókó/ítóktók</i> ‘sound of liquid boiling’
<i>ḡárábáb</i> ‘quickly – of standing up’	<i>tó(ɔ)</i> ‘excessively – of talking’
<i>ḡís</i> ‘depiction of biting’	<i>tús/ítús</i> ‘quickly – of piercing’
	<i>wúap</i> ‘depiction of snatching’

⁷ For some ideophones, the predicative variant differs from the form used in all the other functions (see Section 3.2 on morphology). In the aforementioned list, if two forms are given, the second one refers to such predicative variants.

In this article, we use an orthography base on the International Phonetic Alphabet. Therefore, we overtly note the Advanced Tongue Root harmony (commonly present in Maasai varieties) and thus the difference between open and close vowels. However, we use symbol *j* rather than the IPA *ɟ* following the practice common in Tanzanian Maasai scholarship (see Karani 2013, 2014). Furthermore, long consonants and long vowels are indicated with the reduplication of the respective symbol rather than with < : >. Similarly, extralong sounds are rendered with the triplication of a consonantal or vocalic symbol instead of < :: >. In the phonetics section, however, usual phonetic symbols are used in square brackets. Regarding the tone, we only indicate a high tone with the acute, while the absence of a tonal marker implies a low tone, as is typical in studies on Maasai.

3.1 Syntax

Any ideophone may be used holophrastically in Arusa, thus functioning as an autonomous and non-elliptical utterance. For instance, in (1) below, a girl (speaker A) carries a jar of water. She suddenly stumbles and, as a result, drops the jar. To inform her friend that she has dropped the precious object, she employs the ideophone *búss*. Her friend (speaker B) understands the message immediately and inquires about the reason of this misfortune, to which the girl responds that she tripped over a stone. In this example, the ideophone *búss* constitutes a self-standing complete utterance that succinctly and effectively communicates the idea of dropping something, such that no other explanatory clause is needed to convey the intended message.

- (1) A: - ***búss!***
 IDEO
 ‘Thud!’⁸
- B: - *kái* *i-nkúna?*
 What 2-do.PF
 ‘What have you done?’ (i.e., ‘What’s happened?’)
- A: - *á-ká-tárwa* *osóit*
 1-PF-trip stone
 ‘I tripped on a stone.’

All ideophones may also be used within the frame of a larger sentence without entering into syntagmatic relationships with the elements of the core clause and without functioning as that clause’s structural components. In such cases that approximate the holophrastic usage discussed earlier, ideophones appear at the margin of the sentence, typically on its left edge, and are separated from the core clause by a notably audible pause. The core clause itself may be semantically equivalent to the ideophone, roughly constituting its synonym; it can comment on the ideophone; or it restricts the ideophone’s interpretation. Example (2) illustrates these properties: the ideophone *pío*, depicting a bad smell, fails to entertain any syntactic role in the nearly synonymous core clause *eŋu ene wei nálēŋ* ‘this place is stinking a lot’; it appears in the left periphery of the sentence; and it is phonologically detached from that sentence’s remaining part.

- (2) ***pío***, *e-ŋu ene wei nálēŋ*.
 IDEO [PAUSE] 3-stinks this place very
 ‘Pew, this place is stinking a lot.’

⁸ In the numbered examples, ideophones are marked in bold and glossed as IDEO irrespective of their function. The meaning of the respective ideophones will not be glossed as these may be found in List 1.

Apart from the holophrastic and asyntagmatic uses described earlier, ideophones may also be employed as structural elements of core clauses. Three main types of syntagmatic functions are available to ideophones in Arusa: the predicate, part of a complex predicate, and the verbal modifier.

A limited number of ideophones – specifically, 17 tokens (approximately 25%) – may function as predicates. This usage is grammatical with *ĩfũkũfũkɔɔ*, *dēdē*, *dóssu*, *ikúm*, *kúrr*, *íkóróróm*, *hám*, *hís*, *hób*, *ipíd*, *irús*, *isũhusũh*, *isúrr*, *itĩak*, *itús*, *itóktók*, and *wúap*. When employed predicatively, ideophones exhibit a lexeme-specific argument structure as is typical of all verbs. They require a subject argument and, in the case of some lexemes (e.g., *dēdē* and *ĩfũkũfũkɔɔ*), an object argument. Ideophonic predicates can thus be intransitive (3.a) or transitive (3.a–b). The subject and object arguments may be encoded through verbal inflections, e.g., 3sg. subject *e-* in (3.a) and the combined 3sg. subject and 3sg. object *e-* in (3.c).⁹ These arguments can also be expressed lexically – see the subject *enkĩne* ‘goat’ in (3.a) and *olayĩoni* ‘(the) boy’ in (3.b), as well as the object *olabóbóki* ‘bark’ in (3.b) and *enũdi* ‘stick’ in (3.c). In all such instances, the position of the ideophonic predicate is analogous to the position occupied by genuine verbal predicates. That is, in unmarked predicate-focus contexts, the ideophone is placed clause-initially before any lexical subject and object as well as adjuncts (3.a–c).¹⁰

- (3) a. *é-ipíd* *ε-n-kĩne*.
 3SG-IDEO SG-F-goat
 ‘The goat will jump.’
 b. *é-té-dēdē-u-a* *o-l-ayĩoni* *o-l-abóbóki*.
 3SG-PF-IDEO-MT-PF SG-M-boy SG-M-bark
 ‘The boy removed the bark with force.’
 c. *é-ĩfũkũfũkɔɔ* *enũdi* *idialo*.
 3SG-IDEO stick that side
 ‘He will throw a stick (away/in the air) that side.’

In addition to being used as predicates, several ideophones may be introduced by quotative – speech or performative – verbs (so-called *verba dicendi* and *facendi*), e.g., *jo* ‘say’ (4.a) and *nitejo* ‘do’ (4.b). There are 37 ideophones of this type: 13 tokens are headed by *jo* ‘say’ (e.g., *pũrkũf*, *rrĩ*, *píd*, *búss*, *bũh*, *fĩrtĩt*, *hárábáb*, *pũruk*, *rrábal*), while 24 tokens are headed by *tejo* ‘do’ (e.g., *kwáh*, *tús*, *rús*, *táb*, *káb*, *kél*, *hís*, *fwáa*, *dóss*, *dēdēu*, *kwára*, *kúrúrúm*, *milígĩt*). In all such cases, ideophones occupy a position that is typical of adverbs, i.e., after the subject (e.g., *enkóilĩl* ‘antelope’ in 8.a) and object (e.g., *empĩra* ‘ball’ in 8.b), if these are expressed lexically. However, contrary to cases in which ideophones function adverbially as verbal modifiers, which will be described further below, an ideophone headed by one of the quotative verbs cannot be omitted. Indeed, its omission yields an ungrammatical or nonsensical utterance.¹¹ Therefore, although the position of an ideophone and its quotative verb need not be adjacent, we analyze such constructions as a complex predicate similar to what is observed in Southern Bantu languages (e.g., Zulu and Xhosa, Andrason 2021a). As in Southern Bantu, the quotative verb is lexically empty, being used merely as the carrier of inflections. In contrast, the ideophone, which appears in its base form (see Section 3.2), specifies the semantic type of an event and determines the argument structure of the clause.

