A'ingae reduplication is phonologically optimizing

Maksymilian Dąbkowski
University of California, Berkeley

Overview

- A'ingae (or Cofán, ISO 639-3: con): an understudied and endangered Amazonian isolate
- the reduplicant: suffix *-ʔσ* • ineffability: only disyllabic roots can be reduplicated
- root parsed as a trochaic foot • second syllable undergoes monophthongization
- the base + the reduplicant together (henceforth *reduplicated stem*) = $(\text{'}\sigma_1\breve{\sigma}_2\text{ʔ})\sigma_2$
- model: reduplicant-specific *cophonology* (e. g. Orgun, 1996; Sande et al., 2020)
  - a ranking of constraints independently motivated elsewhere in A'ingae (Dąbkowski, 2022)
- A'ingae reduplication is highly phonologically optimizing
- all the data were collected by the author

Description and analysis

- the reduplication of a verb expones subject superplurality (i.e. a large number of entities)
- *-ʔσ* can attach to disyllabic roots, either underlyingly stressless (1b.i-ii) or stressed (1b.iii-iv)[1]
- ineffability: monosyllabic and trisyllabic roots cannot be reduplicated (1a,c)

(1)

a. Monosyllabic			b. Disyllabic			c. Trisyllabic		
	root	redupl		root	reduplicated		root	redupl
i.	*pʰi* 'sit'	—	i.	*fetʰa* 'open'	*('fetʰaʔ)tʰa*	i.	*otiʃi* 'wash hands'	—
ii.	*ã* 'eat'	—	ii.	*ɸiite* 'help'	*('ɸiteʔ)te*	ii.	*opatʰɨ* 'pick'	—
iii.	*ⁿdo* 'split'	—	iii.	*('kati)* 'cast'	*('katiʔ)ti*	iii.	*aviha* 'rejoice'	—
iv.	*kʰe* 'get lost'	—	iv.	*('ãnã)* 'sleep'	*('ãnãʔ)nã*	iv.	*siforo* 'fart'	—
v.	*kɨ* 'get warm'	—	v.	*fɪⁿdɨi* 'sweep'	*('fɪⁿdɨiʔ)ⁿdɨi*	v.	*('kõⁿda)se* 'tell'	—
vi.	*ⁿdʒai* 'sit'	—	vi.	*opɨi* 'shelter'	*('opɨiʔ)pɨi*	vi.	*('afa)se* 'offend'	—

- in reduplicated stems, stress on the second syllable to the left of the reduplicant (1b.i-iv)
  - independently attested effect in A'ingae to occur with any ʔ-initial suffix (Dąbkowski, 2022)
    - (2b-c, cf. default penultimate stress in 2a)
  - modeled with AL(ʔ): *Every glottal stop is right-aligned with a foot* (tableau in 3)

(2)

a.	b.	c.	d.	e.
/ɸiite -hi/	*/ɸiite -ʔhe/*	*/ɸiite -ʔⁿgi/*	*/ɸɪⁿdɨi -ʔhe/*	*/ɸɪⁿdɨi -ʔⁿgi/*
[ɸɨi('tehi)]	*[('ɸiiteʔ)he]*	*[('ɸiiteʔ)ⁿgi]*	*[ɸɪ('ⁿdɨiʔhe)]*	*[ɸɪ('ⁿdɨiʔⁿgi)]*
help -prcl	help -ipfv	help -ven	sweep -ipfv	sweep -ven

- the last vowel in diphthong-final roots is truncated (1b.v-vi), but preserved in the reduplicant
- independently attested restriction on A'ingae foot shape (Dąbkowski, 2022)
  - FtSh: *Feet are binary trochees with monomoraic (i. e. light; non-diphthongal) right branches.*
- Dąbkowski motivates FtSh with (2d-e); high ranking of FtSh results in a violation of AL(ʔ)
- in reduplication, the violated constraint is
  - MaxV: *For every vowel in the input, there is a corresponding vowel in the output* (tableau in 5)
- regular ʔ-initial suffixes and *-ʔσ* both avoid violations of FtSh, but in different ways

[1] Both stressless and stressed roots surface with penultimate stress in isolation. In morphologically complex forms, penultimate default stress is assigned to underlyingly stressless forms */fetʰa-hi/* 'open-prcl' → *[fe('tʰahi)]*, but underlying stress surfaces faithfully */('kati)-hi/* 'cast-prcl' → *[('kati)hi]*.

