

The connection between nasality and tone in Yaminawa (Pano, Peru)

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Overview

Morphological (spreading) nasality is always associated with HL tone in Yaminawa, but phonological nasality is not.

Bound morphemes with HL tone are always nasal, and both HL tone and nasality can spread to the root, de-linking a H tone in some cases.

This talk considers data from both the nominal and verbal domain to show this connection between nasality and HL tone in Yaminawa, and to suggest that these features have a common diachronic source: the deletion of voiced stops.

Comparison with other Panoan languages (Yawanawá and Shipibo) support this.

Conventions for underlying features: superscript H, L, HL, and \emptyset for tonal features, superscript N for nasal feature.

Conventions for surface features: \sim over nasalized vowels and use of nasal allophones for consonants, consonants, grave accent ` for low tone and acute ´ for high tone.

About Yaminawa

One of about 18 extant Panoan languages

Forms part of a wide-spread dialect complex including: Nahua (Yora), Yaminawa (Yaminahua), Sharanahua, Yawanawá, Saynawa, Shanenawa, and others

The data presented in this talk comes from the dialect of Yaminawa spoken in Sepahua, Ucayali, Peru (ISO: yaa) and Nahua, spoken in Santa Rosa de Serjali, Cusco, Peru (ISO: mts).

Tone, stress, and nasality vary significantly across the complex:

North: final stress, no tone (?), partial nasal spread (see Souza 2013)

South: initial stress, tone, complete nasal spread



Nasality

Nasal spreading (nasal harmony) has been identified as a likely areal feature of Amazonia (Payne 2001, Aikhenvald 2012)

Panoan languages exhibit nasal spread to varying degrees:

- adjacent vowel only in Shipibo (Elias-Ulloa 2011),
- through nasal(izable) segments (m, n) to other vowels in Yawanawá (Souza2013, Paula 2004),
- to the entire morpheme, nasalizing both vowels and voiced consonants (b, d, y, w) even through voiceless segments in Yaminawa.

In Yaminawa, there are two types of nasality: morphological (spreading, associated with tone) and phonological (non-spreading, not associated with tone).

There is not evidence for two distinct types in Shipibo or Yawanawá.

Morphological nasality

Spreads leftward to the root/stem, through transparent segments, nasalizes all nasalizable segments:

- (1) Nominal: augmentative *-wã*
/adu[∅] -wa^{N,HL}/ /waki[∅] -wa^{N,HL}/
paca -AUG child -AUG
[ǎnũwã] [wãkĩwã]
- (2) Verbal: reciprocal *-nã*
/riti^H -da^{N,HL} -kad[∅] -i^L/
kill -RECIP -PL.IMPRF -IMPRF
[rĩtĩnãkàdì]

Morphological nasality

Morphological nasality is often not associated with surface segments:

(3) Ergative case:

/waki[∅] –∅^{N,HL}/

Child –ERG

[wǎkǐ̃]

(4) Verbal malefactive:

/riti^H –∅^{N,HL} –kad[∅] –i^L/

kill –MAL –PL.IMPRF –IMPRF

[rítikàdì]

One inflectional class of nouns (plus loans of any part of speech) blocks nasal spread. These nouns all surface with HL tone, and reveal a latent syllable when suffixed by a morpheme with a nasal feature:

(5) [áwà] ~ [áwápǎ̃]

tapir ~ tapir.ERG

[rájùs] ~ [rájúǐ̃]

male.in.law ~ male.in.law.ERG

Morphological nasality

Some roots are lexically nasal.

Among nouns these are all of the truncating type shown in (5) on the previous slide.

- (6) a. [náǐ̃] ~ [náǐ̃nǐ̃]
tamandua ~ tamandua.ERG
- b. [ǎwǐ̃] ~ [ǎwǐ̃nǐ̃]
wife ~ wife.ERG

Morphological nasalization of nouns can neutralize contrasts:

- (7) a. /ada^{N,HL}/ → [ǎnǎ̃] ‘vomit’ b. /ada[∅] – ∅^{N,HL}/ → [ǎnǎ̃] ‘tongue.INSTR’

Among verbs, these roots uniformly bear HL tone:

- (8) a. [mǎtsǔ̃ –kàd –ì]
sweep –PL.IMPRF –IMPRF
- b. [ǐnǎ̃ –kàd –ì]
give –PL.IMPRF –IMPRF

Phonological nasality

Phonological nasality arises in Yaminawa when /d/ is deleted in a coda position or in certain metrical positions where it is not permitted.