- (4) a. *e-te-jo* *e-n-kóilĩl* *pũrkũf*.
 3-PF-say SG-F-antelope IDEO
 ‘The antelope came out of the bush running very fast.’

⁹ For details, consult Section 3.2 dedicated to morphology.

¹⁰ Regarding the word order of Arusa, consult Andrason and Karani (2019).

¹¹ The ungrammaticality of such omissions is evident in replies to questions containing an ideophone used as part of a complex predicate. For instance, to the question *Etejo enkóilĩl pũrkũf*? ‘Did antelope come out?’, one must answer by repeating the verb *jo* and the ideophone *pũrkũf*, i.e., *Ee, etejo pũrkũf* ‘Yes, she did.’ The reply without the ideophone (i.e., **Ee, etejo* lit. gloss: yes 3SG.do) is ungrammatical.

- b. *e-ewuo ake e-n-káyioni ní-tejo empíra rúss.*
 3-come.PF when SG-F.boy SUB-do ball IDEO
 ‘The boy just came and pierced the ball (sharply).’

A single quotative verb may head more than one ideophone. In (5), the verb *jo* ‘say’ introduces two ideophones that express two events – slipping (*ǰirtít*) and falling (*búss*) – that took place consecutively. Each ideophone forms a complex predicate with the quotative verb even though the verb itself is expressed only once. As a result, the sentence in (5) can be analyzed as the asyndetic coordination of two clauses, i.e., *néjó ǰirtít* and *néjó búss*, with the ellipsis of the inflected verb *jo* before the second ideophone.

- (5) *né-jó ǰirtít búss.*
 SUB-say IDEO IDEO
 ‘He slipped and fell down.’

Finally, ideophones may be used as verbal modifiers. In such instances, ideophones accompany a predicate, usually a verb (although also a predicative ideophone), with their meanings overlapping to some extent. For example, in (6.a), the ideophone *búss*, which depicts a thudding sound when falling, co-occurs with the verb *urori*, which similarly expresses the event of falling. Often, ideophonic modifiers specify the way in which the action expressed by the verb is performed, or they determine the intensity of that action (see again *búss*, which indicates the force of the impact in 6.a). In the former function, ideophones correspond to adverbs of manner, such as *réérée* ‘quickly’ or *sídai* ‘nicely’; in the latter function, they correspond to adverbs of degree, such as *nalén* ‘intensely, very.’ In unmarked predicate-focus word order, ideophonic modifiers occupy a postverbal position. If the subject (e.g., *entító* ‘girl’ in 6.a) or the object (s) (e.g., *enkíriño* ‘meat’ in 6.b) are expressed lexically, the ideophone appears after all the arguments (see *buss* in 6.a and *míligít* in 6.b). If adjuncts are used, especially adverbials indicating place and time (see *ɲole* ‘yesterday’ in 6.c), the ideophone is placed before them (see *míligít* in 6.c). As a result, the placement of ideophonic modifiers is identical to the position occupied by adverbs of manner and degree. However, despite this word-order tendency, which is regular in colloquial speech, ideophones employed as modifiers may also appear in clause-initial position. This is grammatical – and indeed common – in narratives when telling a story (see *rri* in 6.d).

- (6) a. *é-tú-uróri é-n-tító búss.*
 3-PF-fall.down SG-F-girl IDEO
 ‘The girl fell down heavily.’
 b. *é-tó-ijó-jíe é-n-kérai é-n-kíriño míligít.*
 3-PF-swallow-PF SG-F-child SG-F-meat IDEO
 ‘The child swallowed the meat quickly.’
 c. *é-tó-ijó-jíe é-n-kíriño míligít ɲole.*
 3-PF-swallow-PF SG-F-meat IDEO yesterday
 ‘She swallowed the meat quickly yesterday.’
 d. *rri né-kwét i-ntáre ngálo ɔ-l-kéjɔ.*
 IDEO SUB-run PL-goat towards SG-M-river
 ‘Running together, goats ran towards the river.’

The use of ideophones as verbal modifiers is also grammatical with the 13 ideophones that can be employed as predicates (see earlier in this section). Accordingly, ideophones may not only modify a genuine verbal predicate with which they are semantically compatible, but may also accompany their own predicative counterpart. In such cases, both the predicate and the modifier draw on the same or similar ideophonic lexemes (see Section 3.2): the former specifies the type of action that takes place, while the latter usually conveys the nuance of intensity similar to an adverb of degree:

- (7) *á-á-ikúm* *kúm*.
 1 > 2-IDEO IDEO
 ‘I will push you very hard.’

3.2 Morphology

The morphology of ideophones must be assessed separately at two levels: at the level of their bases and at the level of surface forms. As will be evident from the subsequent discussion, for ideophones that are used holophrastically and asyntagmatically, as well as for those that function as verbal modifiers and parts of complex predicates, the surface form is identical to the base. However, for ideophones that can be employed as predicates, the surface form differs from the base by containing (many) other morphological elements. Furthermore, a number of ideophones exhibit two distinct bases: one appears in all non-predicative functions – whether syntagmatic, asyntagmatic, or holophrastic – while the other is only attested in a predicative function.

Most ideophonic bases are monomorphemic and can neither synchronically nor (most likely) diachronically be divided into more elementary independent meaning-bearing units. The most evident cases of morphological simplicity and monomorphemicity are 43 “short” – monosyllabic – bases such as *búh*, *búss*, *tjúm*, *kírr*, *pá*, *páa*, *pás*, *rrí*, and *júk*.