Description and analysis, part 2

- I assume that reduplication involves a violation of
  - Intσ: *No syllable in the input has multiple correspondents in the output*
- reduplication is modeled as input-output correspondence, so the input diphthong is faithfully rendered in the reduplicant, avoiding a gratuitous violation of MaxV
- mono- and trisyllabic roots cannot be reduplicated (1a,c), modeled with
  - AL[$_\omega$f: *Every foot is aligned with the left edge of the word*
- in the cophonology of the reduplicative *-ʔσ*, AL[$_\omega$f ranks above the Empty Output Constraint:
  - EOC: *Assign a violation mark to the empty output* (Prince et al., 1993)
- other constraints which outrank EOC include
  - Maxσ: *Input syllables have correspondents in the output* (prevents the truncation of trisyllabic stems),
  - and the previously introduced AL(ʔ) and FtSh
- this ranking captures the impossibility of reduplicating mono- and trisyllabic roots (4, 6)

(3) */fetʰa -ʔσ/*

	AL(ʔ), FtSh, AL[$_\omega$f, Maxσ ⟫ EOC ⟫	MaxV, Intσ
i. Ø	*	
ii. *fetʰaʔtʰa*	*	*
☞ iii. *('fetʰaʔ)tʰa*		*

(4) */pʰi -ʔσ/*

	AL(ʔ), FtSh, AL[$_\omega$f, Maxσ ⟫ EOC ⟫	MaxV, Intσ
☞ i. Ø	*	
ii. *pʰiʔpʰi*	*	*
iii. *('pʰiʔ)pʰi*	*	*
iv. *('pʰiʔpʰi)*	*	*

(5) */fɪⁿdɨi -ʔσ/*

	AL(ʔ), FtSh, AL[$_\omega$f, Maxσ ⟫ EOC ⟫	MaxV, Intσ
i. Ø	*	
ii. *fɪⁿdɨiʔⁿdɨi*	*	*
iii. *('fɪⁿdɨiʔ)ⁿdɨi*	*	*
☞ iv. *('fɪⁿdɨiʔ)ⁿdɨi*		* *
v. *('fɪⁿdɨiʔ)ⁿdɨi*		** *

(6) */atapa -ʔσ/*

	AL(ʔ), FtSh, AL[$_\omega$f, Maxσ ⟫ EOC ⟫	MaxV, Intσ
☞ i. Ø	*	
ii. *atapaʔpa*	*	*
iii. *a('tapaʔ)pa*	*	*
iv. *('tapaʔ)pa*	*	* *

Alternative subcategorization analysis

(7) subcategorization frame for *-ʔσ*: *#σσ _* (i. e. *-ʔσ* selects for a disyllabic stem)

- the subcat frame rules out reduplication of mono- and trisyllabic roots, dispensing with EOC, but
(1) subcategorization is an selectional requirement; need not be phonologically optimizing (Paster, 2007), so it misses the phonological motivation behind the root size restriction:
  - the root must be disyllabic because it is parsed as a foot
  - the root is parsed as a foot because the ʔ of *-ʔσ* must be right-aligned with a foot, per AL(ʔ)
(2) the phonology of reduplicated stems differs from other affixes in a way not captured by (7):
  - diphthongs in weak branches are avoided by truncating the diphthong in reduplication (FtSh ⟫ MaxV, as in 1b.v-vi), but by misaligning the ʔ with the foot elsewhere (FtSh ⟫ AL(ʔ), as in 2d-e)
- the subcategorization analysis misses the phonologically optimizing aspect of A'ingae reduplication and still requires associating the reduplicative *-ʔσ* with a morpheme-specific cophonology

Elevator pitch

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on October 21 from 4-5:30pm
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Email me

dabkowski@berkeley.edu