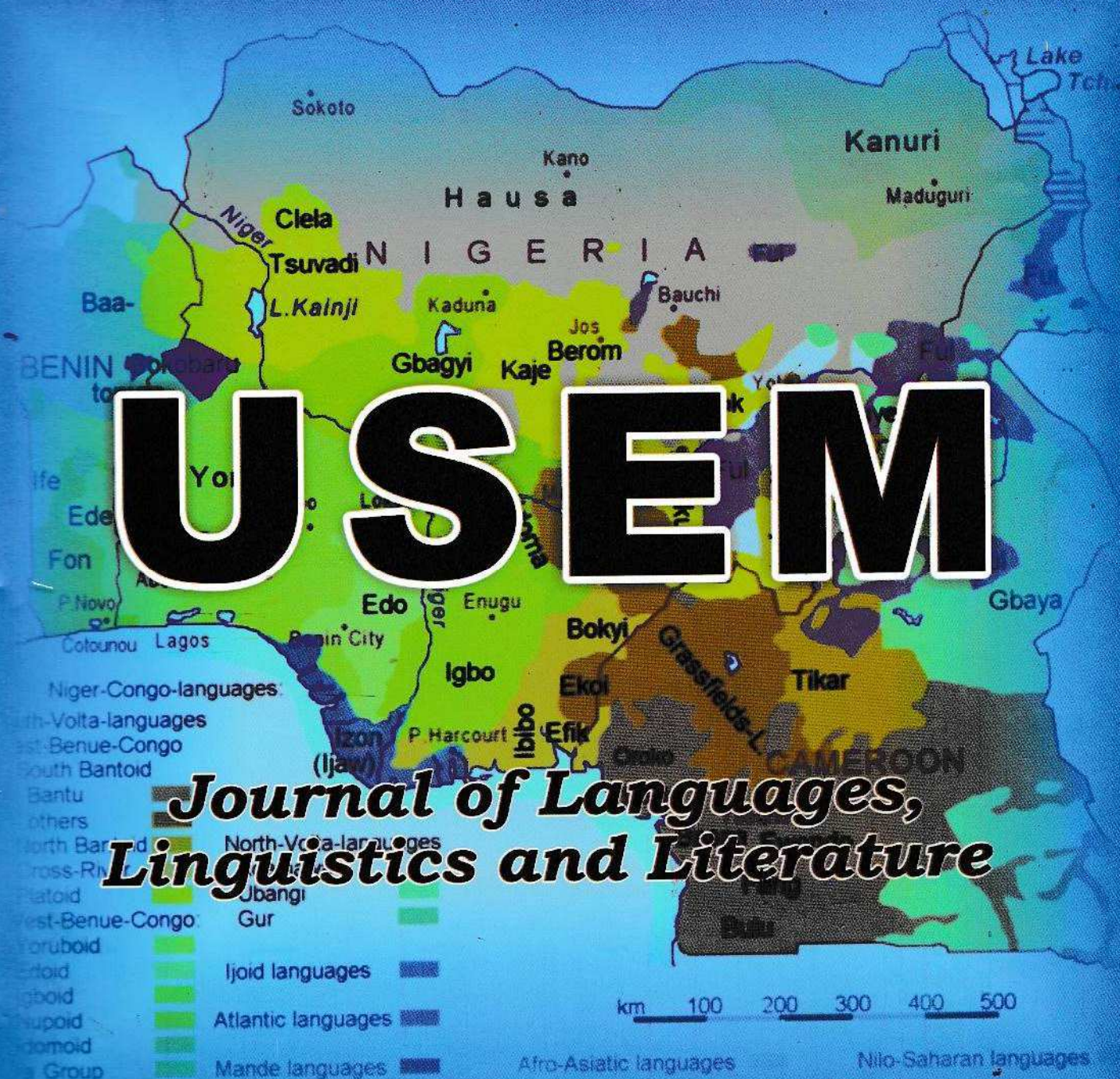


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Weak Contexts and Place Holders in Leggbo¹

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Abstract

This paper argues that the Leggbo Stop consonants /b d k ŋ m n/ are the underlying phonemes in weak contexts. The consonants [ɣ l w j] are 'place holders' which synchronically provide a trace for the ghost and lost consonants that once occurred in what have become weak contexts in the language. The [ɣ], a very unstable sound is used to illustrate this, and provides evidence that there are consonants in the 'ghost' context (V.V). That the consonants found in (V.V) surface as (VCCV) in progressive formation in the same way as other consonants in (C(C)VC) verbs, is evidence that there is a connection between the lost consonants, the 'place holders' and other consonants in the system synchronically.

