

Intensifying ideophones in three Luhya languages

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1 Introduction¹

- This talk addresses ideophones in Llogoori, Lunyore, and Lutiriki, three languages in the Luhya subfamily (Bantu, Kenya; Guthrie: JE.32).²
- **Ideophones** have been described as “marked words that depict sensory imagery” (Dingemanse 2011, 25) and words that are “depictive rather than descriptive” (Essegbey 2013, 235). The most frequently cited definition comes from Doke (1935, 118), who described ideophones as “A vivid representation of an idea in sound. A word, often onomatopoeic, which describes a predicate, qualificative or adverb in respect to manner, colour, sound, smell, action, state or intensity.”

(1) The pie hit the wall *splat!*

Kisi (Niger-Congo) (Childs, 1988, 178-179):

(2) ò kwé déèè...

PRO go IDEO

‘She went déèè (slowly).’³

(3) kòòwáng mà fùlú bìlililili...

blood PRO leave IDEO

‘The blood gushed out.’

¹ We would like to thank our wonderful Llogoori consultant, Mwabeni Indire, for generously sharing his time and his language with us. Additional Llogoori data in this handout comes from John’s fieldwork in Kenya (July 2016); we would like to thank Abigail Sanya for the Lunyore data, and Kelvin Alulu for the Lutiriki data. We thank audiences at the UCLA American Indian Seminar, UCLA Semantics Tea, and anonymous reviewers for the Semantics of African, Asian, and Austronesian Languages (AAA) 4 for their feedback on earlier versions of this project, as well as Mark Dingemanse. Finally, we would like to thank Dan Slobin for permitting us to use his manner of motion video clips.

²The Luhya subfamily consists of 18 languages spoken in western Kenya and northwestern Tanzania. There are approximately 5 million speakers of Luhya languages, with a relatively high degree of mutual comprehension between speakers of different languages (Ethnologue).

³We use the following abbreviations in this handout:

1-20: noun class
1/2/3: 1st/2nd/3rd person
AC : anticausative
ASP : aspect
CAUS: causative
COP : copula
EXPR : expressive

FUT : future
FV : final vowel
IDEO : ideophone
NEG : negative
POSS : possessive
PRO : pronoun
PROG : progressive

PRT : particle
REC : reciprocal
REFL : reflexive
SG/PL : singular/plural
TNS : tense

- Ideophones have been argued to occur across the world, including in the languages of Europe (Antuñano 2016, Basque), Asia (Hamano 1994, Japanese), Australia (Alpher 1994, Yir-Yoront), and the Americas (Henderson 2016, Tselal). Some authors, including Voeltz and Kilian-Hatz (2001), argue that ideophones are universal and occur in every language.
- Dingemanse and Akita (2016) argue that ideophones occur along scales of **expressiveness** and **grammatical integration**, which are inversely correlated with each other. Features of expressiveness and grammatical integration are as follows:

Expressiveness

- Intonational foregrounding through marked prosody, lengthened vowels, etc.
- Unusual phonation (e.g. breathy voice, creaky voice, etc.)
- Unusual tones or phonemes not found elsewhere in the language
- Accompaniment by iconic gesture

Grammatical integration

- Syntactic optionality; optional items are less grammatically integrated
- Linear position; peripheral items are less grammatically integrated
- Embedding in morphosyntactic structure; less deeply embedded items are less integrated
- Ability to stand alone as a complete utterance

- These features accord with other common properties of ideophones as described by other authors, including Antuñano (2016), Childs (1994), and Doke (1935).
- In this talk, we show data from Llogoori, Lunyore, and Lutiriki and argue that the Luhya ideophones diverge from many other described ideophone systems in that they purely **intensify lexical items within a given semantic class**, rather than independently supply depictive information. They are relatively grammatically integrated, with a corresponding relatively low degree of expressiveness.
- We give a degree-based account of the Luhya ideophones, and briefly speculate as to whether the ideophones also introduce non-truth conditional content.

2 Basic data

- We give basic examples of ideophones in Llogoori (LG), Lunyore (LN), and Lutiriki (T) in (4)-(6). The ideophone provides an “intensified” reading of the lexical item that it combines with:

- | | | |
|-----|---|---|
| (4) | a. <i>amaaze ni ma-hiu pa.</i>
6.water COP 6-hot IDEO
‘The water is very hot.’ (LG) | b. <i>ri-awa ni ri-akanyu khai.</i>
5-flower COP 5-red IDEO
‘The flower is very red.’ ⁴ (LG) |
| (5) | a. <i>maatsi ne ma-hiu pa.</i>
6.water COP 6-hot IDEO
‘The water is very hot.’ (LN) | b. <i>e-sausi ne i-nzakanyu kha.</i>
9-sauce COP 9-red IDEO
‘The sauce is very red.’ (LN) |

⁴The voiceless velar fricative *kh* is an uncommon phoneme in Llogoori, although it is frequent in many of the closely related Luhya languages.

