

Positional Prominence vs. Word Accent: Is there a difference?

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“... not all feet are rhythmic in nature...” (Crowhurst & Teodocio Olivares 2014: 88)

1. Introduction

One of the major unresolved issues in the study of word-accentual systems is determining what exactly counts as accent. In languages such as English, where prominent syllables are uncontroversially identified by a combination of effects on both the suprasegmental features of pitch, duration and intensity as well as on segmental realizations, there is no hesitation in attributing these effects to stress and metrical structure. Controversy arises in languages where the effects are less pronounced, have little or no effect on segments, or mark phrasal domains rather than words. The purpose of this paper is to show that the positional prominence effects that are found in several African languages claimed not to have stress can be identified with a more general notion of “word accent”. In what follows I show that while stem-initial and word-penultimate prominence can be identified as word accent in the sense to be defined in §2, the foot structures involved in prosodic morphology should instead be identified as templates that may be quite independent and distinct from word accent. I begin in §2 with a brief introduction to the problems involved in identifying and characterizing word accent. I then present three African case studies of apparent metrical phenomena in *Ibibio* (§3), *Punu* (§4), and *Lulamogi* (§5), each followed by discussion of whether the phenomena in question should be identified with the more familiar effects of stress-accent. Some general conclusions are presented in §6.

2. The problem

Despite the extraordinary amount of research on the subject, a number of issues continue to plague the study of stress and accent. On the conceptual side there is the question of what counts as “stress” or “accent”. Definitions of stress such as the following (Hyman 2006: 231) are often too inclusive.

- (1) A language with stress-accent is one in which there is an indication of word-level metrical structure meeting the following two central criteria:
 - a. *obligatoriness*: every lexical word has AT LEAST one syllable marked for the highest degree of (OBLHEAD) metrical prominence (primary stress)
 - b. *culminativity*: every lexical word has AT MOST one syllable marked for the highest degree of (CULMHEAD) metrical prominence
- Therefore: Every lexical word must have ONE AND ONLY ONE (primary) stress

Explicit in both of these criteria is that the stress-bearing unit is the syllable.... (Hayes 1995: 49; Hyman 2009: 217). Thus, the culminative H(igh) tone on the penultimate vs. final mora of the Somali words *túug* ‘thief’ vs. *tuúg* ‘thieves’ cannot be identified with stress. However, several questions are left unresolved:

- (2) What counts as “metrical prominence”?
 - a. Which metrical constituents should be identified as “stress” (e.g. cases of where a reduplicant = a bisyllabic foot)?
 - b. Must metrical prominence be identifiable phonetically? phonologically? both?
- (3) What counts as “headness”?
 - a. Which privileged position(s) within the word should be identified as a metrical head?
 - b. What about the (universal) root > > affix headedness asymmetry?

Definitions of a broader concept of “word accent” are often vague or subjective, and hence even more inclusive. Thus compare the following definitions of “accent” and “pitch-accent”:

“We will use the term ‘accent’ for a lexical mark (predictable or unpredictable) of syllables that are somehow ‘special’ and ‘stress’ for a metrical structure and its associated phonetic cues.” (van der Hulst, Rice & Wetzels 2010: 252)

“For the purpose of this survey, we defined pitch-accent systems as systems in which one syllable is more prominent than the other syllables in the same word, a prominence that is achieved by means of pitch.” (van Zanten & Dol 2010: 120 — but cf. Turkish, where the primary cue of stress is F₀, raising the question of whether Turkish “stress” is really “pitch-accent” (Levi 2005) — vs.

“To avoid misunderstandings, then, when languages are characterized as having pitch-accent systems in the sections that follow, this means that their tone systems clearly have one or more of the processes described above: culminativity, obligatoriness, positional restrictions and/or tone-stress interactions.” (Downing 2010: 384)

cf. “[In Zulu] the contrast is between privative /H/ vs. Ø, hence pitch-accent.” (Clark 1988: 56)

While the above indicates conceptual issues yet to be resolved, there are corresponding methodological issues concerning the interpretation of the available database. Descriptions are often incomplete, thereby creating “the difficulty of inferring a pattern from limited data” (de Lacy 2014: 156). In some cases the descriptions are unreliable. There has been growing recent recognition of the methodological problems involved in the identification and interpretation of the facts on which stress- and accent analyses (and ultimately theories) have been based:

