

Morphological and phonological nasality in Yaminawa (Pano, Peru)

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Overview¹

- In Yaminawa, some nasalized suffixes cause leftward nasal spread to the root, while others do not.
- This talk will show that surface nasality in Yaminawa arises from two sources: morphemes bearing nasal features, and the phonological deletion of /d/, and that only the former cause nasal spread.
- Morphological nasality appears to be the result of the diachronic loss of coda /d/, while phonological nasality results from synchronic deletion of /d/ in coda position or certain metrical positions.

Objective:

- Nasal spread and metrically-conditioned allomorphy occur in other Panoan languages. My goal is to show how these operate in Southern Peruvian Yaminawa in order to give other panologists ideas about where to look for potential interactions in the languages they study.

About Yaminawa

- Belongs to the “Headwaters Nawa” group of the Mainline branch of Panoan (Fleck 2013)
- Part of a large dialect complex – the dialect analyzed here is spoken on the Sepahua and Mishahua rivers in Peru. (This is a different dialect than the one in Loos 2006)
- Has properties of both stress and tone
 - Stress: initial, trochaic, acoustic correlate is duration
 - Tone: surface H vs L, underlyingly H/L/∅
- ERG/ABS morphological alignment with NOM/ACC in 1st and 2nd person pronouns
- Almost exclusively suffixing (some body part verbal prefixes), verbs can get pretty long

Distribution of oral and nasal segments

- Segments that are not nasalizable: p, t, k, s, ʃ <sh>, ʂ <x>, ts, tʃ <ch>
- Nasalizable segments (each pair is considered to be a pair of allophones)

Oral:	b	d	j <y>	w	a	i <e>	ĩ	u
Nasal:	m	n	j̃ <ñ>	ũ ²	ã	ĩ̃ <ẽ>	ĩ̃	ũ̃

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² With the exception of the use of <ũ>, the orthography presented here is the same as the official alphabet.

- Oral stops are usually not pre- or post-nasalized, and nasal stops do not have plosive releases.
- Yaminawa syllable structure is (C)V(C), where the final C may only be a sibilant.
 - Min. root is 2 mora, min. prosodic word is 2 syllables. Strong preference for stems with either 1 or 2 well-formed feet, and no extra metrical syllables.
- Nasality is a property of the morpheme. Morphemes are either completely oral or completely nasal
 - Oral: *dabi* ‘meat’, *wede* ‘husband’, *bari* ‘añuje’, *yushi* ‘spirit’, *tapas* ‘camp’...
 - Nasal: *nãpẽ* ‘fly’, *ãtũ* ‘stomach’, *ñũwẽ* ‘witch’, *tẽtẽ* ‘eagle’, *mãñĩ* ‘plantain’...
- There are very few monomorphemic oral/nasal minimal pairs

(1)	<i>ada</i> ‘tongue’	<i>ãñã</i> ‘vomit’
	<i>ia</i> ‘louse’	<i>ĩã</i> ‘oxbow lake’
	<i>baa</i> ‘nothing, no’	<i>mã</i> ‘already’

Basic facts about nasal spread

- Most oral/nasal minimal pairs are ABS/ERG pairs or verbs and their malefactive forms

(2)	<i>adu</i> ‘paca’	<i>ãnũ</i> ‘paca.ERG’
	<i>bari</i> ‘añuje’	<i>mãrĩ</i> ‘añuje.ERG’
	<i>yushi</i> ‘spirit’	<i>ñũshĩ</i> ‘spirit.ERG’
	<i>tekea</i> ‘broke it’	<i>tẽkẽa</i> ‘broke it to someone’s detriment’
	<i>wadai</i> ‘is sowing’	<i>wãnãi</i> ‘is sowing to someone’s detriment’

 - Later, I will defend an analysis of the ergative and the malefactive in the forms above as being suffixes with the form -N (a nasal feature that spreads leftward to the root)
- There are other suffixes that have both segments and nasal spreading

(3)	<i>adu</i> ‘paca’	<i>ãnũwã</i> ‘big paca’
	<i>bari</i> ‘añuje’	<i>mãrĩwã</i> ‘big añuje’
	<i>yuchi</i> ‘chili’	<i>ñũchĩwã</i> ‘big chili’

 - Sharanahua of the north side of the Purus and Yaminawa of the Embira and Yurua rivers³ appear to also have leftward spread from some applicatives like the benefactive -*xũ* to the root, but I have not had the opportunity to work closely with speakers of these dialects or record them.
- Still other suffixes have nasal surface forms which do not cause leftward nasal spread

³ Loos 2006 also identifies the verbal suffixes -*shid/-shĩ* ‘do all night’ and -*xud/-xũ* ‘BENEFACTIVE’ as ones which may spread nasality (from their nasal allomorphs). This does not appear to be the case in southern dialects of Yaminawa. It appears that in northern dialects, sibilants must be transparent in nasal spread (see Walker 1998 on transparency/opacity). However, the data in Loos 2006 only show leftward spread to the vowel preceding the suffix – he does not provide examples of nasalization spreading beyond a single vowel.

- The oral allomorphs, which terminate in [d], occur before vowels. The nasal allomorphs, which occur with no final [d], occur before consonants.

