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A phonological typology of glottalization in Amazonian languages

The case of Yukuna

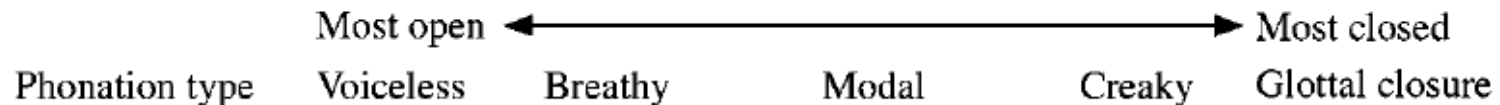
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1. The phonetics of glottalization

- ▶ Glottalization: strong degree of vocal fold constriction.
- ▶ Includes both complete glottal closure and laryngealized phonation « [...] Glottal stops are apt to fall short of complete closure, especially in intervocalic positions. In place of a true stop, a very compressed form of creaky voice or some less extreme form of stiff phonation may be superimposed on the vocalic stream » (Ladefoged et Maddieson 1996, 75)
- ▶ Excludes sounds produced with the glottalic airstream mechanism (ejectives and implosives)

Figure 1. Continuum of phonation types



(Gordon and Ladefoged 2001, 384)

2. The phonology of glottalization

- ▶ Depending on the language, glottalization can be described as :
 - A consonantal phoneme /ʔ/
 - A phonemic set of laryngealized vowels /V̥/
 - A suprasegmental feature
 - Non-phonemic glottal stop epenthesis

3. A phonological typology of glottalization

Phonemic status	Type	Languages
1. Phonemic	1. Glottal stop /ʔ/	PANOAN Shipibo (Elías-Ulloa 2016)
	1.2 Set of laryngealized vowels /V̥/	TUPI Mundurukú (Picanço 2005)
	1.3 Suprasegmental feature	
	1.3.1 Included in tonal tier	ISOLATE Tikuna
	1.3.2 Independent from tonal tier	TUKANOAN Tanimuka (Eraso 2015) Wanano (Stenzel 2007) Desano (Silva 2016)
	2. Non-phonemic	2.1 Epenthetical [ʔ]

3.1 Phonemic glottalization

3.1.1 Glottalization as a glottal stop consonant /ʔ/ : Shipibo (Panoan)

- ▶ Glottalization surfaces mostly as laryngealized phonation
- ▶ Analyzed as a consonant because of its interaction with syllabification, phonotactics, nasalisation and stress (Elías–Ulloa 2016, 185)

(1) a. /bikun -ʔati/ → [bi.'kõn.ʔa.ti] → [bi.'kõ.ʔa.ti] (Shipibo)

myopic -VZ1

'to steam up' (Elias-Ulloa 2011)

b. /bikun -a/ → [ˈbi.kʊ.na] (Shipibo)

myopic -PP2

'for one's vision to become clouded over' (PP2) (Elias-Ulloa 2011)

3.1 Phonemic glottalization

3.1.2 Set of laryngealized vowels /V̥/ : Mundurukú (Tupi)

- ▶ Four series of vowels: oral and nasal modals, oral and nasal creaky
- ▶ Analyzed as a vowel feature because of phonotactic constraints: only /p, t, k/, /m, n, N/, and /w, y/ may occupy the coda position, complex onsets and codas are not allowed
- ▶ Additional presence of phonemic /ʔ/

(5) (a) Modal voice

wida 'clay'

áy 'rodent, sp.'

(b) Creaky voice

wida̰ 'jaguar'

ay̰ 'sloth' (monkey, sp.)

(Picanço 2005, 16)

3.1 Phonemic glottalization

3.1.3 Suprasegmental feature: Wanano (Tukanoan)

- ▶ Surfaces as glottal closure with laryngealization of preceding vowel only
- ▶ Analyzed as a third suprasegmental feature, independent from tone and nasality. Appears once per morpheme, after the first mora of root morphemes specified as [+constricted glottis].