- (6) a. *matse ni ma-hiu pa.*
 6.water COP 6-hot IDEO
 ‘The water is very hot.’ (T)
- b. *i-ntso ni y-amuchi kha.*
 9-house COP 9-red IDEO
 ‘The house is very red.’ (T)

- Luhya ideophones can combine with adjectives, as above, and verb phrases and nouns, as below.⁵

- (8) *Sira yi-zuriz-i ki-koombe du.*
 1.Sira 1-fill-FV 7-cup IDEO
 ‘Sira filled the cup to the brim.’ (LG)

- (9) *n-v-ey-e na ma-hooru mno.*
 1SG-COP-ASP-FV with 6-longing IDEO
 ‘I really miss you.’ (lit. ‘I am with intense longing.’) (LG)

- Luhya ideophones select for a semantic class of lexical items that they can combine with. (See Appendix A for a complete list of ideophones.) These items all have similar meanings, as shown in the following table for Llogoori (note that these are not exhaustive lists of all the lexical items a given ideophone can combine with):

Ideophone	Lexical item	Meaning
<i>mno</i>	<i>kuyaanza</i> (verb) <i>na mahooru</i> (adjective) ⁶ <i>ndugi, noru</i> (adjective)	‘to be happy,’ ‘to like’ ‘with longing’ ‘sweet’
<i>pa</i>	<i>hiu</i> (adjective) <i>kuhia</i> (verb) <i>roro</i> (adjective)	‘hot’ ‘to be hot’ ‘spicy,’ ‘bitter’
<i>zi</i>	<i>zilu</i> (adjective) <i>chinganu</i> (adjective)	‘cold,’ ‘still’ ‘quiet’
<i>ti</i>	<i>mwamu</i> (adjective) <i>chafu</i> (adjective)	‘black’ ‘dirty’

- Luhya ideophones cannot occur with lexical items outside of their semantic class. For instance, *du* can describe extreme “fullness” in the sense of a cup, room, matatu, etc. (10a), but cannot describe a person’s sensation of being very full (10b):

⁵Luhya ideophones almost always combine with stative predicates. However, a very small number of ideophones given to us by our Lunyore consultant can combine with eventive predicates:

- (7) a. *e-saal’a si-mekukh-il-e piap.*
 9-stick 9-break-TNS-FV IDEO
 ‘The stick broke *piap*.’ (LN)
- b. *ya-khu-pak-il-e pap.*
 1-ASP-hit-TNS-FV IDEO
 ‘He just hit me *pap*.’ (LN)

Unlike the other Luhya ideophones that we’ve discovered, our speaker reported that *piap/pap* is the sound that breaking and hitting make; that is, they are iconic. These ideophones, like the others, are limited to combining with a particular semantic class: *pap* can only describe a hitting event, whereas *piap* can only describe a breaking event.

We ultimately choose to exclude these ideophones from our analysis. We suspect that they are borrowings from a Luo language; our Lunyore consultant also speaks fluent Luo, is married to a Luo speaker, and regularly uses Luo in her daily life. Furthermore, these ideophones resemble typical Nilotic ideophone data (Mark Dingemans, p.c.).

⁶We discuss in section 3.3.1 why we treat *na mahooru* ‘with longing’ as an adjective.

- (10) a. *ki-koombe ki-ikwizor-a du.*
 7-cup 7-full-FV IDEO
 ‘The cup is very full.’ (LG)
- b. *Sira y-a-ku-i-goot-a (*du).*
 Sira 1-TNS-ASP-REFL-sate-FV IDEO
 Intended: ‘Sira is (very) full.’ (LG)
 (literally: ‘Sira just sated himself.’)

- Ideophones are not the only strategy that these languages have to express such intensification; they also have canonical intensifying morphemes like *saana* ‘very.’ (All of the languages in our study have cognate forms of this morpheme; we return later to the question of how it differs from the ideophones.)

- (11) *amaaze ni ma-hiu saana.*
 6.water COP 6-hot very
 ‘The water is very hot.’ (LG)

2.1 Syntactic distribution/grammatical integration of the Luhya ideophones

- The Luhya ideophones are often, but not always, at the right edge of the clause, and are always syntactically optional.