Synchronically, the monomorphemic structure may also be attributed to some bases that are more robust and exhibit a bi- or trisyllabic structure. These types of bases might, however, have been more complex and pluri-morphemic from a diachronic perspective, i.e., at earlier stages of the language. Two classes of such ideophones can be distinguished. First, a small group of ideophones exhibits the element $-C_1VC_1$ in their second syllable: *ṇárḃáb*, *púr(k)úk*, *ḡirtít*, and *tírmám*. This element is characterized by an “internal” consonantal harmony (i.e., the two consonants are identical) and an “external” vocalic harmony (the vowel of the element $-C_1VC_1$ usually coincides with the vowel of the first syllable of the word),¹² and approximates the phenomenon of “recurrent partials” common in many ideophones in Southern Bantu languages, e.g., Zulu (Fivaz 1963) and Xhosa (Andrason 2020, 140, 152).¹³ Similar to the Arusa unit $-C_1VC_1$, recurrent partials attest to harmonious tendencies. They exhibit the pattern $-C_1V_1C_1V_1$, with V_1 usually coinciding with the vowel of the preceding syllable. Although the presence of $-C_1VC_1$ in Arusa ideophones may, as in Xhosa and Zulu, suggest some original derivative mechanism – i.e., this element may have been added to what now constitutes the first syllable – these ideophones are synchronically unanalyzable into two (or more) independent morphemes. Second, similar to ideophones containing the element $-C_1VC_1$, the robust form of some other lexemes (e.g., the bi- or trisyllabicity of *tjāmbul*, *kwára*, *mīlīgīt*, *púrkúf*, and *rrābal*) and/or their obscure iconicity (e.g., the unclear structural relationship of *tírrja* and *mútḡa*, with their respective depictions of quietness and tastelessness) may suggest the secondary status of such ideophones and their origin in other lexical classes. If this is the case, these ideophones could have contained, at least initially, two or more morphemes. Nevertheless, this diachronic relationship – if it ever existed – is now irrecoverable. All such words are synchronically indivisible into more fragmentary units and, thus, exhibit a monomorphemic structure.

Although synchronic monomorphemicity prevails, a group of ideophones exhibits bases that currently (not only historically) have a more complex structure. The most patent exponent of such complexity are reduplicative structures attested, for instance, in *búruḃúru*, *kílikíli*, *kírikírí*, *kúlukúlu*, *lábíláb*, *ṡórṡór*, *téeté*, and *kúmukúm*. Overall, 12 ideophones are reduplicated out of the possible 26, i.e., those that contain more than one syllable. This means that, while 17% of all ideophones exhibit some types of reduplication, for

¹² Regarding various harmonious patterns, see Section 3.3.

¹³ Concerning recurrent partials in other African languages, consult Childs (1989, 69–70).

multisyllabic tokens, this percentage increases to 46%.¹⁴ Despite the fact that reduplication seems common in ideophones, it does not constitute a genuine morphological process but is rather an expressive and phonetic device. In other words, the reduplicated ideophones – except perhaps for *kúrrkúrr* which has a non-reduplicated predicative variant *kúrr* – cannot be divided into singletons that would have some meaning on their own, nor can they be extended by an additional singleton to yield triplicated or quadruplicated sequences. More generally, as far as multiplicative structures are concerned, neither triplication nor quadruplication is attested in ideophones in Arusa. This contrasts with the well-attested presence of multiplicative patterns, triplicated and quadruplicated, in ideophones in many other languages, e.g., in Southern Bantu languages such as Xhosa and Zulu (Andrason 2020, 155–6).

Crucially, ideophonic bases do not contain “ideophonizers” similar to the ideophonizing suffix *-iyani/-iyane* in Nguni languages (Zondo 1982, Msimang and Poulos 2001, 242–3, Andrason 2020, 154–5). In other words, no ideophone exhibits an affix that would mark ideophones overtly as members of the ideophonic category and/or derive them from other non-ideophonic lexical classes.

Ideophonic bases not only lack any ideophonizing derivations, they also usually fail to contain any morphemes that would mark them for one of the possible syntagmatic uses. This is always true of bases exhibited in ideophones functioning as parts of complex predicates and verbal modifiers. In addition, four bases exhibited in predicative ideophones (i.e., *ḡám*, *ḡís*, *ḡób*, and *wúap*) lack any element that could distinguish them morphologically as predicative.¹⁵ This behavior is, however, not particularly surprising: Arusa lacks adverbializers; apart from ideophones, complex predicates with quotative verbs are unattested and, thus, morphemes that would mark non-inflected parts of complex predicates are unknown; verbs are marked in a variety of manners, lacking a uniform verbalizing affix (compare with the verbalizer *-a* in Southern Bantu).¹⁶

Unlike the aforementioned four predicative bases (i.e., *ḡám*, *ḡís*, *ḡób*, and *wúap*), which are identical to the bases used in all the other functions, 13 ideophones have marked predicative bases (this amounts to 76% of the 17 ideophones that allow for predicative uses; see Section 3.1). The overt marking of predicative bases thus constitutes a strong tendency in Arusa. The following pairs of non-predicative and predicative bases are found in the language: *tḡúkuḡúkóo/itḡúkuḡúkóo*, *dḡḡḡu/dḡḡḡḡ*, *dóss/dósu*, *kúm/ikúm*, *kúrrkúrr/kúrr*, *kúrrúm/ikóróróom*, *píd/ipíd*, *rús/irús*, *súnḡsún/isúnḡsún*, *súrr/isúrr*, *tiak/itiak*, *tóktóktó/itóktóktó*, and *tús/itús*. From this list, one may infer that the most common manner of marking a predicative base is with the initial vowel *i-*, attested in ten tokens: *itḡúkuḡúkóo*, *ikúm*, *ikóróróom*, *ipíd*, *irús*, *isúnḡsún*, *isúrr*, *itiak*, *itóktóktó*, and *itús*. The remaining means of marking predicative bases are erratic, with each one only being attested once. This involves: shortening of the diphthong (*dḡḡḡḡ*), shortening of the consonant and the presence of an additional vowel/syllable (*dósu*), absence of the final vowel/syllable of the reduplicated singleton (*tóktóktó*), absence of reduplication (*kúrr*), and change of vowel quality (*ikóróróom*). Certainly, from a synchronic perspective, all such ideophones are unfragmentable into separate meaning carriers and can be viewed as monomorphemic. However, we propose that predicative bases are secondary, given that: they are the only bases that exhibit formal differences among ideophones; that in the set of predicative bases, the majority is formally distinguished from their non-predicative counterparts; that predicative bases tend to be more robust than non-predicative bases (except for *dḡḡḡu/dḡḡḡḡ*, *kúrrkúrr/kúrr* and *tóktóktó/itóktóktó*);

¹⁴ Predicative variants that contain an additional initial *i-*, if compared to non-predicative bases (see further below), are excluded from this frequency count. They would add six more tokens to the class of bisyllabic ideophones and lower the frequency of reduplication.

¹⁵ However, as will be explained later, the surface forms of predicative ideophones may include inflectional and derivative morphemes typical of verbs. From a morphological perspective, such forms are of course marked overtly as predicates.