“A weakness of the various foot typologies... is that they have relied for evidence on non-native impressions of stress, often in underdocumented languages for which no corroborating reports may be available.” (Crowhurst & Teodocio Olivares 2014: 89)

“Yidiny has a central place in stress typologies • unique or almost unique • but the analytical facts are based on the impressionistic descriptions of a single fieldworker” (Bowerman et al 2014) (cf. Gussenhoven, this conference)

“Currently, there is no way to detect phonological inputs or outputs directly, and at least in some cases the procedures that are used have not been proven to be valid. It is to be expected, then, that if any description is presented as evidence for a Generative theory, it should be accompanied by an extensive justification for its use.” (de Lacy 2014: 186)

Perhaps Stresstyp (Goedemans & van der Hulst 2009) should give a score from 1 to 5, indicating the reliability of a stress or accent analysis, giving a point for such criteria as (i) two or more independent, converging studies; (ii) multiple arguments for the analysis; (iii) instrumental validation. Of course, English stress would get a top score by any measure. However, this would not settle the issue of whether certain metrical constituents should be identified as accentual domains. My strategy has been to avoid the practice of placing the label “accent” on things, focusing instead on the properties that define the typological differences between word-prosodic systems. In this context, this means mapping out the phonological skewings that we find at the (prosodic) word level: (i) cases where there are greater contrasts in one vs. another position; (ii) cases where there are different realizations of contrasts in one vs. another position.

In what follows I will treat the general question of word accent as in Hyman (2014a): Differential treatments of syllable positions in a word have to be scrutinized as accent, whether or not there is clear evidence of foot structure. This can involve either suprasegmentals (e.g. tone, vowel length) and/or segmental properties which may exhibit more contrasts, different realizations, or different faithfulness relations between input vs. output (a contrast may neutralize in one vs. another position). Two positions, stem-initial and word-penultimate, will be scrutinized in this study. These are of course widely recognized positions for the placement of stress cross-linguistically, as seen in the table in (4), based on my notes for Hyman (1977):

(4)

	<i>initial</i>	<i>peninitial</i>	<i>penultimate</i>	<i>final</i>	<i>totals</i>
<i>Stem</i>	15	0	1	4	20
<i>Word</i>	27	9	37	21	94
<i>Phrase</i>	5	0	2	2	9
<i>totals</i>	47	9	40	27	123

I will suggest that while stem-initial prominence can be identified as “accent” in the sense above, prosodic morphology is, by itself, not a good indicator. Three case studies will be presented in the following subsections: *Ibibio* (§3), *Punu* (§4), *Lulamogi* (§5).

3. *Ibibio*

The prosodic structure of *Ibibio*, a Cross-River language spoken in Nigeria, has been the subject of several recent studies (Urua 2000, Akinlabi & Urua 2002, Harris & Urua 2001, Harris 2004) to which we can add corresponding discussions of mutually intelligible *Efik* (Welmers 1966, 1973; Cook 1969 1985; Hyman 1990). The following summarizes the properties of the prosodic stem in *Ibibio*, where VV stands for a long vowel and CC for a geminate consonant:

- (5) a. prosodic stem structures: CV, CVC, CVVC, CVCV, CVVCV, CVCCV
 b. stem-initial consonants: b f m t d s n y ɲ k ŋ kp w

c. coda consonants:	p	m	t	n	y	k	ŋ
d. intervocalic VCV:	β	m	r	n		ɣ	ŋ
e. intervocalic VCCV:	pp	mm	tt	nn	yy	kk	ŋŋ

As seen, the prosodic stem can have one, two or three moras and, except for CV, will have two consonants, the second of which can be geminate when intervocalic. Two things are particularly striking about the distribution of consonants. First, there is a larger inventory of contrasting consonants in stem-initial position: /f/, /d/, /s/, /ɲ/, /kp/ and /w/ do not occur as second consonant within the prosodic stem. Second, the second consonant obstruent system contrasts only three consonants, realized as voiceless stops [p, t, k] as coda and [pp, tt, kk] when geminated, but as the weakened continuants [β, r, ɣ] intervocalically. (Urua 2001: 25 describes the weakened velar as uvular [ɤ].) Crucially, [β, r, ɣ] occur only stem-internally, as a stem-initial [b, t, k] occur even when preceded by a vowel prefix: *è-bé* ‘husband’, *é-tòp* ‘message’, *è-kà* ‘mother’ (Urua 2001: 24).