- (12) *ki-biribiri ni ke-roro (pa).*
 7-pepper COP 7-spicy IDEO
 ‘The pepper is (very) spicy.’ (LG)

- The Luhya ideophones also cannot occur without any associated lexical item; that is, they cannot stand alone as predicates, as in (14). The Llogoori data in (14) contrasts with the Ewe (Niger-Congo) example in (13); Ewe permits ideophones to occur as predicates (Ameke 2001: 27):

- (13) *é-wɔ legbee.*
 3SG-do IDEO
 ‘It is *legbee* (long).’⁷ (Ewe)

- (14) *amaaze ni *(ma-hiu) pa.*
 6.water COP 6-hot IDEO
 Intended: ‘The water is very hot.’ (LG)

- The ideophones also cannot stand alone as complete utterances, as in (15)-(16).⁸

⁷*wɔ* ‘do’ is a copula in Ewe.

⁸We note, however, that triplicated ideophones (subsection 2.2) have some kind of special status in Lunyore. The triplicated ideophones can be uttered in isolation only in Lunyore. For instance, if a speaker dips their hand in very hot water, they can say *papapa!* This is not available in either Llogoori or Lutiriki.

(15) Context: You run a bath. You touch the bathwater and discover that it's extremely hot.

- a. * *pa!*
IDEO
- b. ʈ↓h̥a!
EXPR
'Ouch!'⁹

(16) Context: Imali makes you some tea and asks how sweet it is.

- a. *ichai i-v-ey-e na uvunoru vuri?*
9.tea 9-COP-ASP-FV with 11.sweetness how.much
'How sweet is the tea?' (LG)
- b. i. * *mno!*
IDEO
- ii. *ni i-noru mno!*
COP 9-sweet IDEO
'It is very sweet!' (LG)

- Luhya ideophones generally can only combine with the most local lexical item from their semantic class, as shown in the following coordination constructions. (However, this may be a point of variation between languages.)

(17) *maaze ni ma-chiringanu na ma-zilu zi.*
6.water COP 6-quiet and 6-cold IDEO

a. * 'The water is very quiet and very cold.'

b. 'The water is quiet and very cold.' (LG)

(18) *maaze ni ma-mwamu ti na ma-zilu zi.*
6.water COP 6-black IDEO and 6-cold IDEO

'The water is very black and very cold.' (LG)

- If the element that the ideophone combines with is in an attributive position, the ideophone occurs next to it, not at the end of the clause. (We are not yet able to discern if Luhya attributive adjectives involve relative clauses.)

(19) a. *maaze ma-hiu pa ga-v-ey-e mu ki-koombe.*
6.water 6-hot IDEO 6-COP-ASP-FV in 7-cup
'The very hot water is in the cup.' (LG)

b. * *maaze ma-hiu ga-v-ey-e mu ki-koombe pa.*
6.water 6-hot 6-COP-ASP-FV in 7-cup IDEO
Intended: 'The very hot water is in the cup.' (LG)

⁹Here we use the Extended IPA symbol ↓ to represent ingressive airflow during the production of the lateral fricative. So far, we have collected approximately 15 Llogoori expressives that are akin to English expressions like *ouch* and *oops*. These morphemes pattern very differently from the Luhya ideophones; they can stand alone as complete utterances, and they necessarily precede the proposition they co-occur with.

- The Luhya ideophones are typically unable to combine with complementizers, quotative markers (QM), or light verbs (we discuss a possible counterexample to this in section 2.2). The Llogoori data in (21) differs in this respect from the Wolof (Niger-Congo) example in (20) (Baglini, 2016).

(20) *lamp b-i dafa jégjég ne ràyy.*
 lamp CL-DEF do.3SG suddenly QM IDEO
 ‘The lamp suddenly flashed like *ràyy*.’ (Wolof)

(21) * *maaze ni ma-hiu kuresia/ndee pa.*
 6water COP 6-hot like/COMP IDEO
 Intended: ‘The water is hot like *pa*.’ (LG)

- Finally, the ideophones differ from Luhya adverbs in their syntactic distribution. For instance, as shown in (22)-(23), adverbs can be clefted, while ideophones cannot.

(22) *geraha ni sia Sira y-izur-iz-i ki-koombe.*
 slowly COP how 1.Sira 1-fill-CAUS-FV 7-cup
 ‘Slowly is how Sira filled the cup.’ (LG)

(23) * *du ni sia Sira y-izuriz-i ki-koombe.*
 IDEO COP how 1.Sira 1-fill-FV 7-cup
 Intended: ‘*Du* is how Sira filled the cup.’ (LG)

2.2 Ideophone triplication in Llogoori

- Our observation that the Luhya ideophones cannot be clefted is apparently contradicted by a small set of ideophones that behave differently, but **only when triplicated**.¹⁰ These triplicated ideophones can be clefted, as in (24a) below.

