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**In Search of Prosodic Domains in Lusoga**

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“... the very types of prosodic category above the foot and syllable are syntactically grounded and universal.” (Selkirk & Lee 2015:3)

“... the prosodic phonology of Luganda is among the most intricate and complex of any language.”  
(Hyman & Katamba 2010:69)

**1. Introduction**

The purpose of this paper is to raise the question whether the phrasal tonology of Lusoga (Bantu; Uganda), the most closely related language to Luganda, is syntactically grounded—or is free to apply without respect to syntax. Outside of Bantu, cases have been reported where phrasal or post-lexical tonology applies whenever two words meet within a clause, independently of the syntax, and hence without the need of prosodic domains. This includes the VSO Chatino languages of Mexico (Cruz 2011, Campbell 2014, McIntosh 2015, Sullivant 2015, Villard 2015) and the SOV Kuki-Chin languages of NE India and Myanmar, e.g. Kuki-Thaadow (Hyman 2010). In such languages appropriate tonal alternations occurring between words are blocked only by pause or “sentence breaks”.

The story is considerably different in the SVO Bantu languages. Although there is considerable variation, the expectation is that there will be extensive interaction between the syntax and the prosodic phonology, specifically between syntactic constituency and/or information structure (focus) with tone and/or penultimate lengthening. Specifically, we expect the syntax to be prosodically reflected by an asymmetry between what precedes vs. follows the verb. Thus, in a number of works on Luganda, e.g. Hyman, Katamba & Walusimbi (1987), Hyman & Katamba (2010), we have recognized the following postlexical domains within which tone rules act on the lexical stem and word tones:

- (1) a. a smaller tone group (TG), within which H tone plateauing (HTP) occurs
- b. a larger tone phrase (TP), within which H tone anticipation (HTA) occurs

(We also recognize an intersecting clitic group (CG), which pertains mostly to vowel length alternations.) One question is whether this sensitivity to syntax can be attributed, perhaps universally, to the SVO syntax of Luganda (and other Bantu languages), or whether the prosodic phonology of an SVO language can also apply across the board, without any sensitivity to syntactic structure.

In what follows I will first briefly identify the above Luganda domains, then consider the corresponding structures in Lusoga, which seems not to recognize either prosodic domain. I will then show what Lusoga does have and what this might mean for syntax-phonology interactions and the quest for universals.\*

**2. Prosodic domains in Luganda**

The analysis of Luganda tone is given in (2), as summarized by Hyman & Katamba (2010:70):

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\* This article is a revision of a paper presented at the Workshop on the Effects of Constituency on Sentence Phonology, University of Massachusetts, Amherst, on July 30, 2016. I would like to thank the participants for their questions and comments. I am especially indebted to extensive comments received from an anonymous reviewer.

(2)	<i>level of representation</i>	<i>tonal contrasts</i>	<i>description</i>
a.	underlying input (URs)	/H, Ø/	privative
b.	intermediate	H, L, Ø	ternary
c.	broad phonetic output	H, L	equipollent

As indicated, moras are either marked by an underlying privative /H/ or are toneless (Ø). Within the lexical (word-level) phonology, L tones arise in one of two ways, illustrated in (3).

(3)	a.	/ba-lab-a/	→	bá-làb-a	‘they see’
		H H		H L	
	b.	/ba-bal-a/	→	bá-bàl-a	‘they count’
		H		H L	

In (3a) Meeussen’s Rule converts a sequence of Hs on successive moras to one H followed by all Ls. A sequence /H-H-H-H/ would thus become H-L-L-L. In (3b) L tone insertion applies after a lone H which would not be subject to Meeussen’s Rule. The result is an intermediate ternary contrast between H, L, and Ø. Finally, after the phrasal phonology applies, the Øs are all filled in with either H or L, thereby bringing the system back to a binary contrast, this time equipollent. (We needn’t be concerned with the marginal downstepped <sup>↓</sup>H which arises when two phonological phrases meet, the first ending in a HL falling tone, the second beginning with H.)