Evidence that metrical structure is involved in the above consonant distributions comes from the prosodic morphology. As the derivations in (6a-c) show, the negative suffix /-ke/ undergoes significant modifications when affixed to a CV, CVC or CVVC (Akinlabi & Urua (2002):

(6) a. CV	dí	→	dííyé	‘not come’	/díV-ké/
	dó	→	dóóyó	‘not be’	/dóV-ké/
b. CVC	dép	→	déppé	‘not buy’	/dép-ké/
	dát	→	dáttá	‘not take’	/dát-ké/
	kòk	→	kòkkó	‘not vomit’	/kòk-ké/
	dóm	→	dómmó	‘not bite’	/dóm-ké/
	bén	→	bénné	‘not carry [with hand]’	/bén-ké/
	kòŋ	→	kòŋŋó	‘not knock’	/kòŋ-ké/
	dáy	→	dáyyá	‘not lick’	/dáy-ké/
c. CVVC	déép	→	dééβé	‘not scratch’	/déép-ké/
	síít	→	sííré	‘not seal an opening’	/síít-ké/
	wúúík	→	wúúyó	‘not drive something in’	/wúúík-ké/
	wèèm	→	wèémé	‘not flow’	/wèèm-ké/
	ɲòòŋ	→	ɲòòŋó	‘not crawl’	/ɲòòŋ-ké/
	kóóŋ	→	kóóŋó	‘not hang on hook’	/kóóŋ-ké/
d. CVCV	tòβó	→	tòβóké	‘not make an order’	/tòpó-ké/
	sàŋá	→	sàŋáké	‘not walk’	/sàŋá-ké/
e. CVCCV	dáppá	→	dáppáké	‘not dream’	/dáppá-ké/
	sítté	→	síttéké	‘not remove stopper’	/sítté-ké/
f. CVVCV	wóŋŋó	→	wóŋŋóké	‘not turn’	/wóŋŋó-ké/
	dààrá	→	dààráké	‘not rinse’	/dààtá-ké/
	yóóŋó	→	yóóŋóké	‘not plaster [a wall]’	/yóóŋó-ké/
	tòòró	→	tòòróké	‘not praise’	/tòòtó-ké/

In (6a-c) the vowel the negative suffix /-ke/ assimilates to the root vowel in backness and roundness. In addition, in (6a) the CV root lengthens, and the /k/ of the negative suffix /-ke/ spirantizes to [ɣ]. In (6b) the /k/ drops out with compensatory lengthening (gemination) of the

preceding root-final consonant. (Efik differs here in allowing the Ck sequence.) In (6c) the /k/ drops out without effect, presumably because a CVVC.CV with an initial superheavy syllable is not allowed. Akinlabi & Urua propose that the negative forms in (6a-c) impose a heavy-light trochaic foot structure into which the negative suffix can be incorporated. In (6d-f), where the base form is already bisyllabic, /-ke/ cannot join and therefore is realized without change on the surface. Akinlabi and Urua are very clear that there is otherwise no stress in Ibibio:

“One important fact is that Ibibio does not have stress prominence, so evidence for the prosodic foot can only be sought from other parts of the phonology and morphology.” (p.133)

The heavy-light trochee seen in (6) is however not a requirement across the board. Urua (2001:157) makes clear that there are several different foot structures. Thus, the passive/reflexive assigns a CVCV structure (cf. Urua 1999:253, Akinlabi & Urua 2002:139), while the frequentative often assigns CVVC (Urua 1999:247)

(7)	<i>root</i>		<i>passive/reflexive</i>
	díp	‘hide’	díβé ‘hide oneself’
	yàt	‘wear (on head)’	yàrá ‘wear on one’s head’
	màn	‘give birth’	màná ‘be born’
	kók	‘stack	kók ‘be stacked’
	kók	‘hang’	kók ‘be hung, hang on oneself’

(8)	<i>root</i>		<i>frequentative</i>
	wèt	‘write’	wèt
	ɲám	‘sell’	ɲám
	wòt	‘kill’	wòt

These different shapes, CVVCV, CVCV, CVVC, are all recognizable as alternative foot structures. As such they are reminiscent of the “binyanim” of Arabic (McCarthy 1981), more than stress feet. The one thing that does suggest “accent” is that the first syllable always has more contrasts in its onset and vowel positions than the second syllable. As I put it in Hyman (1990):

“[in] several languages of the Nigeria-Cameroon area... there is a single domain which I have referred to variously as the stem or the foot which determines the distribution and realization of consonants, vowels and tones. Particularly interesting is the special treatment given to exactly one syllable per such domain.” (p.XX)

As such, one could identify the initial foot syllable as accented, even though its CV, CVV or CVVC shape varies.