¹⁶ The lexical class of adverbs is highly heterogenous and draws on nouns, adjectives, and verbs (relatives) (cf. Hollis 1905 and Tucker and Mpaayei 1955 for Kenyan Maasai and Karani 2018 for Parakuyo). Critically, there are no genuine adverbial morphemes comparable to the adverbializers *ka-* in Southern Bantu, *-ment(e)* in Romance, *-ça* in Turkish, or *-se* in some Khoi languages (e.g., Tjwao). Rather, original nominal, adjectival, and verbal forms can be used adverbially and may be grammaticalized as adverbs to a larger or lesser extent. In this respect, ideophones used as verbal modifiers are comparable to adverbs: they do not contain any adverbializing morphemes because such morphemes are not available in Arusa.

finally, that this formal distinction is quite regularly achieved through the presence of the initial *i-*, the most common vowel present in verbal class II (an inflectional class of genuine verbal bases beginning with a vowel; see Karani 2018, 34).¹⁷ These secondary predicative bases thus constitute analogical adaptations of primary non-predicative bases to predicative uses and their verbalization. In doing so, they depart from their original forms and approximate the forms of genuine verbal predicates (see Section 3.3 for further phonetic differences that confirm the distinctiveness of predicative bases among all ideophones).

Furthermore, contrary to all the other types, predicative ideophones exhibit surface forms that are always morphologically more complex than their bases. To be exact, predicative ideophones may contain all types of inflectional and derivative morphemes (i.e., stem extensions) that are available to verbs in Arusa. Regarding inflections, predicative ideophones are inflected for person (first, second, and third) and number (singular and plural) like the other verbs. This inflection concerns both the subject and the object. For example, the intransitive predicative ideophone *ipíd* ‘jump quickly’ exhibits the following subject-inflection forms: 1sg. *á-ipíd* ‘I will jump,’ 1pl. *kí-ímpíd*, 2sg. *úmpíd* and 2pl. *ímpídipídi* ‘you will jump,’¹⁸ and 3sg. and 3pl. *é-ipíd* ‘he/she/it/they will jump.’ Transitive predicative ideophones, such as *ikúm* ‘push with a bang,’ allow for overt subject and object inflections, e.g., 3sg. > 2sg. *kí-inkúm* ‘he will push you’ and 1sg. > 2sg. *áá-ikúmo* ‘I pushed you.’ Ideophonic predicates may also be inflected for the various tenses and aspects, e.g., for perfective (3sg. *é-ipíd-o* ‘s/he jumped’ and *é-ikúm-o* ‘s/he pushed it’) and imperfective (3sg. *é-ipíd* ‘s/he will jump’ and *é-ikúm* ‘s/he will push it’). In addition, predicative ideophones may contain derivative stem extensions, e.g., the dative (applicative) affix *-ak* in (8.a), the impersonal *-i* (8.a), and the reciprocal *-ino* (8.b). As a result, the surface forms of predicative ideophones do not differ morphologically from any genuine verb.

- | | | | | |
|--------|--|----------------|-----------------|------------------|
| (8) a. | <i>é-itiák-ák-i</i> | <i>o-lée</i> | <i>o-sóit</i> | <i>e-lúkúña.</i> |
| | 3-drop-DAT-IMP.PF | SG-man | SG-stone | SG-head |
| | ‘Someone dropped a stone on the head of a man (lit. a man was dropped a stone on the head).’ | | | |
| b. | <i>é-itiák-ino</i> | <i>i-léwák</i> | <i>i-sóitók</i> | <i>i-lúkún.</i> |
| | 3-drop-REC | PL-man | PL-stone | PL-head |
| | ‘Men will drop stones on each other’s heads.’ | | | |

3.3 Phonetics

In Section 3.2, we explained that ideophonic bases appear as surface forms if ideophones are used holophrastically and asyntagmatically, and in two syntagmatic functions, i.e., those of verbal modifiers and parts of complex predicates. In the case of ideophones employed predicatively, a base is the form devoid of all inflections and derivations that typically accompany genuine verbal bases. We also noted that, for some ideophones, their predicative bases differ from a non-predicative variant. Given that the formal distinctiveness of predicative bases probably results from the analogical adjustment of non-predicative ideophonic bases to predicative uses and thus their verbalization, we will focus on non-predicative basic forms in our discussion of the phonetics of ideophones. Predicative bases (especially those that diverge from non-predicative ones) will be discussed only in the final paragraph of the present section. Furthermore, since inflectional and derivative affixes exhibited in the surface forms of predicative ideophones – whether those with specific predicative bases or those with bases that are identical to the bases found in the other

¹⁷ This initial *i-* may have been a genuine morpheme, possibly with a causative or transitivity force, in pre- or proto-Maa (Dimmendaal 1983, Karani 2018). Similar to ideophones, the Arusa class II bases beginning with *i-* (e.g., *igeru* ‘start,’ *idim* ‘be able,’ or *ik* ‘hang’) cannot be divided into more elementary meaning-bearing units.

¹⁸ The infix *m* in 2sg., 2pl., and 3pl. is not part of the ideophone itself, rather, it is the property of verbal inflection, appearing with verbs that belong to class II.

functions – are not the property of ideophones but rather that of verbs, these affixes and the surface forms in which they appear will not be analyzed here.

The majority of non-predicative ideophonic bases – specifically, 43 tokens, which constitute more than 62% of all lexemes – have a monosyllabic phonetic structure, e.g., [búh], [kúm], [pá], and [tɔ́(:)]. Bisyllabic ideophones are less common, with 16 tokens (23%) being attested, e.g., [kóros:], [kwára], and [mútʃa]. A subgroup of the bisyllabic ideophones exhibits a $-C_1VC_1$ structure in the second syllable (e.g., [nárɓáɓ], [púrkúk], [ʃírtít], and [tír:mám]), while some other tokens owe their bisyllabic nature to reduplication (e.g., [kúr:kúr:], [láɓláɓ], and [ʔórʔór]). Trisyllabic and quadrisyllabic ideophones are much less frequent. The former are attested four times (nearly 6%) and the latter six times (nearly 9%). The tri- and quadrisyllabic composition of these ideophones almost exclusively results from replicative mechanisms, as illustrated by [kúmukúm] and [búruḃúru]. The only non-replicative exception is the trisyllabic lexeme [mílígít] (see Section 3.2 regarding the element $-C_1VC_1$ and reduplicative mechanisms).

Non-predicative ideophonic bases invariably draw on both consonantal and vocalic materials. Conversely, ideophones that only consist of vowels and consonants are unattested. Nevertheless, the contribution of a consonantal component to the phonetic substance of ideophones is (very) significant, especially if one examines the base-initial onsets and base-final codas.