## 2.1. The tone phrase (TP)

We are now ready to consider the two prosodic domains mentioned in (1). As illustrated in (4), within the tone phrase (TP), H tone is anticipated across words onto any number of preceding toneless moras, indicated here and in subsequent examples by underlining (%L marks an initial boundary tone):

(4)	a.	verb + object	a-bal-a	e-bi-kópò	→	à- <u>bál-á</u>	é-bí-kópò	‘s/he is counting cups’	
			H L	%L		H L			
	b.	object + object	a-bal-ir-a	o-mu-limi	e-bi-kópò	→	à- <u>bál-ír-á</u>	ó-mú-límí	é-bí-kópò
			<small>3SG-count-APP-FV</small>		H L	%L		H L	
								‘s/he is counting cups for the farmer’	

The example in (4a) shows H tone anticipation (HTA) applying from the direct object onto the verb, while (4b) shows HTA from the second object through the first object and, again, onto the verb (which is marked by the applicative *-ir-* suffix). In (5) we see that HTA also applies between a right-dislocated element (RD) and the verb and between RDs, again onto the verb:

(5)	a.	verb + RD	a-bi-bal-a	e-bi-kópò	→	à- <u>bí-bál-á</u>	é-bí-kópò		
			<small>s/he-them-count</small>	H L	%L	H L			
							‘s/he is counting them, the cups’		
	b.	RD + RD	a-bí-mù-bal-ir-a	o-mu-limi	e-bi-kópò	→	à- <u>bí-mù-bál-ír-á</u>	ó-mú-límí	é-bí-kópò
			<small>s/he-them-him-count-APP-FV</small>		H L	%L H L		H L	
							‘s/he is counting them for him, the farmer, the cups’		

HTA does not, however, apply from the verb to what precedes, whether the subject, an adverb, or a left-disclocation (LD):







- (17) a. e-bi-kópó by-áá mú-gáándá w-áá= kátáámbâ [ N<sub>1</sub> [ N<sub>2</sub> N<sub>3</sub> ] ]  
           H Ø                    H Ø                    HL  
           ‘cups of brother of Katamba’
- b. e-bi-kópó by-áá= kááwá by-áá= kátáámbâ [ [ N<sub>1</sub> N<sub>2</sub> ] N<sub>3</sub> ]  
           H Ø                    H Ø                    HL  
           ‘cups of coffee of Katamba’

The more common right-branching structure is observed in (17a). In this case N<sub>2</sub> + N<sub>3</sub> form a constituent which then joins N<sub>1</sub>. In the less common left-branching structure in (17b), N<sub>1</sub> + N<sub>2</sub> first form a constituent, which then joins N<sub>3</sub>. Although a single, three-word TG is formed, HTP does not apply to the whole constituent all at once. This is seen from the fact that an intervening toneless phonological word blocks HTP (Hyman 1988:157). In the following examples, underlined Hs are from the application of HTA:

- (18) a. e-bi-kópò by-àà mù-túúndá + bí-kópò [ N<sub>1</sub> [ N<sub>2</sub> N<sub>3</sub> ] ]  
           H L    H L  
           ‘cups of the cup-seller’ (literally, seller-cups)
- b. mu-kúbà + bà-lími w-áá kátáámbâ [ [ N<sub>1</sub> N<sub>2</sub> ] N<sub>3</sub> ]  
           H L    HL  
           ‘farmer-beater of Katamba’ (literally, beater-farmers)

Even though the same right- and left-branching complex TGs are formed, HTP must progress on a word-by-word basis. For this reason I proposed that HTP be a domain-juncture rule of the following form (Hyman 1988:158):

- (19) L<sup>n</sup> → Ø / [ TG[ ... PW[ ... H     ] [ H ... ]PW ... ]TG

Presented as a rule of L tone deletion followed by the fusion of the left and right H tones, the conception is that HTP occurs between phonological words (PWs) which are grouped together within a TG. (An perhaps equivalent alternative is that TGs are nested.)

In summary, the above and other Luganda facts potentially bear on multiple issues concerning prosodic domain theory vs. direct reference to syntax, the nature and number of prosodic domains (TP, TG, and ultimately the clitic group (CG)), the potential interaction between domains (domain juncture effects, nesting), and the interaction of prosodic domains with information structure (focus). With all of this hyper-activity in Luganda, we now turn to consider the equivalent structures in closely related Lusoga.