When we look out a bit beyond into Northwest Bantu, we see a continuation of the same idea, but with the possibility of longer domains. In Koyo [Bantu; Congo] the prosodic stem contains from one to four CV syllables, the fourth limited to the durative verb suffix *-gV*. As seen in (9), there are fewer consonant contrasts as one progresses from first to fourth syllable:

- (9)
- | | | | | |
|------------------|------------|------------|---------------|--------|
| C ₁ : | p b w m mb | t l s n nd | ts dz y ɲ ndz | k h ŋg |
| C ₂ : | b m mb | r l s n nd | y ɲ ndz | g |
| C ₃ : | m | r l s n | | g |
| C ₄ : | | | | g |

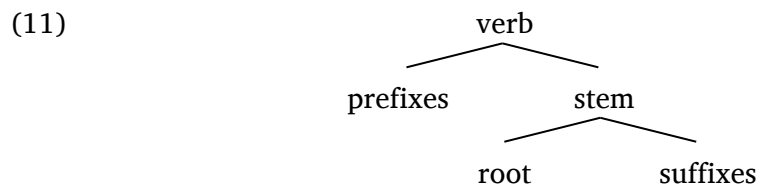
The consonants /p/, /w/, /ts/, /dz/, /h/ and /ŋg/ are in fact limited to stem-initial position, while /mb/, /nd/, /y/, / / and /ndz/ are limited to the first two syllables. In addition, /t/ and /k/ are realized [t] and [k] as C₁, but as [r] and [g] in later positions in the prosodic stem:

- (10)
- | | | | | |
|----|------------|---|----------|-------------|
| a. | /i-tɔtɔ/ | → | i-tɔrɔ | ‘banana’ |
| b. | /o-kokó/ | → | o-kogó | ‘sugarcane’ |
| c. | /o-tokiti/ | → | o-togiri | ‘sweat’ |

As seen in the above examples, this is not intervocalic lenition, or at least if it is, it must take place at the stem level, since vowel prefixes do not affect stem-initial consonants. There are even longer such prosodic stems, e.g. a four syllable maximum in Yaka, where the bracketed internal syllables of CV[CV]CV and CV[CVCV]CV domains function as an internal “prosodic trough” (Hyman 2008).

4. Punu

In this and the next section I will present two other Bantu languages which also do not have “stress”, but in which stem-initial and word-penultimate positions are prominent. In Bantu, verbs have the following (common) left-branching word structure:



In Punu [Bantu; Gabon], the underlying vowel contrasts establish that the stem-initial CV(:)C root is a position of prominence (Kwenzi Mikala 1980, Fontaney 1980). First, the five vowels /i, ε, u, ɔ, a/ contrast only in CVC roots. In the following examples, *u-* is the infinitive prefix, while *-a* is the default final vowel on verbs:

- (12)
- | | | | |
|---------|---------------|---------|---------------------|
| u-bíl-a | ‘to call’ | u-búl-a | ‘to hit, break’ |
| u-bél-a | ‘to be wrong’ | u-bŏl-a | ‘to rot, be rotten’ |

u-bál-a ‘to shine’

In other positions, only the three vowels /i, u, a/ contrast:

- (13) a. prefixes: mu-Bé:fu ‘raphia palm’, pl. mi-βé:γu dí-bi ‘bad thing or action’, pl. má-bi
 b. suffixes: (both productive and frozen—see (16) below)
 c. monosyllabic stems: ú-βi ‘to be cooked’, ú-βu ‘to cease’, ú-ba ‘to be’ (historically *Ci-a, *Cu-a, *Ca-a)

Second, vowel length contrasts only on the stem initial CVC root (with very few exceptions) (Kwenzi Mikala 1980:8):

- (14) /i/ - /i:/ : u-sǐng-a ‘to rub’ u-sǐ:ng-a ‘to accept’
 /ɛ/ - /ɛ:/ : u-wél-a ‘to be ready’ u-wé:l-a ‘to marry’
 /u/ - /u:/ : u-bǔng-a ‘to waste’ u-bǔ:ng-a ‘to move’
 /ɔ/ - /ɔ:/ : mutú mósi ‘another man’ mutú mô:si ‘one man’
 /a/ - /a:/ : di-bǎla ‘tree (sp.)’ dibǎ:la ‘male’