(24) a. *dududu ne sia Sira y-izuriz-i ki-koombe.*
 DUDUDU COP how 1.Sira 1-fill-FV 7-cup
 ‘*Dududu* is how Sira filled the cup.’
 (i.e., Sira filled the cup to the brim) (LG)

b. * *du ne sia Sira y-izuriz-i ki-koombe.*
 IDEO COP how 1.Sira 1-fill-FV 7-cup
 Intended: ‘*Du* is how Sira filled the cup.’ (LG)

- The clefting data in (24a) is only available in Llogoori; it is unavailable in Lutiriki and we do not have the relevant data for Lunyore (but see footnote 8).
- We propose that the triplication data in (24a) involves the formation of adverbs through triplication. These adverbs then freely distribute like other adverbs. As shown in (22), adverbs can be clefted.
- Triplicated ideophones also pattern like adverbs in their ability to stand alone as complete utterances, unlike the non-triplicated ideophones. For instance, triplicated ideophones are felicitous as responses to questions.

¹⁰The sole disyllabic ideophone, *gada*, can only be reduplicated as *gadagada*. We have only found this ideophone in Llogoori.

- (25) *Sira y-izuriz-i kikombe ndi nang'ga?*
 Sira 1-fill-FV 7cup how in.what.sense
 'How did Sira fill the cup?' (LG)
- a. *Geraha.*
 'Slowly.'
- b. *Dududu.*
 DUDUDU
 'To the brim.'
- c. **Du.*
 IDEO

2.3 Expressiveness of the Luhya ideophones

- The Luhya ideophones display a relatively low degree of expressiveness. To the best of our knowledge, they are not accompanied by any iconic gestures, and they only occasionally display marked phonation or intonation for expressive purposes.¹¹ Furthermore, our Llogoori consultant reports that it is possible to use the ideophones in written language.
- The ideophones are not inherently associated with either negative or positive evaluations. That is, (26) is felicitous in contexts in which the water being very hot is a good thing, a bad thing, or neither.

- (26) *amaaze ni ma-hiu pa.*
 6water COP 6-hot IDEO
 'The water is very hot.' (LG)

- Speakers do not report that the Luhya ideophones are interpreted iconically; one possible exception to this is *pa*, which may be interpreted as the sound of water boiling.
- The Luhya ideophones are not "productive;" speakers cannot spontaneously coin new ones, unlike reports of spontaneous ideophone generation in e.g. Semai (Mon-Khmer) (Diffloth 1972).

2.4 Why do we call these morphemes ideophones?

- Like other described ideophone systems, the Luhya ideophones:
 1. (Almost always) have a fixed number of syllables
 2. Have a consistent syllable shape (that is, they are almost always open syllables)

¹¹Mark Dingemanse (p.c.) notes that ideophones are among the first lexical items/constructions lost when speakers are no longer immersed in their language. Our main Llogoori consultant lives in a predominantly English-speaking environment, and several of our other consultants live in regions where their Luhya language is not widely spoken. This could contribute to why we have not found many features of expressive speech. Alternately, it could simply be the case that Luhya ideophones are not highly expressive.

3. Contain phonemes rarely found elsewhere in the languages
 4. Do not pattern like any other grammatical category in Luhya
 5. Are constrained in their distribution by the semantic class of the lexical item they combine with.
- With respect to the various properties of ideophone systems described by Dingemanse and Akita (2016), we find that Luhya ideophones pattern similarly to languages like Somali (Cushitic) in having “non-expressive” ideophones (Dhoorre and Tosco 1998). That is, they are relatively grammatically integrated, with a corresponding low degree of expressiveness.

3 Towards an analysis

- The use of the ideophones to intensify the predicate that they combine with suggests that they could be treated as degree modifiers, making a semantic contribution that is similar to English *very*, *extremely*, etc.
- This could easily account for their distribution in combination with adjectival predicates, since the ideophone-hosting adjectives that we have found are all adjectives that are typically associated with degree scales (*hot*, *cold*, *sweet*, etc.).¹²
- This raises two main questions for us:
 1. **How do the Luhya ideophones differ from canonical Luhya degree intensifiers like *saana* ‘very’?** (We assume *saana* has the same semantics as English *very*.)
 2. **How can we account for the ability of the ideophones to co-occur with nominal and verbal predicates**, i.e., predicates that are not typically associated with degrees?
- We provide a brief background on degrees, and then address these two questions in turn.