As far as onsets are concerned, 67 non-predicative ideophonic bases (97%) begin with a consonant that is almost invariably a simplex, e.g., [kír:] and [táɓ]. The initial consonant may be long, although this is only found with [r], e.g., [rɪ́]. In four cases, the consonantal onset may be additionally followed by an approximant: [w], e.g., [kwáh], and [j], e.g., [sjóo(:)]. The most common onset consonants are voiceless plosives (37 examples): [k] – 15, [p] – 12, and [t] – 10. The affricate [tʃ] appears six times and the two nasals eight times jointly: [ŋ] – 5 and [m] – 3. Two fricatives are attested: [s] and [ʃ], each appearing three times. The trill [r] is attested twice, while the tap [ɾ] and the lateral [l] each occurs once. The voiced stops – always implosive – are attested five times: [ɓ] – 3 and [ɗ] – 2. One lexeme exhibits [ʔ] as its initial consonant. In contrast, word-initial onsets that are not genuine consonants are much less common, being found in only two or three tokens (4%). Two ideophones begin with an approximant: [wúap] and [júk]. Only one lexeme, i.e., [órʔór], may begin with a true vowel although it is more often realized with a consonantal onset, i.e., as [ʔórʔór].

Consonants are also a pervasive component in base-final codas. To be exact, genuine consonantal codas are found 47 times (68%). Like onsets, coda consonants are always simplexes. However, the frequencies of the specific consonants used in codas are distinct from those exhibited in onsets. Sonorants, if counted jointly, constitute the most common consonantal material in codas: [l], [m], and [r:] are attested six times each. The fricative [s] is also frequent, being found in seven tokens. The implosive [ɓ] and the plosive [k] appear five times each and the affricate [tʃ] three times. The consonants [h], [ŋ], and [p] are used in the codas of two lexemes, while [d], [j], [r], and [ʃ] feature once. In contrast, only 22 ideophones (32%) do not exhibit a genuine consonantal coda. Specifically, 17 tokens (25%) end in a pure vowel, e.g., [búruḃúru], [rɪ́], [tété], and [tír:ja], while 5 tokens (7%) end in a diphthong, typically [-Vu], e.g., [dédéu], [káu], and [piú], except for [pió], which ends in [-Vo].

Overall, as far as the syllabic structure of non-predicative ideophones is concerned, the pattern CVC is the most common, being found 19 times (28%). Taking into account forms with a long onset or coda consonant, i.e., CCVC and CVCC, the pattern CCVC is attested 26 times (38%). Should one also include monosyllabic forms with diphthongized nuclei, i.e., CVVC (e.g., [kúik], [píal], and [tíak]), and forms with an approximant following the word-initial consonant, i.e., CAVC (e.g., [kwáh] and [sjóo(:)]), the total number of C(A)V(V)C structures increases to 30 (43%). Any other pattern (e.g., CCVC, CVCV, CVCV, CVCVC, VCVC, CVCCVC) is much less common.

Ideophonic bases – whether predicative or not – do not contain sounds or sound combinations that would be aberrant from the perspective of Arusa phonetics and phonology. In other words, all consonants, vowels, and approximants present in ideophones belong to the standard sound repertoire of the language. The only remarkable features are a base-medial [ʔ] (see [ʔórʔór])¹⁹ and potential extra-long consonants and

¹⁹ This base-medial [ʔ] in [ʔórʔór] most likely results from the reduplication of the segment [ʔór-].

vowels attested in the final position of non-predicative bases. In general vocabulary, the consonant [ʔ] appears only in a word-initial position immediately before a vowel. Extra-long consonants and vowels are absent in Arusa with the exception of interjections (Andrason and Karani forthcoming). The consonants that lend themselves to such exaggerated lengthening in ideophones are [s] and [r], illustrated by [dʔs:(:)] and [tʃʊr:(:)], respectively. As far as vowels are concerned, extra-long pronunciation is attested in some monosyllabic tokens containing [o], [ɔ], and [a]: see [sjóo:(:)], [tʔo:(:)], and [páa:(:)]. Certainly, in all such cases, relevant consonants and vowels may also be realized as long and/or bimoraic. Nevertheless, at least in the aforementioned lexemes, the use of an exaggerated type of length – in the case of vowels, characterized by three morae – is by far the most preferred.

The immense majority of non-predicative bases exhibit high tone. For monosyllabic bases, the use of high tone constitutes an exceptionless rule. See, for instance, [bús:], [kél], [táɓ], and [júk]. In the case of monosyllabic tokens containing diphthongs or long vowels, high tone is present in the vocalic nucleus (see [káu], [páu], and [kóik]) or the first vocalic morae (see [páa], [sjóo:(:)], and [tʔo:(:)]), respectively. High tone also falls invariably on the first vowel of bisyllabic ideophones. The other syllable may carry a low tone, the lexeme thus exhibiting a HL tonal pattern, e.g., [tʃámbul], [kóros:], and [tír:mam]. In the case of bisyllabic bases that draw on reduplication, high tone tends to be found in the second syllable, e.g., [kúr:kúr:], [órór], and [tét:té]. This HH pattern is also attested with non-reduplicative ideophones – see, for instance, [ɲárɓáɓ] and [púrkúk]. Similarly, high tone is typical of bases that are more complex from a phonetic perspective. In trisyllabic ideophones, high tone can be carried by all syllables (e.g., [kúmúkúm] and [kúrúrúm]) or the first and last ones (e.g., [mílígít] and [súnúsún]). This yields the possible tonal patterns of HHH and HLH. In quadrisyllabic ideophones, high tone is usually found in all syllables (e.g., [kíríkírí] and [tókótókó]) or every second syllable (e.g., [búruɓúru], [kílikíli], and [kúlukúlu]). In [tʃúkutʃúkóɔ], high tone falls on all the syllables but the second. For this class of ideophones, the attested patterns are thus HHHH, HLHL, and HLHH. This preference for high tone as well as the prevalent monosyllabicity and the use of consonantal onsets and codas, which were explained in the previous paragraphs, jointly suggest that the typical phonetic form of an Arusa non-predicative ideophonic base is C(A)Ṽ(V)C, with the CVC pattern constituting its most salient variant.

Non-predicative ideophonic bases that consist of more than one syllable tend to exhibit internal – i.e., operating within the word – harmonious configurations. The most patent expression of this is vocalic harmony, which is present in 21 of 26 (81%) multisyllabic ideophones.²⁰ This can be illustrated by the bisyllabic bases [kwára] and [kóros:], trisyllabic [kúrúrúm] and [mílígít], and quadrisyllabic [búruɓúru] and [tókótókó]. The only exceptions are, in the case of bisyllabic bases, [tʃámbul], [mútʃa], [tír:mam], and [tír:ja], and in the case of quadrisyllabic bases, [tʃúkutʃúkóɔ]. Given the common use of reduplication (see Section 3.2), many multisyllabic ideophones create the impression of rhymes.