1. Background on the Aggbo people and the Leggbo² language

The Leggbo language is a member of the *Upper Cross* sub-group,³ spoken in two Local Areas of Cross River State of Nigeria: Abi and Yakurr. The speakers, about 60,000 in population, are called 'Aggbo', and they live in about six towns, each of which has a variety of its own. The six varieties are Letatama (spoken in Adadama), Lebamma (spoken in Itigidi), Lekuleku (spoken in Ekureku), Lemmabana (spoken in Immabana),

¹ This paper benefitted from very useful comments from Eno-Abasi Urua, Francis Oyebade, Taiwo Agoyi, Sophie Salfner, Shanti Ulfsbjorninn and Ahmadu Kawu.

² 'Aggbo' and 'Leggbo' were written as 'Agbo' and 'Legbo' in *Ethnologue* and in works done in the sixties. But following recent work on the fortition and lenition processes which contrast, with a high lexical and grammatical functional load, it has become necessary to recognize this distinction in the name.

³ Faraclas 1989, Grimes 2000.

Leyigha (spoken in Assigha) and Lenyima (spoken in Inyima). The variety described in this paper is the Letatama variety.

Until 2002, very little work was done on the language. There were classifications such as Faraclas (1989), Crozier/Blench (1992) and Grimes (2000). Other earlier works on the language include: Sprea/Sprea 1966, a phonological description of the language; Bendor-Samuel/Sprea (1969), which is the first treatment of the fortis and lenis prosody of the present continuous verb in the language; Dimmendaal (1978), a reconstruction of Leggbo consonants as a part of the classification of the Upper Cross languages.

More works have been done recently, like: Hyman et al 2002, Udoh 2004, Udoh 2004a, Udoh 2007, Hyman & Udoh 2003, Narrog & Udoh 2005, Udoh & Larson 2005, Hyman & Udoh 2006, Hyman & Udoh 2007, etc.

The rest of the paper is discussed in roughly eight sections. We present an overview of Leggbo phonology and the verb in sections 2 and 3. The two prosodic processes, lenition and fortition which create the conditions for weak and strong contexts are presented in sections 4 and 5. The progressive aspect, which we use as a diagnostic to track the ghost and lost consonants, is presented in section 6. And then the ghost and lost consonants, as well as the place holders are presented in sections 7-9.

2. Overview of Leggbo Phonology

Leggbo has the twenty six consonant phonemes given in (1).

(1) Consonant phonemes

Stops	-	p	b	t	d	k	g	kp	gb	kw	bj
Nasals	-	m	n	ɲ	ŋ	ɲw	mj				
Fricatives	-	v	s	z	vj						
Affricates	-	dz	tʃ	dʒ							
Approximants	-	w	j								
Laterals	-	l									

All consonants have a fortis form, except /vj/. All consonants can occur in onset positions, but only laterals and nasals can occur in coda positions.

There are seven vowels in the language, with a distinctive length feature.

(2) Vowel phonemes

i e ɛ a ɔ o u

Three level tones occur – (H)igh, (M)id and (L)ow tones, and all tones combine to form contours. We have marked only the H and L tones.

3. Overview of Leggbo Verb

Leggbo verbs are basically either monosyllabic as in (3a-f) or bi-syllabic as in (3g-i). Structurally they are made up of many syllabic constituents. The basic verb pattern is an obligatory stem which in turn has an obligatory root. A third verb shape involves either reduplication of part of the stem or the addition of the suffix –azi, (which is a pluractional suffix) leading to thri-syllabic shapes as seen in (3j,k).

(3)	a	CV	e.g.	tu	‘dance, weed’
	b	CVV	e.g.	báá	‘marry’
	c	CCV	e.g.	ttu	‘cause a stampede’
	d	CVC	e.g.	num	‘take’
	e	CVVC	e.g.	kwòol	‘groan’
	f	CCVC	e.g.	mmèn	‘swallow’
	g	CV.V	e.g.	bá.á	‘ask’
				dò.ò	‘sleep’
	h	CVVCV	e.g.	vííyá	‘wedge’
	i	CVCV	e.g.	bila	‘climb’
	j	CVCCV	e.g.	bòŋŋò	‘prepare’
	k	CVCVCV	e.g.	kakaŋa	‘be hard’

An important point to note here is that the CVV verb has a single long vowel (3b), while the CV.V can be analysed as a sequence of vowels (3g). Sometimes there is a consonant between the vowels (as in (3h) above), even though the articulation of the consonant is rather soft. In (3g), there is no consonant between the vowels, and we use a /./ to separate the two syllables. We assume here that there was a consonant in that position historically and there is still a slight trace or glimmer of it in that position now. We return to this later.