In addition to the above underlying constraints, phonological rules affecting post-root vowels suggest that these latter are in positions of non-prominence. First, short /a/ is realized [ə] in post-root position (but [a] in prefixes and roots):

- (15) a. /ma-bâg-a/ → [ma-bâγə] ‘knives’
 b. /u-bók-asán-a/ → [u-bók-əsən-ə] ‘to kill each other’

Kwenzi Mikala does, however, add:

“Toutefois, on rencontre [a] en finale lorsqu’une phrase est inachevée ou interrompue. Ce phénomène est toujours marqué par une intonation suspensive.” (Kwenzi Mikala, p.10)

It is likely that such cases of final [a] undergo pre-boundary lengthening and are exempt from reduction for this reason.

In addition, post-root /a/ and /i/ are subject to anticipatory front- and round harmony before final /-i/ and /-u/:

- (16) a. -bǐng-as-an-a → -bǐng-əsən-ə ‘roll (sth.)’ (general, “default” final /-a/)
 -bund-ig-il-a → -bund-iγil-ə ‘slander’
 b. -bǐng-as-an-i → -bǐng-isin-i ‘roll (sth.)’ (present, subjunctive /-i/)
 -bund-ig-il-i → -bund-iγil-i ‘slander’
 c. -bǐng-as-an-u → -bǐng-usun-u ‘be rolled’ (passive /-u/)
 -bund-ig-il-u → -bund-uγul-u ‘be slandered’

As seen, the root vowel is neither affected, nor does it trigger harmony on pre- or post-root vowels. Thus, /-bund-ig-il-a/ does not trigger progressive rounding harmony in (16a), nor does the root /-bǐng-/ undergo rounding harmony in /-bǐng-as-an-u/ in (16c). It is therefore clear that the stem-initial syllable is singled out for prominence as it is in Ibibio and Koyo.

This is, however, not all: the penult is also important. With few exceptions, HL, SL and LH tonal contours are restricted to the root syllable only when occurring in penultimate position, (H = high tone, L = low, S = superhigh):¹

- (17) a. /u-gab-á/ → u-ɣǎb-ə ‘to divide, share in several pieces, distribute’
 b. /u-gab-an-á/ → u-ɣab-ən-ə ‘to share sth. between several people’
 c. /u-gab-as-an-á/ → u-ɣab-əs-ən-ə ‘to share things habitually with each other’

Again, prefixes are different from suffixes, supporting a LH rising tone when a noun stem is monosyllabic:

- (18) a. ǐ-du ‘mortar’
 b. ǐ-tu ‘confidence’
 c. dǐ-tu ‘leech’

To account for these facts I propose an initial accent at the stem level and a penultimate accent at the word-level. In (18), the stem accent is retracted onto a prefix when the stem is monosyllabic. This I assume is due to avoidance of final accent, a common property of stress systems. As a result, the two accents will coincide only when the stem is monosyllabic or bisyllabic. This accounts both for the prefixal rising tone in (18), as well as the fact that /Ca/ stems are realized [Cə]:

- (19) a. /ú-ba/ → ú-bə ‘to be’
 b. /bú-ta/ → bú-tə ‘gun’

A final effect of the word-penultimate accent is long vowels are shortened in pre-penultimate position (with very few exceptions):

- (20) a. u-wé:l-a ‘to marry’ vs. u-wél-^lán-a ‘to marry each other’
 b. mi:la ‘rivers’ vs. milá mya:mi ‘my rivers’
 c. á-tsí-we:la nkwé:la běji ‘he got married twice’

(20a) shows pre-penultimate shortening of the root vowel of -wé:l- ‘marry’ when a derivational suffix, here reciprocal -an-, is added. (20b) shows that the same pre-penultimate shortening takes place in a noun + possessive pronoun sequence, which constitutes a tight bond, as in many other Bantu languages. Finally, (20c) shows that there is no shortening between major constituents.

To summarize, stem-initial and word-penultimate positions are prosodically privileged—accented—in Punu.

4. Lulamogi

¹ While Fontaney 1980:84 and Blanchon 1997:136 consider such forms to be all /L/ with underlying H or LH prefixal tones, I have shown the underlying H being assigned to the final vowel /-á/.

