

**Does Gokana REALLY Have Syllables? A Postscript to Hyman (2011)**

Larry M. Hyman

*University of California, Berkeley*

[submitted to *Phonology*]

In a recent article in *Phonology* (Hyman 2011), I provided evidence that Gokana, a Cross-River language of Nigeria, cares very little, if at all, about organizing its consonants and vowels into syllables. The only potential argument in favor of the syllable that was presented concerned the structure of the the prosodic stem, which consists of a root and at most one derivational and one inflectional suffix. While the prosodic stem can have up to four moras and any of the shapes in (1), the shapes in (2) are unattested:

(1) CV, CVC, CVV, CVCV, CVVCV, CVVCVV, CVVVV

(2) \*CVVVCV, \*CVCVVV

The possible syllable-based explanation that was offered was that the prosodic stem consists of a single trochee with up to two bimoraic syllables, as in (3).

(3)  $\begin{array}{cccccccccccc} \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma & \sigma \\ \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge & \wedge \\ CV & CVV & CVC & CV.CV & CVV.CV & CV.CVV & CVV.V & CVV.CVV & CVV.VV \end{array}$

By this account the shapes in (2) are ruled out by the common constraint that a syllable can be restricted to at most two moras. If the syllabic structures in (3) were not recognized, one would have to stipulate that quadrimoraic \*CVVVCV and \*CVCVVV are disallowed, while CVVCVV and CVVVV are well-formed. This was (and remains) the only evidence that Gokana phonology unambiguously refers to the syllable. Or does it?<sup>1</sup>

The question is how else one might “explain” why \*CVVVCV and \*CVCVVV are unattested as possible prosodic stem shapes.<sup>2</sup> Since Hyman (2011) has appeared, I have realized that there is another possible account for the absence of these forms. Recall

<sup>1</sup> The argument apparently convinced Kiparsky (2013), who writes, “Words and stems are always syllabified... even in Gokana and Japanese (Hyman 2010 [2011])” (slide 37). Note that although some scholars hypothesize the (CV) syllable as part of universal grammar with implications for language acquisition, my goal here was to seek unambiguous evidence that Gokana refers to syllables, not “just” moras.

<sup>2</sup> One reviewer suggests that the absence of a third C might constitute another argument, since CVCVCV would require three syllables. However, this would not explain why CVCVC is also unattested. See Hyman (2011: 73) for further discussion.

that the prosodic stem consists of an obligatory root and at most one derivational and one inflectional suffix. The class of such suffixes is however quite limited in the language. In (4) I repeat the structure of the prosodic stem from Hyman (2011: 70):<sup>3</sup>

(4)	<i>ROOT</i>	+	<i>(derivational suffix)</i>	+	<i>(inflectional suffix)</i>
			-È, -DE ‘causative’		-ii ‘2pl. subject’
			-a ‘anti-causative’		-ÈÈ ‘logophoric’
			-mà ‘instrumental’		
			-Da, -i (frozen, lexical)		

As seen, derivational suffixes can have the shape –V or –CV, while inflectional suffixes have the shape –VV. Since simple roots have the shapes CV, CVV or CVC, there are six possible input shapes of root + derivational suffix + inflectional suffix.<sup>4</sup> However, as seen in (5), none of these six combinations can produce \*CVVVCV or \*CVCVVV:

(5) a.	CV	+	V	+	VV	→	CV-V-V	:	tá-è-è	‘finish tr. (log.)’
	CV	+	CV	+	VV	→	CV-CV-V	:	bɛ-rè-è	‘lean tr. (log.)’
b.	CVV	+	V	+	VV	→	CVV-V-V	:	kěè-è-è	‘wake tr. (log.)’
	CVV	+	CV	+	VV	→	CVV-CV-V	:	pî-nè-è	‘make silent (log.)’
c.	CVC	+	V	+	VV	→	CVC-V-V	:	bɔr-è-è	‘soften’ (log.)
	CVC	+	CV	+	VV	→	CV-CV-V	:	di-mà-è	‘hit with (log.)’ < /dib/

In the above examples the logophoric suffix /-ÈÈ/ undergoes a rule that shortens a long vowel which occurs after another vowel, i.e. VV → V / V \_\_ (Hyman 2011: 65).<sup>5</sup> The last example also shows consonant cluster simplification before the instrumental suffix –*ma*. In addition to simplex roots, there are complex roots of the shape CVCV or CVVCV, whose final V or CV is often identifiable as a frozen derivational suffix. When one of the derivational suffixes in (4) is added, it replaces the final V and sometimes the second root consonant (since a prosodic stem cannot have a third C). As a result,

<sup>3</sup> /D/ stands for an alveolar consonant which is realized [r] or [n], depending on whether it occurs after a [+nasal] root. /E/ stands for a front non-high vowel which is realized [e] or [ɛ], depending on vowel harmony, and [ɛ̃] after a [+nasal] root.