These verbs may take on the pluractional suffix –azi, sometimes with potential assimilation to the vowels. In the data in (4c,d); the first vowel of the suffix assimilates with the last vowel of the root. All verbs that have plural subject or object take this suffix. Verbs that require multiple acts also take this suffix.

- (4)
- | | | |
|----|-------|--------------------------|
| a. | si | 'do' |
| | siazi | 'do many things/times' |
| b. | du | 'beat' |
| | duazi | 'beat many things/times' |
| c. | bo | 'be enough' |
| | boozí | 'be enough many times' |
| d. | ba | 'ask' |
| | baazi | 'ask many times/people' |

Some verbs are intrinsically pluractional, such that the –azi suffix forms part of their root. Such verbs refer to actions that require either one continuous act or a series of acts.

- (5)
- | | |
|---------|--------------------------------------|
| yòghozi | 'bluff' |
| mjèlezí | 'be slippery' |
| junazi | 'scare, frighten a child as in play' |
| gwàyazi | 'walk fast' |

4. Lenition and Weak Contexts in Leggbo

Lenition, the phonological process related to consonantal strength, manifests as an opening of consonantal stricture. The strongest consonants are considered to be those at the extreme end of the stricture, while the weakest have the widest opening and may be the last stage before deletion (Harris 1994:120). Using *Sonority* as a parameter, voiceless sounds are stronger than voiced sounds and the least sonorous of sounds (Hogg & McCully 1987:33). We use as a guide a combination of these parameters following the Phonological Strength Hierarchy as projected in Katamba (1989:107).

- (6) stop > affricate > continuant > nasal > approximant

Although weakening does not always lead to deletion, the ultimate form of weakening is the absence of any obstruction at all, a situation which leads to a deletion of the sound. This scenario has been played out in Leggbo very beautifully.

We use the terms *lenition* and *fortition* very loosely here to cover the processes associated with consonantal weakness versus strength along the lines of Harris (1994).

Lenition in Leggbo affects all consonants, and it operates within the syllable. Articulatorily, it involves an opening in the stricture of the consonantal articulation which

leads to a reduction of the consonantal length and some compensatory lengthening of the following vowel which also has a kind of breathy quality. The lenition prosody in Leggbo operates within the domain of the syllable.

The lenition prosody defines the 'ghost context' as a weak one in Leggbo, and it manifests as V.V, where there is only the trace of a consonant, represented as a syllabic break. This forms a class of CV.V form of verbs, which sometimes vary with a velar fricative, but contrast with CVV verb forms as shown in examples (7).

- | | | | |
|-----|---|---------------|---------------|
| (7) | a | dɔ̀ɔ̀ | 'be heavy' |
| | | dɔ̀.ɔ̀~dɔ̀yɔ̀ | 'sleep' |
| | b | dzaà | 'urinate' |
| | | dza.a~dzaya | 'suck breast' |
| | c | bba | 'block' |
| | | bba.à~bbayà | 'slap' |
| | d | baa | 'marry' |
| | | ba.a | 'ask' |

The lenition process in Leggbo contrasts with the fortition process.

5. Fortition and Strong Contexts in Leggbo

Fortition in the strength hierarchy involves strong, tense movements associated with the consonants. It has been described as 'hardening' of sonorants (Malen 1994). In Leggbo, it involves extra compression of the articulators in the articulation of the consonants. This is characterised by obvious consonantal lengthening followed by a shortened vowel. In addition to these features, perceptually, there is also an unusual outburst in the articulation of the stops.

The lenition and fortition processes lead to two sets of consonants in Leggbo – lenis and fortis consonants. We represent the lenis consonants as a single consonant, and the fortis as double consonants. The double representation is supported by the double peaks of the fortis sounds as shown in the intra-oral air pressure measurement of the bilabial stop consonant.⁴

The fortis consonants are lengthened, while the vowels following them are shortened. Fortition occurs only in initial and coda positions. In (8), we have some examples of the fortis/lenis contrast.

⁴ See Udoh 2004a for some of the intra-oral air pressure measurements of the fortis and lenis consonants.