### 3. Prosodic domains in Lusoga (?)

In Lusoga the most striking property is an historical process of H tone retraction (HTR) onto the preceding mora. In the following examples %L is an initial boundary tone, and H% is the declarative phrase-final boundary tone (which occurs, but is variable in Luganda):

- (20) a. ò-kú-lágír-á           ‘to command’       cf. Luganda   ò-kú-lágír-á  
           %L            H%    %L       (H%)
- b. ò-kú-ghùlír-á           ‘to hear’            cf. Luganda   ò-kù-wúlír-á  
           %L H   LL H%    %L   HL (H%)

The infinitive in (20a) is lexically toneless, realized L-H-H-H-H by mapping %L to the first mora, and H% to the remaining moras. The Luganda realization is either the same, or all L if the variable H% is not chosen. In contrast, the verb root has an underlying tone in (20b). In this case the Luganda form is more

straightforward: The verb base *-wùlir-* ‘hear’ has an underlying /H/ on its first mora, which as seen earlier in (3b) then conditions L tone insertion on the second mora. The remaining toneless moras receive L tone, unless H% is realized, in which case the output is *ò-kù-wùl-ìr-á*, with a final H. In Lusoga, instead, the H is realized on the preceding infinitive prefix *-kù-* followed by two L tone moras. The H tone of the verb root clearly has shifted onto the preceding mora. The historical derivation is presented in (21).

(21)	<i>stage 1</i>		<i>stage 2</i>		<i>stage 3</i>		<i>stage 4</i>	
a.	o-ku-ghùlir-a H	>	o-ku-ghùlir-a H L	>	o-kù-ghùlir-a H L L	>	ò-kù-ghùlir-á %L H L L H%	‘to hear’
b.	o-ku-kàlakat-a H	>	o-ku-kàlakat-a H L	>	o-kù-kàlakat-a H L L	>	ò-kù-kàlakát-á %L H L L H%	‘to scrape’

At stage 1 we start with a H tone on the first mora of the verb base. Stage 2 represents the L tone insertion rule that was discussed with regard to Luganda, but which characterizes both languages. Stage 3 is where H tone retraction (HTR) applies in Lusoga only. As seen, I have indicated a L tone “trace” on the original root-initial H tone mora in stage 3.

While (21) is historically correct, the proposed synchronic analysis is that \*H is now /L/. In other words, the Lusoga tone contrast has become /L/ vs. Ø (Hyman 2016):

(22) a.	o-ku-ghùlir-a	‘to hear’	b.	o-ku-kàlakat-a	‘to scrape’
	L			L	

Two rules are needed to derive the correct outputs. The first is L tone spreading (LTS): an input L spreads one mora to the right:

(23) a.	o-ku-ghùlir-a	‘to hear’	b.	o-ku-kàlakat-a	‘to scrape’
	∨ L			∨ L	

The second rule is H tone insertion (HTI): a H is inserted on a mora that precedes an input L:

(24) a.	o-kù-ghùlir-a	‘to hear’	b.	o-kù-kàlakat-a	‘to scrape’
	∨ H L			∨ H L	

As seen in (25) HTI has to be specified to insert a single H before a sequence of L morphemes (which we can assume to fuse into a single, multilinked L):

	AUG-INF-it-him-us-give-APPL-FV		
(25)	ò- kù- cì- mù- tù- ghà- èr- á	→	ò-kù-cì-mù-tù-ghè-èr-á ‘to give it to him for us’
	∣ ∣ ∣ ∨ L L L L		%L <u>H</u> L H%

With this established, we now have two relevant criteria to test for postlexical domains in Lusoga: (i) HTI conditioned by initial /L/ syllable of one word onto final syllable of the preceding word. The question is whether a word-initial L will condition the insertion of a H onto the final vowel of the preceding word. (ii) HTA from one word onto toneless moras of the preceding word(s), as in Luganda. The question is whether there are any syntactic configurations that block HTA (as some do in Luganda). To anticipate the demonstration, the conclusion we will reach is that syntactic constituency never blocks HTI or HTA, thereby raising two competing hypotheses:





- (31) a. o-kú-ghùlir-a e-mí-sòtà → ò-kú-ghùlir-á é-mí-sòtà 'to hear snakes'  
           H L           H L           %L H L           H L H%
- b. o-kú-bòn-à e-mí-sòtà → ò-kú-bòn-à è-mí-sòtà 'to see snakes'  
           H L           H L           %L H L           H L H%

From the above we can safely assume that HTA will apply no matter what the syntactic configuration. As stated in §1, this is quite surprising, given that almost all Bantu languages treat pre-verbal constituents differently from post-verbal ones. In the next section we will see that HTI leads to the same conclusion.