(31)	<i>dʰte</i>	[dʰʔté]	‘tie up’
	<i>~wa’ka</i>	[wãʔká]	‘wake up’
(39)	<i>~kha’ba</i>	[kʰãʔmã] _H	‘want/need’
	<i>ka’sʰ</i>	[káʔsʰ] _{HL}	‘be lying down’

(Stenzel 2007)

3.2 Non-phonemic glottalization

3.2.1 Glottal stop

[ʔ] epenthesis:

Yukuna (Arawak)

- ▶ Glottal stops and laryngealized vowels are often in free variation

- ▶ $V_1.ʔV_1 \sim V_1.ʔ\tilde{V}_1 \sim \tilde{V}_1 \sim V_1$
 $\tilde{V}_1 \sim \tilde{V} \sim V_1 \sim V$

/ɲakaa'ri/ 'to tremble' [ɲakaʔa'ri]

[ɲakaʔə'ri]

[ɲaka'a'ri]

[ɲaka'ri]

/oo'we/ 'older brother' [oʔo'we]

[oɣ'we]

[oo'wɛ]

Lemus Serrano (2016)

3.2 Non-phonemic glottalization

3.2.1 Glottal stop [ʔ] epenthesis: Yukuna (Arawak)

- ▶ [ʔ] mostly appears mostly in $V_1.ʔV_1$ position
- ▶ [ʋ̃] mostly appears word medially, between two consonants
- ▶ If analyzed as /ʔ/: defective distribution ($*\#_$, $*V_1_V_2$), incompatible with phonotactics (no complex codas) ([ʔnopɔhlo] ‘thick’)
- ▶ If analyzed as /ʋ̃/: defective distribution ($*_ \#$, $*V_2_$), doubles size of vowel inventory, cannot account for $/V_1ʔV_1/$

Conclusion: limits

- ▶ Lack of in-depth phonetic descriptions and phonological analyses of Amazonian languages
- ▶ Many ambiguous cases and problematic analyses
- ▶ Types are not mutually exclusive

Conclusion: solutions

- ▶ Need for a more in-depth discussion of competing analyses for the same language/phenomenon: Macaulay and Salmons (1995), Stenzel (2007)
- ▶ Methodological strategies:
 - if consonantal/vocalic: position within the word, adjacent segments, phonotactics, type of morpheme, number of possible occurrences per morpheme
 - If suprasegmental: bearer unit (mora/syllable/morpheme), type of association with bearer unit, interaction with other suprasegmentals (stress/tone/nasalisation)

References

- ▶ Campbell, Lyle. 2012. “Typological Characteristics of South American Indigenous Languages.” In *The Indigenous Languages of South America*, edited by Lyle Campbell and Veronica Grondona, 2:259–330. Berlin, Boston: Mouton de Gruyter.
- ▶ Elías–Ulloa, José. 2016. “The Role of Prominent Prosodic Positions in Governing Laryngealization in Vowels: A Case Study of Two Panoan Languages.” In *The Phonetics and Phonology of Laryngeal Features in Native American Languages*, edited by Heriberto Avelino, Matt Coler, and Léo Wetzels, 180–202. Leiden, Boston: Brill.
- ▶ Eraso, Natalia. 2015. “Gramática Tanimuka, Una Lengua de La Amazonía Colombiana.” Université Lumière Lyon 2.
- ▶ Henton, C., Peter Ladefoged, and Ian Maddieson. 1992. “Stops in the World’s Languages.” *Phonetica* 49: 65–101.
- ▶ Ladefoged, Peter, and Ian Maddieson. 1996. *The Sounds of the World’s Languages*. Oxford: Blackwell.
- ▶ Lemus Serrano, Magdalena. 2016. “Observations Sociolinguistiques et Description Phonologique Du Yukuna : Langue Arawak de l’Amazonie Colombienne.” Mémoire de Master 2. Université Lumière Lyon 2.

References

- ▶ Macaulay, Monica, and Joseph Salmons. 1995. “The Phonology of Glottalization in Mixtec.” *International Journal of American Linguistics* 61 (1): 38–61.
- ▶ Picanço, Gessiane. 2005. “Mundurukú: Phonetics, Phonology, Synchrony, Diachrony.” Ph.D. dissertation, University of British Columbia.
- ▶ Silva, Wilson. 2016. “The Status of the Laryngeals ‘?’ and ‘h’ in Desano.” In *The Phonetics and Phonology of Laryngeal Features in Native American Languages*, edited by Heriberto Avelino, Matt Coler, and Léo Wetzels, 285–307. Leiden, Boston: Brill.
- ▶ Stenzel, Kristine. 2007. “Glottalization and Other Suprasegmental Features in Wanano.” *International Journal of American Linguistics* 73 (3): 331–66.
- ▶ Storto, Luciana, and Didier Demolin. 2012. “The Phonetics and Phonology of South American Languages.” In *The Indigenous Languages of South America: A Comprehensive Guide*, edited by Lyle Campbell and Veronica Grondona. Vol. 2. Berlin, Boston: Mouton de Gruyter.