In both cases, the resulting nasalization of the vowel is **not** morphological and does not spread.

(9) Deletion of coda /d/:
/dashi^{HL} –tad^L –kad[∅] –i^L/
bathe –go.do.return –PL.IM PF –IM PRF
[dáshìtǎkàdì]

(10) Metrical deletion of /d/:
/pi:^H –ṣud^L –a^L/
eat –BEN –PRF
[pí:ṣũǎ]

Notice that in (10), the perfective suffix is phonetically nasalized due to coarticulation

Exceptions: the causative suffix –*bád* does not nasalize when /d/ is deleted, and the hortative –*nũ* is always nasal, but does not have morphological nasality (likely because –*nũ* is almost always word-final)

Comparison with other Panoan languages

Yaminawa has oral stops /b, d/ which may be nasalized via spread of a nasal feature. Nasal stops [m, n] are in complementary distribution with /b, d/. None are permissible as codas.

Forms expected to have coda /n~d/ based on cognate comparison have **morphological** nasality; forms where /d/ is synchronically deleted have **phonological** nasality.

Shipibo has nasal stops /m, n/ that do not ever appear to be realized as oral stops. The nasal /n/ is permitted as a coda. Coda /n/ can cause nasalization of the preceding vowel. (Elias-Ulloa 2011)

Yawanawá has nasal stops /m,n/ that do not ever appear to be realized as oral stops. Neither /n/ nor /m/ are permitted as codas; where coda deletion appears to have occurred (synchronically or diachronically), the preceding vowel may be nasalized. (Souza 2013)

Comparison with other Panoan languages

(11)	Yaminawa	Yawanawá	Shipibo	gloss
	[í.sì]	[i.'sĩ]	[i.'sĩn]	'pain'
	['á.wǐ]	[a.'wĩ]	[a.'wĩn]	'wife'
	['kǎ.mǎ]	[ka.'mã]	[ka.'mãn]	'dog, jaguar-like animal'
	['ú.jǐ]	[u.'jĩ]	[hu.'jĩn]	'red'
	['ú.nǎ.ǐ]	----	[u.'nã.ti]	'to identify, to learn'
	['tǎ.pǐj]	[ta.'pĩ]	----	'to learn, to know'

Tone

Fleck (2013) proposes that tone is a recent innovation in the “Headwaters Nawa” subgroup, which includes Yaminawa.

Among Panoan languages, Yaminawa appears to have the most robust tone system, with four underlying tonal specifications: H, HL, L, and \emptyset .

Shipibo does not have tone, but the correlate of stress is high pitch, and there are some lexical and weight-sensitive stresses (Elias-Ulloa 2010).

Yawanawá has stress which is weight-sensitive; the correlate is not identified in the literature. No evidence of tone (Souza 2013).

Tone is recognized as an areal feature of the NW Amazon, but is frankly almost completely unstudied in much of the region.

Nominal tone in Yaminawa

Most nominal roots in Yaminawa are disyllabic and surface with either level H, level L, or contour HL tone:

- (12) a. [ʂít̚t̚] b. [wàk̚t̚] c. [kápt̚]
- vulture child alligator

All nominal roots with HL tone have a latent syllable appearing in ERG case (compare exs 5 & 6)

- (13) [kápt̚] ~ [kápt̚ǎ̃] [áwà] ~ [áwáp̚ǎ̃]
- alligator ~ alligator.ERG tapir ~ tapir.ERG

Ergative case nasalizes roots like (12a) and (12b) and changes their tone to HL:

- (14) [ʂít̚t̚ǎ̃] [wǎ́k̚t̚ǎ̃]
- vulture.ERG child.ERG

Nominal tone in Yaminawa

H tone can spread rightward from roots to toneless suffixes:

(15) /kɪwu^H -wu[∅]/ → [kíwúwú]
pucacunga -PL

It is not clear if a simple H tone (not part of a HL contour) can spread leftward. The nominal diminutive *-ftá* is associated with affectionate affect which triggers global H pitch.