### 3.2. H tone insertion (HTI)

In this section it will be briefly demonstrated that HTI can also apply across any syntactic boundary. Because nouns have a prefix which is underlyingly toneless, this will have to be demonstrated by means of other word classes, e.g. verbs and demonstratives. Consider first (32a), where the subject prefix *a-* is underlyingly toneless:

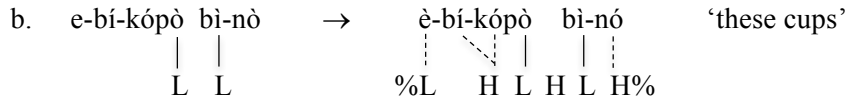
- (32) a. o-mu-kàzi a-sek-a → ò-mú-kàzi à-sék-á 'the woman laughs'  
           |                   |                   |                   |                   |  
           L                   %L H L                   H%
- b. a-ba-kàzi bà-sek-a → à-bá-kàzì bà-sèk-á 'the women laugh'  
           |                   |                   |                   |                   |  
           L L                   %L H L H L                   H%

In this case the subject noun 'woman' ends with a L tone by virtue of the L tone spreading (LTS) rule. Therefore, the final H% cannot spread onto the subject noun. Compare this now with (32b), where the subject prefix /bà-/ has an underlying /L/. In this case HTI overrides LTS onto the final mora of the subject noun. In historical terms, the \*H of \*bá- has been anticipated from the verb onto the subject (cf. Luganda à-bà-kàzì bá-sèk-á). The same facts are seen with left dislocations:

- (33) a. e-bi-bàla a-bi-bal-a → è-bí-bàlà à-bí-bál-á 'the fruits, s/he counts them'  
           |                   |                   |                   |                   |  
           L                   %L H L                   H%
- b. e-bi-bàlà bà-bi-bal-a → è-bí-bàlá bà-bì-bál-á 'the fruits, they count them'  
           |                   |                   |                   |                   |  
           L L                   %L H L H L                   H%

In (33a), H% does not reach the left-dislocated noun /e-bi-bàla/ 'fruits', since its /L/ spreads onto the final mora. In (33b), however, where the subject prefix /bà-/ has /L/ tone, HTI applies, and the H links to the final mora of the left-dislocated noun. In fact, HTI will apply across any sequence of words, provided that the preceding word does not end in a single /L/. This is illustrated in (34).

- (34) a. e-bi-bàlà bì-nò → è-bí-bàlá bì-nó 'these fruits'  
           |                   |                   |                   |                   |  
           L L                   %L H L H L                   H%



The proximate demonstrative /-no/ ‘this, these’ requires a L tone noun class agreement prefix, here /bi-/. As seen in (34a), the prefix conditions HTI on the final mora of ‘fruits’. In (34b), on the other, the noun ‘cups’ ends in a single /L/ and hence HTI is blocked.

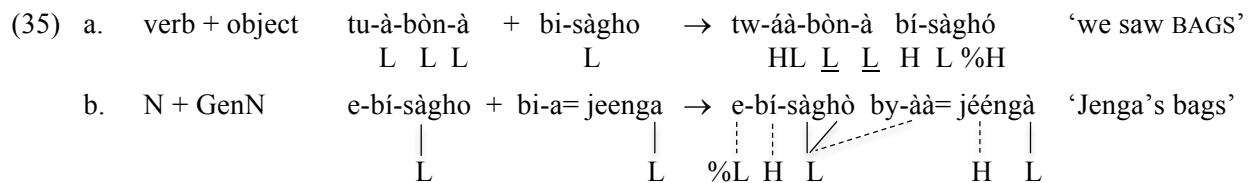
We thus arrive at the conclusion that syntactic constituency never blocks HTI or HTA. Returning to the two hypotheses in (26), we must address whether Lusoga recognizes prosodic domains at all—or whether it simply fails to give evidence of the syntax-to-prosodic domain mapping that Selkirk’s (2011) matching theory predicts. Favoring universality, let’s take the latter position, Hypothesis 2 in (26): Lusoga has prosodic domains, but does not mark them the same as Luganda. As was seen in §2, Luganda marks TPs with an initial %L, which can be taken to block HTA from the verb or between sentential preverbal constituents, each one of which begins a TP with its own %L. As Lisa Selkirk puts it (email of March 18, 2016):