Vocalic harmony and rhymes are also visible beyond the word structure of an ideophonic base itself, thus being external. That is, the vowel of many non-predicative ideophones, including those lexemes that are monosyllabic, often coincides with the vowel(s) present in the verbal stem with which a given ideophone tends to co-occur. See, for example, *áibáfa pá* [pá], *ápuku súrr* [súr:], *áitírrkim kíríkírí* [kíríkírí], *ábuku kúlukúlu* [kúlukúlu], *álutu cúrr* [tʃúr:(:)], *áud tús* [tús], and *metii píp* [píp].²¹ Similarly, harmony and rhymes emerge when a non-predicative ideophone co-occurs with its predicative variant, e.g., *ánis ɲís* [ɲís], *áwuap wúap* [wúap], *ádedu dédéu* [dédéu], *ápid píd* [píd], and *ánɔb ɲɔb*.

Finally, several non-predicative ideophones may be, and often are, uttered with (very) distinctive phonation and prosody. For instance, *búss* [bús:], which depicts the action of falling with a thud, tends to be pronounced with loud volume and particular speed to emphasize the unpleasantness, surprise, and

²⁰ We use the term “harmony” following a large number of studies on ideophones (see Andrason 2020 for a review). In phonetics/phonology, vocalic harmony is traditionally viewed as an assimilatory or shift-like process. That is, the vowels of a given domain (usually a phonological word) are members of the same natural class. In Arusa ideophones, no such assimilation or shift is involved.

²¹ The position of the verb and the ideophone need not be adjacent in actual examples (see Section 3.1 on syntax).

brutality of an event. Similar articulatory force is common in the ideophones *dóss* [dós:] and *púrkúf* [púrkúf], which respectively depict the action of uprooting something and the action of running fast. Exclamatory pronunciation in terms of loudness and speed is also typical of ideophones that have more abstract meanings. For example, the lexeme *títít*, which depicts emptiness or the lack of something, is often produced in an excessively loud and markedly short manner. In fact, the louder and shorter it is, the more evident the idea of emptiness or absence seems to be. This articulatory markedness is particularly visible with ideophones used holophrastically and asyntagmatically, although it is also often attested in the two non-predicative syntagmatic uses, i.e., as verbal modifier and (perhaps slightly less so) as part of a complex predicate.

As explained in Section 3.2, there are 13 predicative bases that formally differ from bases used in non-predicative functions. If we include these divergent predicative bases in our phonetic analysis, the several generalizations we presented earlier need to be reformulated. First, monosyllabicity slightly decreases because six monosyllabic ideophones are bisyllabic in their predicative forms (see *kúm/íkum*, *píd/ípid*, *rús/irus*, *súrr/ísurr*, *tiak/ítiak*, *tús/itus*, and *dóss/idosu*).²² Similarly, predicative bases attest to two further cases of quadrisyllabic ideophones (*kúrúrúm/íkóróróm* and *súnúsún/ísúnusún*) and one case of a quintasyllabic ideophone, which is otherwise unattested in the language (*tífúkútífúkóo/ítífúkútífúkóo*). Overall, for predicative bases, bisyllabicity is the most common (nine occurrences), while monosyllabicity is only second-most common (five occurrences). Second, due to the presence of the initial *i-* in predicative bases, ten instances of onset-less ideophones may be added to the only one found in non-predicative bases (i.e., *ítífúkútífúkóo*, *íkum*, *íkóróróm*, *ípid*, *irus*, *ísúnusún*, *ísurr*, *ítiak*, *itóktók*, and *itus*). In fact, in predicative bases, forms beginning with a vowel are more common (ten occurrences) than those beginning with consonantal onsets (seven occurrences). In predicative bases, we also encounter an additional case of ideophones ending in a vowel (*doss/dosu*). As a result of the aforementioned observations, if predicative and non-predicative bases are considered jointly, the ideophonic pattern CVC/C(:)VC(:) becomes less pervasive. For predicative forms, this pattern is only attested 5 times of 17 instances (35%; compared with 43% in non-predicative forms). Third, most predicative bases with *i-* (see *ícúkucúkóo*, *íkum*, *íkóróróm*, *irus*, *ísúnusún*, *ísurr*, *itóktók*, and *itus*) violate the tendency for vocalic harmony typical of ideophones (see also *dosu* in which the quality of the vowels does not coincide). Indeed, vocalic harmony is attested only three times in predicative bases (25% out of 12 possible instances). Fourth, in predicative bases, the visibility of low tone increases and, inversely, the preference for high tone is much less evident. Specifically, in their predicative forms, several monosyllabic high-tone ideophones exhibit an HL pattern: [íkum], [ípid], [irus], [ísur:], [ítiak], [itus] (cf. non-predicative [kúm], [píd], [rús], [súr:], [tiak], [tús]). A similar preference for a low tone instead of high tones, at least in some syllables, is attested in [ítífúkútífúkóo] (cf. non-predicative [tífúkútífúkóo]), [íkóróróm] (cf. non-predicative [kóróróm]), and [dédé] (cf. non-predicative [dédéu]). Overall, there are only four predicative bases with exclusive high tone (*kúrr*, *hám*, *hís*, and *hób*). Finally, predicative ideophones – not only those with divergent bases but virtually all of them – tend to be realized with phonation that is typical of any other verb. Therefore, their intonation and prosody are usually unmarked.

4 Discussion

The evidence provided in the previous section allows us to formulate several generalizations regarding the formal aspects of ideophones in Arusa and their relationship with the crosslinguistic prototype:

- (a) Syntactically, in compliance with the prototype, all Arusa ideophones may be used in a holophrastic manner and thus constitute autonomous and non-elliptical utterances. This also means that when featuring within the boundaries of a larger sentence, ideophones may be employed asyntagmatically. In such cases, they are placed in the left margin of the sentence, are separated from the core clause by a

²² See, however, an inverse relationship in *kúrrkúrr/kúrr*.

pause, and entertain no structural relationships with that clause. However, contrary to the prototype – but certainly complying with violations observed commonly across languages (see footnote 8) – Arusa ideophones may also be used as fully syntagmatic, structural elements of a clause. Specifically, they can function as predicates, be employed as verbal modifiers, and can form complex predicates with quotative (speech and performative) verbs.