3.1 Degrees

- **Degree theories** of gradable adjectives argue that adjectives combine with both a degree argument ($d \in D_d$) and an individual argument ($x \in D_e$), and assert that the adjective holds of the individual x to degree d (following Bartsch and Vennemann 1972, Cresswell 1976, Heim 2001, among many others):

¹²An apparent possible counterexample to this is the ability of the ideophone *zi* to combine with the verb *kukuzila* ‘to be cold’/colloquially, ‘to be dead.’ In these cases, we assume the gradable meaning of ‘to be cold’ as the basic meaning of *kukuzila*. Our Llogoori consultant reports that such uses of *zi* are a colloquialism meaning ‘to be dead’:

(27) *i-mbwa yakuz-il-a zi.*
 9-dog 9.cold-APPL-FV IDEO
 ‘The dog is dead as a doornail.’

(LG)

(28) $\llbracket \text{hot} \rrbracket = \lambda d \lambda x. \text{hot}(x,d)$ (“x is hot to degree d”)

- Intensifiers like *very*, *extremely*, and so on contribute the meaning that the degree of the adjective with respect to the individual is above some contextual standard. We give a basic denotation for the English degree intensifier *very* in (29a) below, and assume that the Luhya degree intensifier *saana* ‘very’ has the same denotation:

(29) a. $\llbracket \text{very/saana} \rrbracket = \lambda G_{\langle d \langle et \rangle \rangle} \lambda x. \exists d: G(x,d) \ \& \ d > \text{standard}$

b. $\llbracket \text{very/saana hot} \rrbracket = \lambda x. \exists d: \text{hot}(x,d) \ \& \ d > \text{standard}$

- In utterances without any degree intensifier or measure phrase, we assume that the predicate combines with some phonologically null morpheme that contributes the meaning that the individual that the predicate combines with “stands out” with respect to the property denoted by the predicate (Kennedy 1999, Rett 2008).

3.2 Differences between the ideophones and *saana*

- We propose that the Luhya ideophones all share a common semantic denotation, given below:

(30) $\llbracket \text{IDEO} \rrbracket = \lambda G_{\langle d \langle et \rangle \rangle} \lambda x. \exists d: G(x,d) \ \& \ d !! > \text{standard}$

- Given this denotation, ideophones contribute the meaning that the degree of the predicate with respect to the individual **greatly exceeds** the contextual standard. We use the notation *!!>* to indicate “greatly exceeds,” c.f. Kennedy and McNally (2005, 373)’s treatment of *much*.

(31) $\llbracket \text{hot IDEO} \rrbracket = \lambda x. \exists d: \text{hot}(x,d) \ \& \ d !! > \text{standard}$

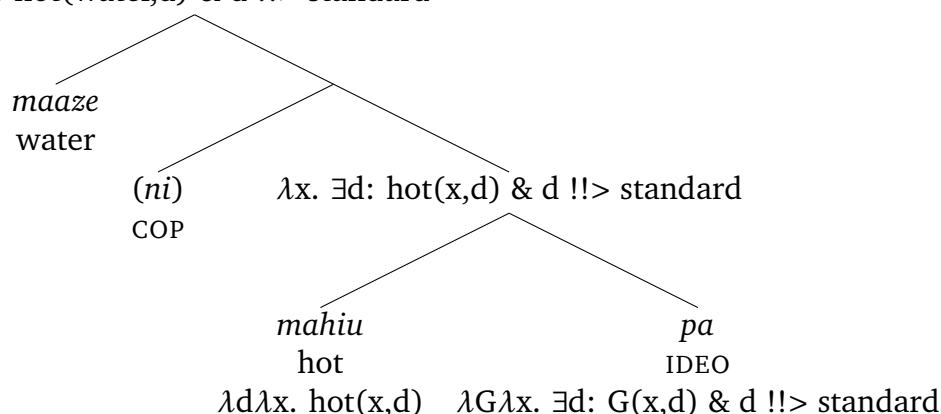
(32) *maaze ni ma-hiu pa.*

6.water COP 6-hot IDEO

‘The water is very hot.’

(LG)

$\exists d: \text{hot}(\text{water},d) \ \& \ d !! > \text{standard}$



- Unlike *saana*, the ideophones are lexically specified for the class of items that they can combine with.¹³

¹³We note that a small set of English adjectives combine with similarly lexically restricted intensifiers; these include *jet black* and *bitter cold*, among others. However, these English intensifiers (i) occur elsewhere in the language as lexical items, (ii) are not subject to any syllable restrictions, (iii) do not contain any phonemes not found elsewhere in English, and (iv) do not have any iconic component. This suggests to us that while the Luhya ideophones may share some commonalities with English *jet*, *bitter*, and so on, the latter lexical items are not in fact ideophones.