“In Lusoga, if HTA can extend from verb to subject and so on, it must be that there is no such L at the left edge of TP/ip. In other words a ‘domain-less’ HTA can spread its way leftward in Lusoga without a problem, but it would be blocked by the boundary L in Luganda.”

Under this interpretation Lusoga would not have %L internal to the intonational phrase (IP), but might require an IP-initial %L to predict the realization of post-pause toneless words such as *ò-kú-lágir-á* ‘to command’ in (20a). Such words require an initial L to precede the multiple Hs from H%. This could either be the effect of an IP-initial %L tone or is perhaps due to some kind of constraint against initial H.

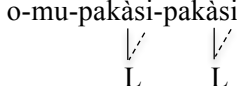
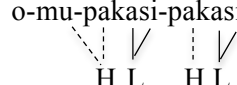
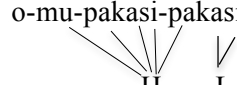
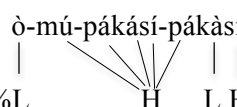
### 3.3. The tone group (TG)

In §2 we saw that Luganda distinguishes two prosodic domains, the tone phrase (TP) and the tone group (TG). The preceding discussion of HTA and HTI have both addressed the TP. In this section we show that Lusoga does provide some evidence for the TG, which is however much more restricted than in Luganda. We first note that there is no “phrasal” TG in Lusoga, i.e. no case of a head (X) + phonological word (Z) producing H tone plateauing (HTP). The examples in (35) show that the configurations that produce HTP in Luganda are no different from those which fail to produce HTP in Lusoga:



In (35a) the distant past affirmative verb is followed by an object noun which lacks the augment vowel since it is in focus, while (35b) consists of a genitive construction marked by the proclitic /bi-a=/ on the second noun. In neither case is there HTP as was observe in Luganda in (12a) and (15b), respectively.

While there is no case of a TG consisting of two phonological words (PWs), HTP does apply word-internally and between a PW and certain enclitics. The first is seen in a process of noun reduplication which introduces a derogatory meaning. Thus, when *ò-mú-pákàsí* ‘porter’ is reduplicated to *ò-mú-pákàsí-pákàsí* ‘a lousy ol’ porter’ the portion I have underlined shows HTP. A full derivation is provided in (36).

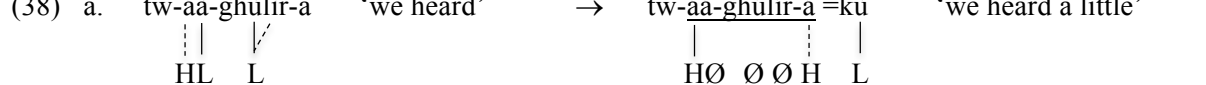
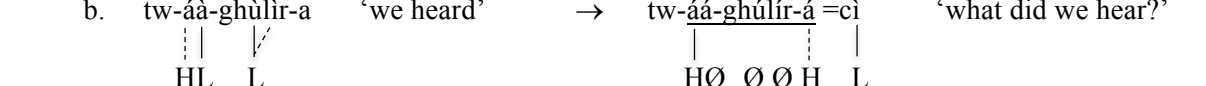
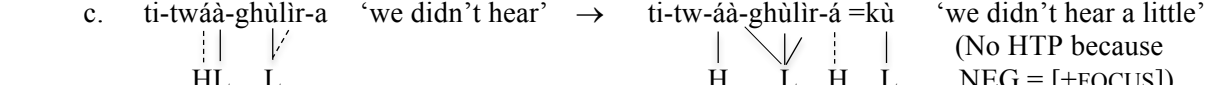
- (36) a. reduplicated input + L tone spreading : o-mu-pakàsi-pakàsi ‘a lousy ol’ porter’  

- b. H tone insertion : o-mu-pakasi-pakasi  

- c. H tone plateauing : o-mu-pakasi-pakasi  

- d. Output with %L...H%  


As seen, we begin with two identical stems /-pakàsi/, which both undergo LTS in (36a). HTI also applies twice in (36b). This is followed by HTP in (36c) and assignment of the boundary tones in (36d). Although not exemplified in §2, HTP also applies within a word in Luganda.