Verbal tone in Yaminawa

Typical verb roots are also disyllabic, and may be level H, level L, or HL contour.

Many verb roots occur in pairs: one transitive H root and one intransitive HL root

- (16) a. /tiki^H/~ /tiki^{HL}/ b. /ʂati^H/~ /ʂati^{HL}/ c. /paki^H/~ /paki^{HL}/
break.TR ~ break. ITR cut.TR ~ cut. oneself fall.CAUS ~ fall

While the majority of H tone transitives have a HL intransitive counterpart, the reverse is not true.

Aside from these pairs there are also level H intransitives (/wada^H/ ‘sing’), HL transitives (/ikiʂ^{HL}/ ‘sew’), and level L intransitives (/dubi^L/ ‘be thirsty’) and transitives (/wada^L/ ‘sow’).

Recall that all lexically nasal verb roots have HL tone:

- (17) a. /batsu^{N,HL}/ b. /tapi^{N,HL}/ c. /ida^{N,HL}/
‘sweep’ ‘know’ ‘give’

Verbal tone in Yaminawa

Morphologically nasal suffixes both nasalize the verb root and change the tone to HL:

- (18) a. /riti^H –N,HL –kad[∅] –iL/ → [rít̪ikàd̪i]
kill –mal –pl.imprf –imprf
- b. /wada^H – N,HL –kad[∅] –iL/ → [wǎnǎkàd̪i]
sing –mal –pl.imprf –imprf
- c. /wada^L –N,HL –kad[∅] –iL/ → [wǎnǎkàd̪i]
sow –mal –pl.imprf –imprf

Unlike the transitivity pairs in (16), this process is completely productive
(provided the linguist can get the speaker to accept a scenario where the semantics are felicitous)

Not just a case of a floating H tone: [rít̪inǎkàd̪i] ‘they’re killing each other’

This causes neutralization of the tonal contrast between some roots, such as (18b) and (18c).

HL tone and nasality

In Yaminawa, morphological nasality **always** co-occurs with HL tone.

HL tone occurs with: nasal morphemes, truncated nominals, a variety of verbal roots

Morphological nasality retains contrasts despite the diachronic loss of coda /n~d/:

ex.: [dàì] ‘sky’ vs. [nǎǐ] ‘tamandua’ (from underlying /daidi^{N,HL}/)

This is particularly important in Panoan languages where transitivity and case are elaborated throughout the syntax.

(But at a cost! Some neutralization: /ada^{N,HL}/ → [ǎǎ] ‘vomit’ vs. /ada[∅]-∅^{N,HL}/ → [ǎǎ] ‘tongue.INSTR’)

Falling or low tone before a voiced stop segment is an attested diachronic trajectory for tonogenesis (Hombert et al. 1979).

HL tone and nasality

HL tone and morphological nasality are privileged in Yaminawa prosody.

Nasality (marked) may spread leftward to the root, but no such process exists for orality.

HL tone may spread leftward to the root as well, even causing lexical H tones to be de-linked and discarded.

Lexical H tone in Yaminawa may spread rightward to toneless morphemes, but there are no clear instances where it may spread to the root as HL tone does.

HL tone not associated with nasality (such as the verbal transitivity type) does not have this property.

Conclusions

Tone (or accent) is strongly linked to nasalization in Yaminawa and closely related Panoan languages.

More work is needed in the domain of prosody (tone/accent, nasality, metrical phonology) in Panoan (and Amazonia) – particularly detailed phonetic work

Interestingly, the diachronic loss of /d̃n/ in both Yaminawa and Yawanawa has led to opposite systems.

Where Yaminawa developed tone, Yawanawa developed weight-sensitive stress.

Metrical patterns (yaa initial vs ywn final stress) are likely factors, but the precise realization of nasal segments and nasalization in Panoan languages may also shed light on this question.

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