- The “standard” Luhya degree intensifier *saana* is unmarked; its distribution is determined by the scale structure of the adjective it combines with, rather than any lexical specification. (*saana* patterns identically to English *very* in this respect, c.f. Kennedy and McNally 2005’s work on adjective scale structure.)

3.3 The Luhya ideophones as cross-categorial degree modifiers

- As we noted previously, a degree analysis of the ideophones can easily account for their ability to co-occur with adjectival predicates. All of the adjectives that the ideophones co-occur with are uncontroversially associated with degree scales.
- In the following subsections, we address how we can extend this proposal to account for the ability of the ideophones to co-occur with nominal and verbal predicates.

3.3.1 Ideophones in combination with nominal predicates

- Luhya languages in general do not have very many canonical attributive adjectives (that is, lexical items that combine with adjectival concord prefixes). Instead, these languages frequently use the strategy *be with N*, where N is a nominal.¹⁴

(33) *m-v-ey-e na mahooru mno.*
 1SG-COP-ASP-FV with 6.longing IDEO
 ‘I really miss you.’ (lit. ‘I am with intense longing.’) (LG)

- We propose that in such *be with N* constructions, the complex *na N* ‘with N’ constituent is semantically equivalent to a predicative adjective. That is, in examples like (33), ‘with N’ denotes something of type $\langle d \langle e, t \rangle \rangle$ that ideophones can combine with.
- We furthermore assume that a subset of nouns like *ma-hooru* ‘6-longing,’ *vu-yaanzi* ‘15-happiness,’ and *i-nzala* ‘9-hunger’ themselves include degrees in their denotations.
- Several authors have proposed including degrees in nouns; these include Morzycki (2009) and Bochnak (2013). Here, we follow Bochnak (2013)’s proposal for verbal nominalizations in Luganda (Bantu).¹⁵

¹⁴This construction is used to express *be with N* as well as *have N*:

(i) *Kageeha a-ve na i-mbwa.*
 1.Kageeha 1-COP with 9-dog
 1. ‘Kageeha is with a dog.’
 2. ‘Kageeha has a dog.’ (LG)

¹⁵Francez and Koontz-Garboden (2015) give a very interesting proposal for how to account for what they term “property concept” lexemes like *happiness*, *dirtiness*, etc. based on similar data from Ulwa (Misumalpan). They give a mereological account in which property concept lexemes denote mass substances. They rely on contextual domain restriction of an existential quantifier over portions of the property (= substance) that the individual possesses in order to account for the context-sensitivity of such predicates. This analysis is relevant to our data, since constructions like in (33) are used to express possession as well as predication. However, since at present we are committed to a degree-based analysis of the ideophone data, and Francez and Koontz-Garboden’s proposal does not utilize degrees, we set their proposal aside for now.

- Bochnak (2013), following Nicolas (2004) and Moltmann (2009), proposes that nominalized gradable predicates are relational: that is, they denote relations between individuals and degrees. We follow this analysis for the relevant Luhya nominals, which we also term “relational.”