A rather interesting, but slightly different parallel to Punu is found in Lulamogi, a small understudied Bantu language closely related to Luganda, often grouped with Lusoga, but dialectal with Lugwere (Nabirye 2013, Hyman & Merrill 2014). Although not quite as dramatic as in Punu, stem-initial and penultimate syllables are positions of prominence: (i) all five vowels /i, e, u, o, a/ contrast in CV stem-initial syllables; prefixes contrast the three vowels /i, u, a/; (ii) a HL falling tone can only occur on penultimate (and, marginally, final) bimoraic syllables: *á-ká-sáàle* ‘arrow’, *ii-nâ* /i-náa/ ‘four’. The interesting difference between Punu and Lulamogi concerns vowel length.

First, Lulamogi has an underlying vowel length contrast. In the following examples, *ó-ku-* marks the infinitive consisting of the ‘augment’ morpheme /*ó-*/ and the noun class 15 prefix /*-ku-*/:

(21)	/i/ - /i:/	:	<i>ó-ku-siβ-á</i>	‘to tie’	<i>ó-ku-siiβ-á</i>	‘to fast’
	/e/ - /e:/	:	<i>ó-ku-sen-á</i>	‘to draw (water)’	<i>ó-ku-seen-á</i>	‘to become thin’
	/u/ - /u:/	:	<i>ó-ku-tum-á</i>	‘to send’	<i>ó-ku-tuum-á</i>	‘to jump’
	/o/ - /o:/	:	<i>ó-ku-hol-á</i>	‘to lend (money)’	<i>ó-ku-hool-á</i>	‘to show favoritism’
	/a/ - /a:/	:	<i>ó-ku-many-á</i>	‘to know’	<i>ó-ku-many-á</i>	‘to pluck’

Differing from Punu, underlying length occurs most often on the penult in underlying representations, but is not restricted to the initial stem syllable: *ó-ku-tegéér-á* ‘to know’, *ó-ku-holóót-á* ‘to snore’. In addition, length on stem vowels does not shorten pre-penultimately: *ó-ku-hool-ágán-á* ‘to favor each other’, *ó-ku-tegéér-ágán-á* ‘to know/agree with each other’, *ó-ku-siiβ-íl-ágán-a* ‘to fast for each other’.

In addition, derived vowel length may arise from heteromorphemic V + V sequences, but with complications. Except for a later process of final vowel shortening (FVS), whenever V + V coalescence involves two stem vowels (stem = root + suffixes), a long vowel results:

(22) a.	/ó-ku-ti-a/	→	<i>ó-ku-ty-á</i>	‘to fear’
	/ó-ku-ti-a = kú/	→	<i>ó-ku-ty-áá = ku</i>	‘to fear a little’
b.	/ó-ku-ti-is-i-a/	→	<i>ó-ku-ti-is-y-á</i>	‘to frighten’
	/ó-ku-ti-is-i-a = kú/	→	<i>ó-ku-ti-is-y-áá = ku</i>	‘to frighten a little’

In (22a) the intermediate form is *ó-ku-ty-áá*, whose length undergoes FVS but is preserved when an enclitic follows such as =*ku* ‘a little’. The same FVS process is observed in the first example of (22b), where /*-is-i-*/ consists of two causative suffixes. The examples in (23) now show that coalescence of a sequence of prefixal vowel + stem-initial vowel also results in a long vowel:

(23)	subject prefix / <i>tu-</i> /	/ <i>tu + et-a/</i>	→	<i>tw-eet-â</i>	‘we call’
		/ <i>tu + agal-a/</i>	→	<i>tw-aagál-a</i>	‘we search’
	object prefix / <i>-mu-</i> /	/ <i>tu + mu + et-a/</i>	→	<i>tú-mw-eet-â</i>	‘we call him’
		/ <i>tu + mu + agal-a/</i>	→	<i>tú-mw-aagál-à</i>	‘we search for him’
	infinitive prefix / <i>ku-</i> /	/ <i>ó-ku + et-a /</i>	→	<i>ó-kw-eet-á</i>	‘to call’
		/ <i>ó-ku + agal-a/</i>	→	<i>ó-kw-aagál-á</i>	‘to search’

Taken together, the generalization is that V + V coalescence will result in a long vowel if either or both of the vowels belong to the stem.