More significantly for our purposes, (37) shows that HTP also applies between a possessive enclitic and the host noun:

- |                                |         |   |              |     |                   |                       |
|--------------------------------|---------|---|--------------|-----|-------------------|-----------------------|
| (37) $\sigma$                  | /L/     | : | ò-mú-tì      | vs. | ò-mú-tíí =gwè     | ‘his/her tree’        |
| $\sigma$ - $\sigma$            | /L-Ø/   | : | ò-mú-kàzì    |     | ò-mú-kází =wè     | ‘his/her wife’        |
|                                | /Ø-L/   | : | è-kí-kópò    |     | è-cí-kópó =cè     | ‘his/her cup’         |
| $\sigma$ :- $\sigma$           | /LØ-Ø/  | : | è-kí-wùùka   |     | è-cí-wúúká =cè    | ‘his/her insect’      |
|                                | /ØL-Ø/  | : | à-ká-sáàlè   |     | à-ká-sáálé =kè    | ‘his/her arrow’       |
|                                | /ØØ-L/  | : | è-kí-déédè   |     | è-cí-déédé =cè    | ‘his/her grasshopper’ |
| $\sigma$ - $\sigma$ - $\sigma$ | /L-Ø-Ø/ | : | ò-bú-thùpùzi |     | ò-bú-thúpúzi =bwè | ‘his/her corruption’  |
|                                | /Ø-L-Ø/ | : | ò-mú-pákàsi  |     | ò-mú-pákási =wè   | ‘his/her porter’      |
|                                | /Ø-Ø-L/ | : | ò-bú-vúbúkà  |     | ò-bú-vúbúká =bwè  | ‘his/her adolescence’ |

The tones of the unpossessed nouns in the first data column, all of which have a H to L pitch drop, are shown after HTI and LTS have applied, but without a final phrasal H%. As seen, the L tone enclitic /-è/ ‘his/her’ fuses with a noun class agreement prefix. When HTI applies to the preceding noun, HTP applies, and the H to L pitch drop is lost. (There is no final H%, since the forms end H-L.) As can be recalled from (15a), noun+possessive is an environment where HTP applies in Luganda as well. The examples in (38a,b) show that HTP also applies in verb+enclitic constructions:

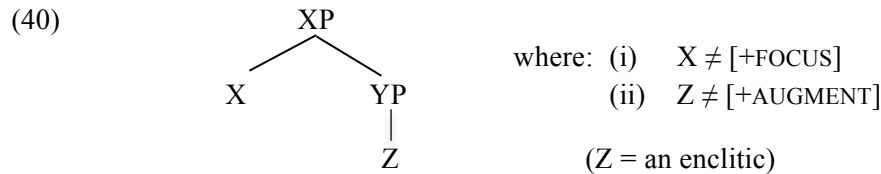
- (38) a. tw-áà-ghùlìr-a ‘we heard’ → tw-áà-ghúlìr-á =kù ‘we heard a little’  

- b. tw-áà-ghùlìr-a ‘we heard’ → tw-áà-ghúlìr-á =cì ‘what did we hear?’  

- c. ti-twáà-ghùlìr-a ‘we didn’t hear’ → ti-tw-áà-ghùlìr-á =kù ‘we didn’t hear a little’  
 (No HTP because NEG = [+FOCUS])  


In (38a), the locative noun class 17 enclitic =kù is used also as an attenuative marker. As seen, HTI applies followed by HTP on the host verb. The same is seen in (38b) with the interrogative enclitic =cì

‘what’. However, for HTP to apply, the verb must have the same [-FOCUS] status as was discussed in Luganda. Recall that negative verbs are [+FOCUS], and hence although HTI applies before =kù, there is no HTP in (38c). In addition, there is no HTP with the corresponding nominal interrogative =cì ‘which’ (also paralleling Luganda (cf. mù-kàzì =cì ‘which woman?’):