- (b) Morphologically, ideophonic bases (non-predicative and predicative) and surface (predicative) forms need to be analyzed separately. As the prototype, most non-predicative bases are monomorphemic. Some bases (those that exhibit the element $-C_1VC_1$ and those whose shape is more robust and iconicity obscure) may have been plurimorphemic at earlier stages of their evolution. However, synchronically, they are indivisible into separate morphemes. More certain cases of morphological complexity arise due to reduplication. However, in ideophones, reduplication is not a properly derivative device but rather constitutes an expressive and phonetic/phonological mechanism. Ideophonizing morphemes are unattested. Similarly, syntagmatic ideophones that are used as verbal modifiers and parts of complex predicates are not marked morphologically for those functions and/or categories. In contrast, predicative bases tend to be morphologically distinguished from the bases used in all the other functions. This verbalization is predominantly achieved through the initial vowel *i*-, which has most likely arisen in analogy to the dominant *i* type of class II verbs. Nevertheless, like the genuine verbal bases of class II, predicative ideophonic bases marked by *i* (as well as all the other types of predicative ideophones) are synchronically monomorphemic. Furthermore, unlike the other types of ideophones, all predicative surface forms regularly contain inflectional (person, number, TAM) and derivative (stem extensions) affixes. All such affixes are typical of verbal morphology. As a result, predicative ideophones do not differ morphologically from any other genuine verbs.
- (c) Phonetically, in contrast to the prototype, Arusa ideophones do not usually contain aberrant sounds and sound combinations, nor do they attest to “skewed” distributions of phones. The sole exceptions are the word-medial [ʔ] attested in one ideophone and optional extra-long consonants and trimoraic vowels found in some non-predicative bases. Furthermore, although the presence of vocalic and consonantal length in ideophones can be viewed in terms of compliance with the prototype, long vowels, and consonants constitute a regular element in Arusa phonetics/phonology. Tone, found in ideophones, is also a typical feature of Arusa. Thus, although instantiating one of the prototypical properties, it does not, on its own, represent a remarkable ideophone-specific device from a language-internal perspective. Nevertheless, the persistent use of high tone in non-predicative bases does distinguish them from other lexical classes in which high and low tones tend to be distributed more equally. Two other features exhibited by non-predicative bases are also fully consistent with the prototype: non-predicative bases attest to a wide range of harmonious patterns (such harmony may be both words – internal and – external, sometimes yielding rhymes) and are very often coarticulated with distinctive phonation and prosody. In addition, non-predicative bases tend to be monosyllabic, although quadri-, tri-, and especially bisyllabic tokens are also attested. Such more robust structures result almost exclusively from replicative mechanisms. Lastly, while all ideophones draw on consonantal and vocalic material, non-predicative bases typically exhibit consonants in base-initial onsets and base-final codas. Overall, the most typical phonotactic structure attested in non-predicative ideophones is $C(A)\acute{V}(\grave{V})C$ and especially $C\acute{V}C$. Predicative bases contrast with the phonetic profile of ideophones presented earlier. They are not produced with marked phonation and intonation, usually lack harmonious patterns and rhymes, exhibit more equal distribution of high and low tones, are predominantly bisyllabic, do not usually contain consonantal onsets and codas in a word-initial and word-final position, respectively, and thus do not predominantly instantiate the $C(A)\acute{V}(\grave{V})C$ pattern.

Considering all these findings, we can conclude that the category of ideophones in Arusa exhibits a highly diversified degree of canonicity, ranging from canonical to non-canonical. Even within a single module, i.e., syntactic, morphological, and phonetic, the extent of the instantiation of the prototype varies considerably. From a syntactic perspective, ideophones can be canonical, functioning holophrastically and asyntagmatically, although they can also behave non-canonically, constituting fully syntagmatic clausal

elements: predicates, parts of complex predicates, and verbal modifiers. From a morphological perspective, ideophones can be canonical. This is characteristic of holophrastic and asyntagmatic ideophones as well as those ideophones that are syntagmatic but non-predicative. In contrast, predicative ideophones are morphologically non-canonical as their morphology is virtually indistinguishable from verbal predicates. From a phonetic perspective, ideophones are, at best, semi-canonical. Again, the canonicity of the predicative variant is even lower, and these types of ideophones may be regarded as non-canonical. Overall, if all syntactic, morphological, and phonetic properties are considered jointly, holophrastic and asyntagmatic ideophones are more canonical than ideophones used as verbal modifiers and parts of complex predicates, which are, in turn, more canonical than predicative ideophones.

The degree of canonicity is inversely correlated with the systematicity of ideophones – i.e., non-markedness, ordinariness, or similarity to the components of sentence grammar – and, ultimately, their diffusion in other lexical classes (compared to Dingemanse 2017, Dingemanse and Akita 2017). Ideophones that are used holophrastically and asyntagmatically are the least systematic and generally maintain their full categorial individuality. Non-predicative syntagmatic ideophones are more systematic and, if possible, exhibit symptoms of gradual, albeit not total, diffusion into other lexical classes. To be precise, despite being relatively systematic, ideophones that are used as parts of complex predicates still resist such a diffusion because, apart from ideophones, no other entities can form complex predicates in Arusa. In contrast, ideophones that are employed as verbal modifiers are partially diffused into the category of adverbs. On the one hand, verb-modifying ideophones fit well into the adverbial category in Arusa. Since adverbs constitute an internally heterogeneous word class and lack uniform morphological marking (see footnote 18), the form of these ideophones is not radically incompatible with the morphology tolerable by the adverbial lexical class. Simply put, verb-modifying ideophones (may) look like adverbs. On the other hand, a number of properties distinguish adverbs from verb-modifying ideophones: adverbs do not present a preference for high tone, are not realized with marked phonation and intonation, and do not have any depicting properties. Even the absence of adverbializers may paradoxically contribute to the preservation of the categorial independence of verb-modifying ideophones. That is, since the language lacks a morpheme that could overtly mark elements as adverbials, nominal, verbal, adjectival, and, most importantly, ideophonic lexemes that are used adverbially may maintain a morphological link with their non-adverbial sources for longer. Finally, predicative syntagmatic ideophones are fully systematic. As they are syntactically, morphologically, and phonetically indistinguishable from genuine verbs, their diffusion into the verbal lexical class can be regarded as complete. Depicting nature is the only feature that differentiates such ideophonic predicates from genuine verbs, given that verbs, in principle, neither simulate events nor bring them to life through imagic or diagrammatic iconicity.

The aforementioned conclusions suggest that ideophones constitute an “old” category in Arusa, i.e., a category that is well advanced on its grammaticalization cline. As explained in Section 2, the increasingly more patent integration of ideophones in the syntax of a language, as well as their phonetic/phonological and morphological adjustment to the rules operating in standard vocabulary – which ultimately result in the diffusion of ideophones into other lexical classes, usually verbs, adverbs, adjectives, or nouns – reflect a grammaticalization path, i.e., the advancement of original elements from canonically ideophonic and extra-systematic to entirely non-ideophonic and systematic (Dwyer and Moshi 2003, Dingemanse 2011, 2017, Dingemanse and Akita 2017, Andrason 2021a), or, put differently, from the expressive elements of discourse grammar to the referential elements of sentence grammar (Heine forthcoming). The fact that syntactically, morphologically, and phonetically, Arusa ideophones may exhibit a non-canonical and fully systematic profile, sometimes entirely losing their categorial individuality, indicates that they have fully traveled the ideophonic grammaticalization path, perhaps to its end point. However, in the course of this development, ideophones have not ceased to be compatible with the less advanced sections of this path – they still tolerate relatively canonical ideophonic uses and, in certain functions and contexts, may continue to constitute expressive elements of discourse grammar.