In contrast, a sequence of two prefixal vowels results in a short vowel, UNLESS the stem is monosyllabic:

(24) a.	/tu + a + βal-a/	→	tw-á-βal-á	‘we will count’	(future -a-)
	/tu + a + gu-a/	→	tw-áá-gw-a	‘we will fall’	
b.	/tu + e + βal-a/	→	tw-e-βál-a	‘we count ourselves’	(reflexive -e-)
	/tu + e + ti-a/	→	tw-ee-ty-â	‘we fear ourselves’	
c.	/tu + a + e + βal-a/	→	tw-é-βal-á	‘we will count ourselves’	
	/tu + a + e + ti-a/	→	tw-éé-ty-a	‘we will fear ourselves’	(future + reflexive -a-e-)

In order to account for the length variation in (24), the analysis has to refer to both stem vs. prefix AND penultimate position: A prefixal V + stem always results in a long vowel (VV), but a prefixal V + another prefixal V results in a short vowel (V) unless in penultimate position, i.e. before [σ]_{stem}. As in Punu, the Lulamogi facts suggest the construction of both a stem-initial and word-penultimate trochee. Interestingly, the two can never coincide, since (unlike other Bantu languages), the verb stem is never initial in Lulamogi—the imperative requires a second person prefix:

(25)	<i>2sg. subject</i>	<i>2pl. subject</i>		<i>2sg. reflexive</i>	<i>2pl. reflexive</i>	
	óó-ty-e	mú-ty-e	‘fear!’	w-éé-ty-é	mw-éé-ty-é	‘fear yourself/ves’
	ó-βal-é	mú-βal-é	‘count!’	w-é-βál-é	mw-é-βál-é	‘count yourself/ves’
				/o-e-/	/mu-e-/	

There are two problems with the accent analysis. The first is that all stem vowels act the same with respect to vowel length, not just the first stem syllable. This would then seem to be a case of where preserving stem moras is “ranked higher” than preserving prefix moras. If we assume that the shortening rule targets the second of the two Vs in sequence, there will be no loss of mora if the second V is a stem mora, i.e. independent of whether the first V is prefixal or belongs to the stem.²

While the stem-initial and penultimate positions may be identified with trochaic “accent”, we still need to be careful not to automatically interpret foot structure evidence from prosodic morphology as accent. Like Luganda, Lulamogi seems to like its reduplicant to consist of a single iamb if it can be, a foot that is not accentual. In the following examples, the reduplicated form has the meaning ‘to do something a little here and there, typically badly’:

(26) a.	CV-V stem:	ó-ku-li-á	‘to eat’	→	ó-ku- [ly-aa] -ly-á
b.	CVC-V stem:	ó-ku-sek-á	‘to laugh’	→	ó-ku- [sek-áá] -sék-á
c.	CVVC-V stem:	ó-ku-leet-á	‘to bring’	→	ó-ku-leet-á-léét-á

² This generalization pertains only to word-level V + V coalescence: When two vowels come together across a word boundary, a short vowel will result unless the second word begins with a long vowel: *ó-mú-lími* + *ó-mú-sa* → *ó-mú-límy’ ó-mú-sa* ‘a good farmer’, *ó-mú-lími* + *oonó* → *ó-mú-límy’ oonó* ‘this farmer’. Lulamogi vowel length is treated in fuller detail in Hyman 2014b, where I discuss the fact that V- prefixes are long before a monosyllabic stem; for similar issues elsewhere in Bantu, see Botne 1998, Kutsch Lojenga 2007 and Odden 2006.)

CVCVC-V stem: ó-ku-tolók-á ‘to escape’ → ó-ku-tolók-á-tólók-á

In this particular corner of the morphology, Lulamogi appears to favor an iamb, much as Ibibio favors “feet” of different shapes in negative, passive/reflexive and frequentative forms of the verb.

5. Conclusion

To summarize, Ibibio and Koyo show clear privileging of stem-initial position, while Punu and Lulamogi exploit two different positions: stem-initial and penultimate. In Lulamogi the five vowels /i, e, u, o, a/ contrast in stem-initial position only, while a HL falling tone is not permitted in prepenultimate position. The Punu examples show that there can be different prominences (accents) at different levels, stem vs. word. Lulamogi also crucially refers to the Finally, both Ibibio and (marginally) Lulamogi show that different constructions may impose different prosodic shapes on feet. Overall, the cited examples suggest that positional prominence effects provide evidence for foot structure and a more generalized notion of “accent” (cf. Hulst et al quote above). If “word accent” refers to the phonological marking of one most prominent position in a word, the remaining question is whether all languages do at least this.

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