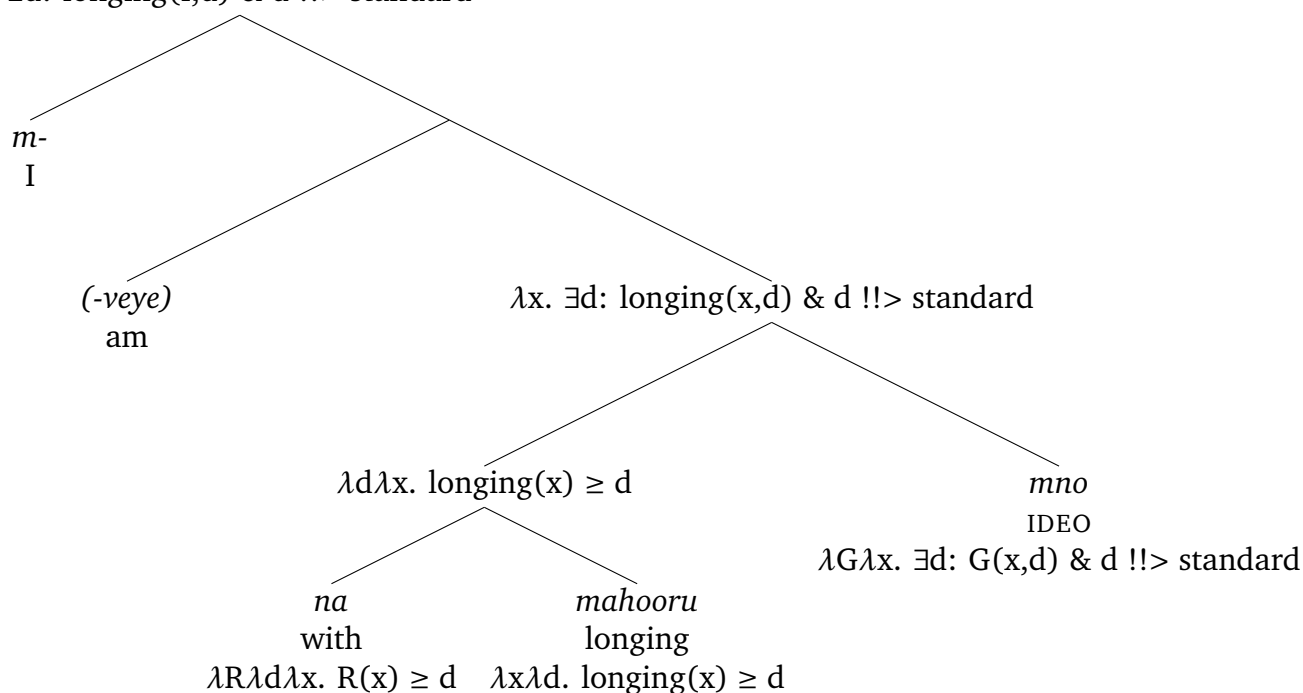
(34) $\llbracket mahooru \rrbracket = \lambda x \lambda d. \text{longing}(x) \geq d$

- We then in turn are forced to assume two different types for *na* ‘with,’ one with and one without degrees.¹⁶
- We give a denotation for *na* ‘with’ with degrees below; we use *R* to refer to predicates of type $\langle e \langle d, t \rangle \rangle$ (i.e., the relational nouns):

(35) $\llbracket na \rrbracket = \lambda R \lambda d \lambda x. R(x) \geq d$

(36) *m-v-ey-e na mahooru mno.*
 1SG-COP-ASP-FV with 6.longing IDEO
 ‘I really miss you.’ (lit. ‘I am with intense longing.’) (LG)

$\exists d: \text{longing}(I, d) \ \& \ d \ !\!> \text{standard}$



- We note that canonical Luhya degree intensifiers like *saana* ‘very’ can also combine with *na* *N* ‘with *N*’ predicates, in support of the introduction of degrees into the denotation:

(37) *m-v-ey-e na inzala saana.*
 1SG-COP-ASP-FV with 9.hunger very
 ‘I’m very hungry.’ (LG)

¹⁶Indeed, *na* has multiple uses in the Llogoori outside of its conjunctive use.

3.3.2 Ideophones in combination with verbal predicates

- (38) *Sira yi-tsurits-a shi-koombe tu.*
 1.Sira 1-fill-FV 7-cup IDEO
 ‘Sira filled the cup to the brim.’ (T)

- All of the verbs that can co-occur with ideophones have an adjectival core, including *kumwama* ‘to blacken,’ *kunyika* ‘to be tight,’ and so on. As shown in (29), it is not problematic to treat the ideophones as degree modifiers of gradable adjectives.
- Abusch (1986) and Kennedy and Levin (2008), among others, give semantic proposals for English degree achievement verbs (e.g. *cool*, *widen*) that refer to their adjectival cores. They typically propose that this adjectival core is how degrees are introduced into the denotations of these verbs.
- Kennedy and Levin (2008) propose that the semantic core of degree achievement verbs is not identical to the gradable adjectives. Instead, it is a derived measure of change function that measures the degree to which an object changes along a scalar dimension as the result of participating in an event.¹⁷
- We set aside the precise formal implementation of this theory for now. We note simply that a proposal along these lines that either includes or introduces degrees in the denotations of degree achievement verbs could account for the observed data in (38).
- If we follow Kennedy and Levin (2008)’s proposal, the paraphrased meaning of (38), including the ideophone, would be something like “Sira filled the cup to a degree that greatly exceeds the contextual standard of what counts as ‘full.’”