- (8)
- | | | |
|----|---------|---------------------|
| a. | baa | ‘marry’ |
| | bba-i | ‘marrying’ |
| b. | màan | ‘deliver a baby’ |
| | mmànn-i | ‘delivering a baby’ |
| c. | yàal | ‘paddle’ |
| | yyàll-i | ‘paddling’ |

The fortition prosody in Leggbo operates within the domain of the syllable, and it generates many processes.

- (9) It devoices fricatives:

a	vaal	‘plait’
	ffall-i	‘plaiting’
b	zaa	‘abuse/reject’
	ssa-i	‘abusing/rejecting’

- (10) It strengthens fricatives/laterals/glides/Ø to stops

a	viia	‘wedge’
	vikk-i	‘wedging’
b	biila	‘climb’
	bidd-i	‘climbing’
c	kkuwa	‘kneel’
	kkukk-i	‘kneeling’
d	bba.a~bbaya	‘slap/hide’
	bbakk-i	‘slapping/hidding’

Fortition changes weak contexts to strong contexts. The empty segmental slots V.V which the velar fricative sometimes fills harbours the ‘ghost consonant’.

However, the progressive aspect brings out the stop consonants in the weak contexts, as we shall see in the next section. Indeed, the fortition prosody provides the ‘strong contexts’ which bring out the ‘ghost consonants’ hiding in the ‘weak contexts’, and even resurrects the ‘lost consonants’ that have no surface trace.

6. The Progressive Formation (PF) Diagnostic

We use the PF as a diagnostic device to show what is happening. The PF is marked by fortition and/or the suffixation of -i. Leggbo verbs presented in (3) can be

grouped into four broad categories on the basis of their PF, into open, closed, bi-syllabic and tri-syllabic verbs.

Open syllables form their progressive with fortition of the consonant and suffixation of -i.

(11) CV/CVV/CCV → CCV-i.

a	ba	'ask'
	bba-i	'asking'
b	baa	'tie'
	bba-i	'tying'
c	bba	'block'
	bba-i	'blocking'

Closed syllables form their progressive with fortition on both consonants and suffixation of -i.

(12) CVC/CVVC/CCVC → CCVCC-i.

a	seŋ	'go'
	ssenŋ-i	'going/many'
b	waan	'cook'
	wwann-i	'cooking'
c	vaan	'wrestle'
	ffann-i	'wrestling'
d	ssom	'smell'
	ssomm-i	'smelling'

Bi-syllabic verbs form their progressive with fortition of the second consonant and suffixation of -i.

(13) CV.V/CCV.V/CCVCV → C(C)VCC-i.

a	ba.a	'ask'
	bamm-i	'asking/many things'
b	bba.a	'slap'
	bakk-i	'slapping/s'
c	bbàla	'remember'
	bbàdd-i	'remembering/many'

This last group is made up of either a verb (closed syllable) that has pluractional qualities, or verb with a reduplicated stem. In both cases, the pluractional suffix –azi, is merely added.

(14) CVC-azi, RED → CVCV-azi.

a	dum	‘bite’
	dum-azi	‘biting’
b	kakaŋa	‘harden’
	kakaŋa-azi	‘hardening’

Let us go back to the bi-syllabic verbs. They can be classified further into five forms, and all of them form their progressive in the same manner, i.e. with fortition of the second consonant as well as a suffixation of –i.

(15) C(C)VCV → CCVCCV

a	duma	‘fetch (water)’
	dummi	‘fetching (water)’
b	ddɔmɔ	‘wet’
	ddɔmmi	‘wetting’

(16) C(C)VIV → C(C)VCCV

a	sula	‘puncture’
	suddi	‘puncturing/puncture many things’
b	ddɔlɔ	‘draw’
	ddɔddi	‘drawing’

(17) CVwV → C(C)VCCV

a	kùwa	‘open’
	kùkki	‘opening’
b	duwa	‘hide’
	dubbi	‘hiding’

(18) C(C)V_YV → C(C)VCCV

a	bbaya	‘slap, hide’
---	-------	--------------

	bbakki	'slapping/slaps'
b	dzaya	'suck breast'
	dzakki	'sucking breast/suck breasts'

(19) C(C)V.V → C(C)VCCV

a	bù.a	'follow'
	bùkki	'following'
b	kka.a	'deliver a message'
	kkakki	'delivering/deliver messages'

The bi-syllabic verbs in (15-19), all have the same progressive forms, irrespective of whether there have an obvious consonant in the form of stop/fricative/glide/lateral, or a ghost consonant. That the C(C)V.V verbs behave like all others with a C(C) in that context is a strong indication that an intervocalic consonant which surfaces in this process of fortition associated with the progressive aspect or pluractional form of the verb is part of the underlying form of the verb root with these shapes.

