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# Heavy feet and glottal stops in A'ingae, or the morphophonology of A'ingae lexical stress

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 **PROTECTED AREAS**

 **COFAN TERRITORIES**

- the Cofán people
  - indigenous to Ecuador and Colombia
  - traditionally hunter-gatherer (Cepek, 2012)
- the A'ingae language
  - language isolate
  - ca. 1 500 speakers (Repetti-Ludlow et al., 2019)
  - highly complex morphophonology (Dąbkowski, in prep.)
    - interaction between **glottal stops and stress**
    - glottal stops contribute to **“foot-level weight”**
    - data elicited from three Ecuadorian speakers

- structural
  - heavy nuclei (long vowels, diphthongs)
  - codas

(1) a. *gentle*

b. *gentel*

(English)

- qualitative
  - voiceless onsets
  - low vowels

(2) a. *kàgà*  
'word'

b. *bĩsà*  
'red'

(Pirahã, D. Everett and K. Everett, 1984)

# puzzle and solution

- glottal stops influence **stress assignment**

(3) a. *fəthə-ye*

‘open-INF’

b. *fɪ’thi-ye*

‘kill-INF’

- in a way **unattributable** to syllabic weight
- despite the presence of syllabic weight distinctions
  - there are no long vowels
  - only diphthongs contribute to **syllabic weight**
  - glottal stops are the only codas
- typologically **unattested** stress assignment
- **glottal stops** contribute to **foot-level weight**
- **novel** application of “weight” **beyond the syllable**

Borman (1962) and Fischer and Hengeveld (forthcoming)

- contrastive

(4)	a. <i>chiga</i> 'god'	b. <i>chi'ga</i> 'not want'
(5)	a. <i>an=mba</i> 'eat=ss'	b. <i>a'mba</i> 'yuca'
(6)	a. <i>umba</i> 'up'	b. <i>u'mba</i> 'be full'
(7)	a. <i>tsa=ma</i> 'that=ACC'	b. <i>tsa='ma</i> 'that=FRS'

- apostrophes are codas, nasals are not

Repetti-Ludlow et al. (2019)

- the only coda
- only in codas
  - sometimes metathesized

(8) a. *tʰsaʰu*

'house'

b. *tʰsauʰ-ʰpa*

'house-N,' 'nest'

- often suffix-initial: *-ʰje* 'IMPV,' *-ʰja* 'CNTR,' *-ʰya* 'VER,' ...
  - responsible for many glottal minimal pairs

	penultimate	regular (penultimate)	weight- sensitive
(10)	a. <i>f<u>e</u>tha</i> 'open'	b. <i>feth<u>a</u>-ye</i> 'open-INF'	c. <i>f<u>e</u>tha-'je</i> 'open-IMPV'
(11)	a. <i>f<u>u</u>ite</i> 'help'	b. <i>f<u>u</u>ite-ye</i> 'help-INF'	c. <i>f<u>u</u>ite-'je</i> 'help-IMPV'
(12)	a. <i>f<u>u</u>nd<u>u</u>i</i> 'sweep'	b. <i>f<u>u</u>nd<u>u</u>i-ye</i> 'sweep-INF'	c. <i>f<u>u</u>nd<u>u</u>i-'je</i> 'sweep-IMPV'

- regular suffixes: *-ye* 'INF', *-khu* 'RCPR', *-ji* 'PRCM', ...
- weight-sensitive suffixes: *-'je* 'IMPV', *-'ngi* 'VEN', *-'nga* 'AND', ...



penultimate stress by default

weight-sensitive stress  
to the left of a glottal stop

- penultimate default suggests **trochees** (left-dominant feet)
- glottal-stop pattern suggests **weight sensitivity**

c. (10) (f*etha*-')*je*      (11) (f*ûite*-')*je*      (12) *f*û(*nd*ûi-')*je*  
           'open-IMPV'            'help-IMPV'            'sweep-IMPV'

- observe that glottal stops are final **in the head foot**
- reveals the A'ingae foot shape: (L L), (H L), (H)
  - branching-head trochee
- what about glottal stops final **in the head syllable?**

(3) b. (f*'thi*)-*ye*  
           'kill-INF'

- **glottal stops** must be located **in the head foot**
  - in the head foot  $\stackrel{def}{=}$  in the coda of either head foot syllable
- ALIGN( $\uparrow$ , R, WDHD, R), or ALIGN $\uparrow$   
every glottal stop is right-aligned with a word head
  - word head  $\stackrel{def}{=}$  head **syllable**  $\vee$  head **foot**
  - aligned with a word head = in the head foot

(McCarthy and Prince, 1993; Prince and Smolensky, 1993)
- underspecifies the position of stress
 

c. (10)	( <u>f</u> <u>e</u> tha-')je	(11)	( <u>f</u> <u>u</u> ite-')je
	*fe( <u>t</u> ha-'je)		*f <u>u</u> i( <u>t</u> e-'je)
	'open-IMPV'		'help-IMPV'
- a **low-ranking** constraint pushes for **word-initial feet**
  - independently motivated by initial dactyls

(Furby, 1974; Hayes, 1980, 1995; McCarthy and Prince, 1993)
- ALIGN $\uparrow$  ranking derives complexities (Dąbkowski, in prep.)

- structural and qualitative weight alike  
attract stress to the **heavy syllable**, not the **heavy foot**
- the applicability of **weight** to **feet** is a typological novelty



glottal stops contribute to weight  
at the foot level

which is a typological novelty

and accounts for stress patterns  
as well as glottal stop deletion

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