The results of our study allow us to evaluate the previous claims made with regard to ideophones in other Maasai varieties. First, although our research attests to nearly 70 ideophonic lexemes, the size of the category of ideophones is relatively small. This would be consistent with the limited number of ideophones

estimated for Parakuyo (27 lexemes) and the very scarce presence of ideophones in the Maa dictionary (3 lexemes) (see Karani 2018, Payne and Ole-Kotikash 2008). The inventory of ideophones in Massai would thus be smaller than in the case of other Nilotic languages, e.g., Luo (Southern Nilotic) and Lopit (Eastern Nilotic). In Luo and Lopit, ideophones constitute a “major open category” (see Storch for Luo 2014, 41 and Moodie 2019, 37–9 and Moodie and Billington 2020, 335–7 for Lopit). In Luo, there are at least 150 ideophonic lexemes (Storch 2014, 41). Second, the inventory of ideophones in Maasai, including Arusa, seems to be much smaller than what is typical of genuine “ideophonic” languages such as Xhosa or Zulu, which contain 2,000 and more than 3,000 ideophones, respectively (Fivaz 1963, Andrason 2020, Heine forthcoming). It is probable that this apparent peripherality of the ideophonic category in Maasai (at least if compared to in many Bantu languages) stems from the profound grammaticalizations of ideophones and their diffusion into other lexical classes. Third, our findings are consistent with the observation made for Parakuyo, where ideophones are typically used as other lexical classes, namely nouns, verbs, adjectives, and – particularly often – adverbs expressing manner or degree (Karani 2018, 49–50). In Arusa, all ideophones can be employed as verbal modifiers, comparable to adverbs of manner and degree. A number of them can also be used as predicates, comparable to verbs. However, and fourthly, our study demonstrates that the proposal according to which ideophones are characterized by “unique phonological and morpho-syntactic properties” needs to be considered with much caution (Karani 2018, 49). In Arusa, ideophones do not exhibit “unique” features from a phonetic perspective. From a syntactic perspective, although ideophones can be marked (i.e., they can be used holophrastically and asyntagmatically), they may also exhibit entirely syntagmatic properties. Similarly, the morphological singularity of ideophones is questionable. When used as verbal modifiers, ideophones are not radically different from adverbs. More importantly, when used as predicates, the morphology of ideophones is indistinguishable from that of genuine verbs. Fifth and finally, we could not find any evidence for the derivation of ideophones from other lexical classes (cf. Karani 2018, 49). The onomatopoeic, and thus radical, origin of ideophones – also hypothesized by Karani (ibid.) – seems the most likely in Arusa. The predicative ideophonic bases that differ from non-predicative bases are probably secondary and derived from more original non-predicative ideophones.²³

A thought-provoking result of our study is the observation that, from a phonetic and morphological perspective, ideophones differ significantly from another largely extra-systematic category, i.e., emotive interjections.²⁴ Phonetically, while ideophones are never solely vocalic, usually beginning with a consonantal onset and ending in a consonantal coda, interjections are markedly vocalic: they may contain only vocalic material, tend to begin with a pure vowel or an approximant, and overwhelmingly end in a pure vowel or diphthong (Andrason and Karani forthcoming). Furthermore, while ideophones favor high tone, interjections tolerate high and low tones relatively equally (ibid.). Morphologically, even though non-reduplicated ideophones predominate, reduplicated lexemes are also well attested, indeed much more common than is the case for interjections (ibid.).²⁵ However, for ideophones, neither triplication nor quadruplication is attested, which contrasts with several interjections that may exhibit more complex multiplicative forms (Andrason and Karani 2021, Andrason and Karani forthcoming). Considering our previous research on ideophones and interjections in other languages (Bantu, Semitic, Khoi, and Indo-European), the formal contrast between ideophones and interjections observed in Arusa does not seem accidental nor language specific but may have some crosslinguistic validity. That is, in Xhosa (Bantu), Hebrew (Semitic), Tjwao (Khoi), and Polish (Slavonic), ideophones tend to display a more evident consonantal nature than interjections (interjections are, inversely, more vocalic), a more uniform tonal pattern (interjections are more erratic tone-wise), and a much more pervasive tendency for replicative structures, especially

²³ The only exception, although still uncertain, could be *kurrkurr/kurr*.

²⁴ Emotive interjections are viewed as interjections proper or the most canonical type of interjections (see Stange 2016, Andrason and Dlaki 2020, Heine forthcoming).

²⁵ Of course, ideophones can also differ syntactically from interjections. While ideophones often function as structural parts of core clauses (i.e., as verbal modifiers or adverbs), interjections very rarely exhibit clausal functions (Andrason and Karani forthcoming). This tendency to gradually incorporate ideophones into the sentence/clause grammar as adverbs, adjectives, or verbs has been observed across many languages (see Section 2).

reduplicative ones (reduplication in interjections does not predominate; see Andrason and Dlali 2020, Andrason et al. 2020, Andrason et al. 2020, Andrason 2021a,b,c). Certainly, more comparative studies are needed to demonstrate that the hypothesized contrast between ideophones and interjections constitutes a typological tendency.

5 Conclusion

The present article offered the first systematic analysis of ideophones in Maasai. After examining the phonetics, morphology, and syntax of 69 ideophones in the Tanzanian Maasai variety of Arusa, and assessing their compliance with the typologically driven prototype of an ideophone, we concluded the following: (a) from a global, i.e., overall language-internal perspective, ideophones exhibit a highly diversified canonicity profile, ranging from canonical to non-canonical; (b) even within a single module, i.e., syntax, morphology, and phonetics, the extent of canonicity varies significantly; (c) if all syntactic, morphological, and phonetic properties are considered jointly, holophrastic and asyntagmatic ideophones are more canonical than ideophones used as verbal modifiers and parts of complex predicates, which are, in turn, more canonical than predicative ideophones; (d) the extent of canonicity is inversely correlated with the systematicity and integration of ideophones in sentence grammar and, ultimately, their diffusion into other lexical classes. This diffusion is the greatest for predicative ideophones, which have been incorporated into the category of verbs; the diffusion of ideophones employed as verbal modifier into the category of adverbs is partial – these types of ideophones maintain some degree of categorical individuality; finally, ideophones used as parts of predicates and especially those that function holophrastically and asyntagmatically maintain their full autonomy. Overall, (e) our findings suggest that ideophones constitute an “old” category in Arusa, one that is well advanced on its grammaticalization cline.

Abbreviations

1, 2, 3	person
DAT	dative
F	feminine
IDEO	ideophone
IMP	impersonal
M	masculine
MT	motion toward
PF	perfect
PL	plural
REC	reciprocal
SG	singular
SUB	subordinate

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