3.4 Do the Luhya ideophones contribute non-truth conditional content?

- Several authors report that their consultants describe ideophones as contributing something “ineffable,” “more” than other morphemes (e.g. Baglini 2016, Diffloth 1972).
- Our Luhya consultants do not strongly share this intuition. Nonetheless, we administered some tests to investigate whether the Luhya ideophones could be argued to contribute any non-truth conditional content, perhaps at the illocutionary level.

Embeddable under negation

¹⁷This measure of change function m_{Δ} is defined formally as follows (Kennedy and Levin 2008, 18):

- (39) For any measure function m , $m_{\Delta} = \lambda x \lambda e. m \upharpoonright_{m(x)(init(e))}(x)(fin(e))$,
 where $init(e)$ and $fin(e)$ refer to the initial and final temporal intervals of an event, and $m \upharpoonright_d$ is a difference function that takes an individual and returns the difference between the individual’s projection on a degree scale and the (arbitrary) comparative standard.

- Negation can target the contribution of the ideophones. Sentential negation is marked clause-finally in Luhya; in constructions in which ideophones and negation co-occur, the ideophones precede negation:

(40)	<i>i-chai ni i-noru mno daave.</i> 9-tea COP 9-sweet IDEO NEG ‘The tea is not very sweet. (It’s just sweet.)’	(41)	<i>matse ka-heere pa mba.</i> 6.water 6-hot IDEO NEG ‘The water is not very hot. (It’s just hot.)’
	(LG)		(T)

- The data in (40)-(41) suggests that the ideophones contribute part of the propositional content, since they are able to be targeted by negation. This would not be predicted if the ideophones solely operated at the speech act level.

Embeddable and shiftable

- Unlike many other ideophone systems, the Luhya ideophones are not necessarily speaker-oriented. For instance, they can be embedded. The ideophones obligatorily shift when embedded:

(42)	<i>Sira a-ganagan-a ndee maaze ni ma-hiu pa, netare m-vogil-il-a</i> 1.Sira 1-think-FV COP 6.water COP 6-hot IDEO but 1SG-think-APPL-FV <i>ndio daave.</i> so NEG ‘Sira thinks that the water is very hot, but I disagree.’	(LG)
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- If the ideophones were to operate at the speech act level, the data in (42) would not be predicted. This is due to the fact that illocutionary operators typically cannot be embedded and do not shift (cf. Faller 2002’s description of evidentials in Cuzco Quechua).
- We take the data in (40)-(42) to suggest that the Luhya ideophones do not make any non-truth conditional contribution.

4 Conclusion

- In this talk, we described the distribution and interpretation of ideophones in Llogoori, Lunyore, and Lutiriki. We sketched a preliminary proposal to treat Luhya ideophones as cross-categorial intensifying morphemes, assuming the inclusion of degrees in the Luhya semantic ontology.
- The Luhya languages demonstrate the heterogeneity of ideophone systems cross-linguistically, patterning very differently from other ideophone systems in Africa.
- We also observe that there are apparently cognate ideophones in many (distantly) related Bantu languages (Samarin, 1971). Further exploration of these systems might give us a better understanding of how ideophone systems are established diachronically/areally.

- We would ultimately like to propose additional criteria for Dingemanse and Akita (2016)'s definition of "grammatical integration," perhaps differentiating between different sub-classes of highly grammatically integrated ideophones. These axes of variation could include:
 1. { Ability / inability } to occur alone as clausal predicates
 2. { Ability / inability } to co-occur with complementizers/quotative markers/light verbs
 3. { Ability / inability } to appear separated from the element the ideophone combines with.

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Appendix A: Llogoori, Lunyore, and Lutiriki ideophones

Llogoori

Ideophone	Semantic class
<i>du</i>	full
<i>gada</i>	tough, stiff, dry
<i>khai</i>	red
<i>kham</i>	empty
<i>mno</i>	sweet, to like, to miss
<i>pa</i>	hot, spicy, bitter
<i>pe</i>	empty, complete
<i>ti</i>	black, dirty
<i>zi</i>	cold, quiet, still

Lunyore

Ideophone	Semantic class
<i>ka</i>	tight, hard
<i>kha</i>	red
<i>mno</i>	bitter
<i>pa</i>	hot, spicy
<i>pe</i>	empty, complete
<i>po</i>	to shine, to like
<i>ti</i>	black, dirty
<i>tswe</i>	white, clean
<i>tu</i>	full
<i>twa</i>	broken, smashed
<i>zi</i>	cold, quiet, still

Lutiriki

Ideophone	Semantic class
<i>kha</i>	red
<i>mno</i>	sweet, bitter
<i>pa</i>	hot, bitter
<i>pe</i>	complete
<i>tsi</i>	cold, quiet
<i>tu</i>	full