7. The Ghost Consonant Evidence

CVV verbs form their PF with fortition and suffixation of –i, as has been indicated, and CV.V verbs form their PF with fortition on the second syllable and suffixation of –i. Indeed there is a contrast between both forms repeated here for convenience:

(20)	a	ddɔ	'be heavy'	ddɔ-i	'being heavy'
		ddɔ.ɔ	'sleep'	ddɔŋŋ-i	'sleeping'
	b	ddzaa	'urinate'	ddza-i	'urinating'
		ddza.a	'suck breast'	ddzakk-i	'sucking breast'
	c	bba	'block'	bba-i	'blocking'
		bba.a	'slap'	bbakk-i	'slapping'

This is one support for the presence of ghost consonants in these weak contexts.

8. The Lost Consonant Evidence

Open syllables like those in 11 form their PF with fortition and suffixation of –i. More examples are given in (21).

(21)	a	tɔɔ	'throw'	ttɔ-i	'throwing'
	b	vɔɔ	'flow'	ffɔ-i	'flowing'
	c	ffɔ	'return'	ffɔ-i	'returning'
	d	ggbo	'jump'	ggbo-i	'jumping'
	e	kkɔ	'hate'	kkɔ-i	'hating'

Closed syllables like those in (12), form their PF by fortition on both consonants and suffixation of -i. More examples are given in (22).

(22)	a	kum	'sew'	kkumm-i	'sewing'
	b	doom	'burn'	ddomm-i	'burning'
	c	yal	'paddle'	yyall-i	'paddling'

There are however, some verbs with an obvious open syllable which rather than form their PF like (11) and (21), behave like (12) and (22); as if they are closed syllables.

(23)	a	zuu	'live'	ssukk-i	'living'
		zoo	'search'	ssokk-i	'searching'
		nnu	'round lip'	nnukk-i	'rounding lip'
	b	ssui	'pound'	ssukk-i	'pounding'
		nnui	'push'	nnukk-i	'pushing'
		ddzui	'be dirty'	ddzukk-i	'being dirty'

This is another indication of the presence of an underlying coda consonant in these examples. In this case, it has been completely deleted. An interesting point to note here is that in this 'pseudo' open syllables, the ghost consonant is /k/, and it behaves like [ɣ]. [ɣ] as an allophone of /g/ in Leggbo is a very unstable sound which plays a central role in the lenition process in the language as we have seen. It occurs in both initial and medial positions. It occurs as a noun prefix with the vowels /e ɛ i/ and it has a number of options, including a complete drop; as in the data in (24).

(24)	kpaaya~kpaaha~kpaa.a	'lock'
	bbaya~bbaha~bba.a	'slap/hide'
	kkɔyɔ~kkɔhɔ~kkɔ.ɔ	'eye someone'

These cases provide evidence that consonants have been lost in some positions.

9. The Place Holders

The weakening of strength in Leggbo could have passed through a series of stages through spirantization where the stops have developed to laterals, glides and fricatives, and final deletion.

(25) Stop > Lateral/Glide/Fricative > Ø

The Leggbo Stop consonants:

(26) /b d k m n ŋ/

are the underlying phonemes in weak contexts. Synchronically, there some consonants are still holding their places, and these sometimes have variations with an option of their complete drop.

The consonants:

(27) /ɣ l w j/

are the 'place holders' in Leggbo, and they occur in the weak contexts. Synchronically, they provide some kind of trace for stop consonants that once occurred in that position in the language.

We argue that these place holders are onset segments with the following reasons:

(a) Noun prefix ɣV-

ɣ as a noun prefix, and in medial positions, is quite unstable. It occurs mostly as a noun prefix with the front vowels /e ε i/ in initial position as ge ge gi. Although Leggbo has some prefixless nouns, majority of the nouns have the shape CV-, V-, and the ge, gi-, ge- can be weakened to ɣ with an option of a complete drop as in (28).

(28)	ɣittù ~ ittù	'life'
	ɣèḍi ~ èḍi	'speech, trouble'
	ɣètɔ̀ ò ~ ètɔ̀ ò	'work'

Note that lenition occurs even in onset position, and this is an added argument for its deletion in onset position as well, which makes the lost consonants in the pseudo open syllables onset consonants.

(b) Pseudo open syllables CV

The underlying consonants in the weak contexts are all stops. Of particular interest is the underlying CC in the 'pseudo' open syllables, which is kk. Oral stops do not occur in coda positions, so they can only be onset.

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