(39)	$\sigma$	/L/	:	mú-tì	→	mú- <sup>↓</sup> tíi =cì	‘which tree?’
	$\sigma$ - $\sigma$	/L-Ø/	:	mú-kàzì	→	mú-kàzì =cì	‘which woman?’
		/Ø-L/	:	bí-kópò	→	bí-kó <sup>↓</sup> pó =cì	‘which cups?’
	$\sigma$ :- $\sigma$	/LØ-Ø/	:	cí-wùùka	→	cí-wùùká =cì	‘which insect?’
		/ØL-Ø/	:	ká-sáàlè	→	ká-sáàlé =cì	‘which arrow?’
		/ØØ-L/	:	cí-déédè/	→	cí-déé <sup>↓</sup> dé =cì	‘which grasshopper?’
	$\sigma$ - $\sigma$ - $\sigma$	/L-Ø-Ø/	:	bú-thùpùzi	→	bú-thùpùzì =cì	‘which corruption?’
		/Ø-L-Ø/	:	mú-pákàsi	→	mú-pákàsí =cì	‘which porter?’
		/Ø-Ø-L/	:	bú-vúbúkà/	→	bú-vúbú <sup>↓</sup> ká =cì	‘which adolescence?’

As seen, the enclitic =cì ‘which’ does not condition HTP (perhaps because it isn’t a YP), but always inserts a H, potentially conditioning downstepped <sup>↓</sup>H (of which Lusoga has more than Luganda). Thus, clitics work differently from full words. HTP occurs in the same environment as in Luganda, except that Z must be an enclitic. Thus, compare (40) with the corresponding Luganda configuration in (11).



We have seen that there are two kinds of X=cl: those which form a TG satisfying (40), hence HTP, vs. those which don’t satisfy (40), hence occur without HTP. I propose that the first has the structure of a nested phonological word [ [ word ]<sub>PW</sub> =cl ]<sub>PW</sub>, while the second has the structure of a clitic group [ [ word ]<sub>PW</sub> =cl ]<sub>CG</sub>. If correct, this would mean that HTP only applies within a PW whose definition, however, is subject to the syntactic characterization in (40). An historical conjecture would be that HTP started out in individual words (X), then expanded to X=Z, then X # Z, always meeting the configuration and conditions (i) and (ii) in (40). Note in this regard that enclitics only condition HTP with their lexical host, not with each other:

(41)	a-ta-a	=muu	=kuu	=cii	buli	lunaku	→	á-tá-á	= <sup>↓</sup> múú	= <sup>↓</sup> kúú	= <sup>↓</sup> cì	bùlì	lúnákú
	HL	HL	HL	HL	HL	HL H%							
	s/he-puts	in	a.little	what	every	day							‘what does s/he put a little of in every day?’

In Lusoga, all enclitics are /L/, requiring HTI on the preceding mora. They also differ from full words in preventing a preceding long vowel from undergoing final vowel shortening (cf. ‘tree’ and ‘which tree?’ in (39)). The unavoidable conclusion is that Lusoga tonology is not sensitive to prosodic domains above the (nested) PW level.

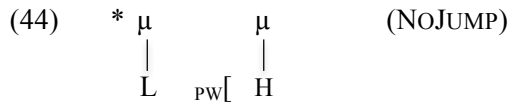
#### 4. Two outstanding problems

I would like to end the coverage of tonal phenomena by considering two outstanding problems. The first is to return to numerals, this time in Lusoga. We saw in (10b) that Luganda doesn’t allow HTA from a



boundary”. Why should all of the above examples prohibit HTA from hitting every available toneless mora on its leftward path?