<sup>4</sup> One reviewer suggests that these root shapes provide more evidence for the syllable, since we can now say that a root = a single syllable with an obligatory onset and one or two moras. Note that the final C of CVC may be followed by a V, hence presumably syllabified as CV.CV. An alternative is that the root consists of a branching mora and a possible second non-branching mora.

<sup>5</sup> The length of the 2pl. subject and logophoric suffixes is seen in two environments: (i) when immediately following a CVC root, e.g. *dib-èè* ‘hit (log.)’; (ii) when immediately following a CVV root, in which case a –DVV allomorph is observed, e.g. *dáà-rèè* ‘sleep (log.)’. However, the vowel shortening rule instead applies when the root is CV: *tú-è* ‘take (log.)’.

these also cannot produce \*CVCVVV. The following examples are repeated from Hyman (2011: 70):

(6) lexical -Da:	bērà	‘lean on sth.’	kērà	‘hang on neck’
causative -DE:	bere	‘lean (tr.)’	kere	‘hang (tr.)’
anti-causative -a:	bèèà	‘lean (intr.)’	kèèà	‘hang (intr.), droop’
instrumental -ma:	bèèmà	‘lean with’	kèèmà	‘hang with’

The significance of the above is that we now have two different potential explanations for why Gokana prosodic stems cannot have the shapes \*CVCVVV or \*CVVVCV: (i) the syllabic trochee account of Hyman (2011), which allows CVV.CVV and CVV.VV, but not the trimoraic syllables of \*CVVV.CV and \*CV.CVVV; (ii) the absence of a morphological input that could produce \*CVVVCV or \*CVCVVV. In (7) I provide inputs that could in principle have given rise to these sequences, but don’t (for the indicated reasons):<sup>6</sup>

(7) a.	CVVV	+	CV	+	∅	→	*CVVVCV	:	no roots of the shape CVVV
	CVV	+	V	+	CV	→	*CVVVCV	:	no inflectional suffixes of shape CV
b.	CVC	+	VV	+	V	→	*CVCVVV	:	no derivational suffixes of shape VV
	CVCV	+	V	+	V	→	*CVCVVV	:	derivational –V replaces root-final V
	CVCV	+	∅	+	V	→	*CVCVVV	:	no roots of the shape CVCVV

While the first explanation proposes a principled reason for the lack of these sequences, the second views their absence as an historical accident. Of course, since the morphology has been reduced from the original pre-Gokana situation, which undoubtedly was much richer, one could always argue that the diachronic morphological reduction was (partly) driven by the end goal of placing a maximal bisyllabic CVV.(C)VV condition on the prosodic stem. But to make this argument non-circular, we would have to say that Gokana introduced the V shortening rule to make sure that an input such as CVC + V + VV did not come out as \*CVCVVV.<sup>7</sup> However, this cannot be the reason why there is a vowel shortening rule, since the rule applies even when not needed, e.g. after CV roots: *tú-è* ‘take (log.)’. The first analysis would be much more convincing if vowel shortening took place only when it was needed to fit

<sup>6</sup> Recall that CVC + V + VV also cannot produce \*CVCVVV, since the inflectional suffixes undergo vowel shortening after another vowel.

<sup>7</sup> One reviewer writes “VV is shortened after V. Analysis: shortening is driven by the constraint that syllables are maximally bimoraic.” However, this does not explain the fact that =VV pronominal enclitics shorten even where they could have been syllabified as VV syllables: CV=VV, CVV=VV, and CVVV=VV become CV=V, CVV=V, and CVVV=V, respectively.

the string into the maximal CVV.(C)VV trochaic foot.<sup>8</sup> Given this, it seems that the second hypothesis has to be taken seriously: There is no CVVVCV or CVCVVV because no input can produce such an output. If correct, the syllabic trochee analysis may still be descriptively compatible with the data, but not necessarily explanatory of why the facts are the way they are. Gokana can thus still be considered a language which may not refer to the syllable at all.

## References

- Akinlabi, Akinbiyi & Eno E. Urua. 2003. Foot structure in the Ibibio verb. *Journal of African Languages and Linguistics* 24.119-160.
- Hyman, Larry M. 2011. Does Gokana really have no syllables? Or: What's so great about being universal?" *Phonology* 28.55-85.
- Kiparsky, Paul. 2013. On the empirical bases of phonological typology. Paper presented at the Workshop on Phonological Typology, Somerville College, Oxford University, August 11-13, 2013.

---

<sup>8</sup> Compare the Ibibio analysis of Akinlabi & Urua (2003), cited in Hyman (2011: 69-70), whereby the negative suffix /-ke/ undergoes major phonological changes only when it can be fitted into the required heavy-light trochee of the negative construction.