The answer is that the ungrammatical forms in (43) have the prohibited configuration in (44):



The prohibited sequence is one where one would jump from a L to a H across a PW boundary. This NOJUMP constraint has the following “conspiratorial” effects on HTA: (i) It stops the H from reaching the first mora of a word, which could then be preceded by a (%L); (ii) It stops the H from reaching the first mora of a proclitic, which would have been PW-initial, preceded by a (%L). NOJUMP is the kind of OT constraint that can of course be dominated by another constraint, e.g. faithfulness to an input /H/, as in *tè-y-à-láb-à bí-bàlá* ‘s/he didn’t see fruits’, where *bí-bàlá* ‘fruits’ exceptionally has a /H/ prefix. The constraint in (44) can stop the creation of a L<sub>PW</sub>[ H output, but cannot remove a word-initial H tone. Of course the remaining question is why Luganda and Lusoga bother to implement HTA at all, since the affected moras would otherwise have become L, presumably by default. For this Selkirk (2016) has proposed the constraint HTS-LEFT: H tone wants to spread to the left as far as it can go. The constraint in (44) puts a check on HTS-left: It spreads as far as it can, but stops short if the result would be a L<sub>PW</sub>[ H sequence.

### 5. Conclusion

To summarize the findings for Lusoga, there is no prosodic evidence for a domain corresponding to the TP in Luganda. Specifically, there is no evidence that what precedes the verb is treated differently from what follows it. The domain corresponding to the TG in Luganda does exist but is more restricted being limited to certain word=enclitic combinations. At this point one might ask what other evidence there might be for prosodic domains in Lusoga. Two possibilities are intonation, which has thus far not yielded anything concrete, and instrumental phonetic studies, e.g. on segment durations, which I have not done—and which in any case would take us beyond my question, which had to do with whether there are discrete, categorical effects of prosodic domains in Lusoga.

I would like to conclude with some further thoughts about Lusoga in terms of linguistic typology, defined for our purposes as the study of how languages are the same vs. different. First, Lusoga is not a counterexample to the claim that syntax-prosody “matching” is universal. Second, nothing looks syntactically or prosodically aberrant in Lusoga. Rather, it is the lack of interest that Lusoga shows for prosodic constituents that is striking, particularly from a Bantu point of view. In fact, Lusoga provides the missing “cell” in the typology of whether LDs and RDs phrase with the main clause in Bantu:

(45) a.	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="padding: 2px 5px;">LD</td><td style="padding: 2px 5px;">S</td><td style="padding: 2px 5px;">RD</td></tr></table>	LD	S	RD	Luganda
LD	S	RD			
b.	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="padding: 2px 5px;">LD</td><td style="padding: 2px 5px;">S</td><td style="padding: 2px 5px;">RD</td></tr></table>	LD	S	RD	Haya
LD	S	RD			
c.	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="padding: 2px 5px;">LD</td><td style="padding: 2px 5px;">S</td><td style="padding: 2px 5px;">RD</td></tr></table>	LD	S	RD	Chichewa
LD	S	RD			
d.	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="padding: 2px 5px;">LD</td><td style="padding: 2px 5px;">S</td><td style="padding: 2px 5px;">RD</td></tr></table>	LD	S	RD	Lusoga
LD	S	RD			

We have already seen that Luganda and Haya are mirror images of each other as far as whether LDs (Luganda) or RDs (Haya) are marked off from the main clause. Chichewa has been reported to mark off both LDs and RDs (Downing & Mtenje 2011:1966-7). Finally Lusoga provides the fourth possibility: Neither LDs nor RDs are marked off.

The Lusoga disinterest in marking prosodic domains is remarkable from a Bantuist and perhaps universalist point of view. However, it has long been known that languages vary in how much they “care”

about some of the “best bets” in phonology. Lusoga can now be added to the list of languages which have shown a disregard for one or another prosodic property:

- (46) a. syllable structure: Gokana cares very little if at all about grouping its Cs and Vs into syllables (Hyman 2011)
- b. word stress: Bella Coola cares very little if at all about highlighting one syllable per word (Newman 1947:132)
- c. prosodic domains: Lusoga cares very little if at all about reflecting syntactic constituency in the post-lexical phonology (this study)

For me, typology should not only determine the different ways in which universal linguistic properties can be reflected in the grammar of a language, but also how well a grammar can get along without signaling them at all.

#### ABBREVIATIONS

APP	Applicative
FV	Inflectional final vowel
HTA	H tone anticipation
HTI	H tone insertion
HTP	H tone plateauing
HTR	H tone retraction
LD	Left dislocation
LTI	L tone insertion
LTS	L tone spreading
PW	Phonological word
RD	Right dislocation
SG	Singular
TG	Tone group
TP	Tone phrase
UR	Underlying representation

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