- Verbal comitative *-kĩ/-kid*
- (4) *dashikĩtada*
dashi -kĩ -tad -a
bathe -COMIT -AM:go.do.and.return -PRF
‘went and bathed with someone and returned’

- (5) *dashikida*
dashi -kid -a
bathe -COMIT -PRF
‘bathed with someone’

- Associated motion ‘go do and return’ *-tã/-tad*
- (5) *dashitãkadi*
dashi -tã -kad -i
bathe -AM:go.do.and.return -3PL.IMPRF -IMPRF
‘they’re going to bathe and return’

- (6) *dashitada*
dashi -tad -a
bathe -AM:go.do.and.return -PRF
‘went and bathed and returned’

- Verbal circadian temporal indicator ‘do all night’ *-shĩ/-shid*
- (7) *dashishĩkadi*
dashi -shĩ -kad -i
bathe -do.all.night -3PL.IMPRF -IMPRF
‘they’re bathing all night’

- (8) *dashishidawu*
dashi -shid -a -wu
bathe -do.all.night -PRF -PL
‘They bathed all night’

- The suffixes that exhibit this behavior are mostly valence-changing, associated motion, or circadian temporal indicators.

- There are some nasalized morphemes that do not have oral allophones. These are all final T/A/M markers that are never followed by a vowel, so any final voiced stop in the underlying representation would always be deleted.
- (9) *dashiyunũ*
dashi -yu -nũ
bathe -do.first -HORT
‘let’s go bathe already!’

- The imperfective allomorph of the 3rd person plural agreement suffix is the only known suffix with a final [d] that does not have a corresponding nasalized form where the [d] has been deleted. This is because the suffix only occurs when imperfective *-i* immediately follows. The other 3rd person plural, *-wu*, is used elsewhere.

(10) *dashikadi*
dashi -kad -i
bathe -3PL.IMPRF -IMPRF
‘they are bathing’

- A nasal root (either underlyingly or due to the ERG or MAL suffixes) may cause some rightward spread to following vowels.

(11) *ĩnãĩ*
ĩnã -i
give -IMPRF
‘is giving’

(12) *têkêã*
teke -N -a
break -MAL -PRF
‘broke it to someone’s detriment’

- This rightward spread does not appear able to penetrate obstruents

(13) *ĩnãkadi*
ĩnã -kad -i
give -3PL.IMPRF -IMPRF
‘they are giving’

(14) *mãtsũshida*
mãtsũ -shid -a
sweep -do.all.night -PRF
‘swept all night’

Metrical structure and nasality

- Metrical phonological alternations have been recognized for several Panoan languages (see González 2009).
- In Yaminawa, metrical alternations can cause nasality.
- Many noun roots undergo a process of truncation where a third, extrametrical syllable that appears in the ergative case is deleted in the absolutive form, resulting in a word which is just one well-formed foot

(15) *awapã* → (‘a.wa) ‘tapir’
rayusĩ → (‘ra.yus) ‘son in law’
ãwĩnĩ → (‘ã.wĩ) ‘woman’
wãwĩnũ → (‘wã.wĩ) ‘súngaro’
nũnũmã → (‘nũ.nũ) ‘duck’

- The un-truncated forms also occur when suffixed by the augmentative *-wã*.⁴
- In the last three items of (15), we see that in words where there is potential for a final syllable with a voiced/nasal stop to be deleted, both forms are fully nasalized. [d] and [b] are never seen in final syllables in words with this behavior.
- Compare this with cases where [d] or [b] occurs inside the well-formed foot:

(16) *kadapã* → ('ka.da) 'lightning/thunder'
dabapã → ('da.ba) 'dream'
- All nasal noun roots (excepting loans) exhibit the pattern in (15). Truncation of a final syllable containing a voiced/nasal stop appears to be the diachronic source of nasal noun roots.
- Compared to nouns, few verb roots are nasal, and there is no synchronic evidence for how they may have come to be nasal.

(17) *mãtsũ* 'sweep' *ĩnã* 'give'
ũsã 'smile' *ũnã* 'recognize'
shĩnã 'think' *pũwẽ* 'be brave'
- There are a couple of nasal verbs that are zero-derived from truncatable nouns: *ĩsĩ(nĩ)* 'sick'/'be sick', and *ĩsũ(nũ)* 'urine'/'urinate'.
- Two significant classes of verbal suffixes are subject to metrical alternations: valency-changing suffixes and circadian temporal indicators.
 - Recall that in the previous section we saw that valency-changing suffixes, circadian temporal indicators, and AM suffixes have final [d] deleted where it would be in coda position, and they become nasalized.
 - [d] may also be deleted intervocally where it is syllabified with a different foot than the rest of the suffix:

(18) *wadaxuda* ('wa.da)('xu.da) ← [d] is in the same foot as the rest
 wada -xud -a
 sow -BEN -PRF
 'sowed it for someone'

(19) *pi:xũã* *('pi:.xu)da ← [d] is extrametrical and gets deleted
 pi: -xud -a
 eat -BEN -PRF
 'ate it for someone'

⁴ The nasalization found on the final syllables of the first two items of (15) is from ergative case. These forms appear to be frequently reanalyzed by speakers as multi-morphemic, with the truncatable syllable treated as an ergative suffix. However the correspondence of forms of the final syllable to the rest of the root are completely arbitrary, so I analyze them as part of the underlying representation. I do not consider the ergative nasalization part of the underlying morpheme, as this is predictable and regular for all forms.

- (20) *pi:xũĩta* *('pi:.xu)(,di.ta) ← [d] is in separate foot
 pi: -xud -ita
 eat -BEN -PST2.PRF
 'ate it for someone (a few days ago)'
- The same pattern is seen for the circadian temporal indicators
- (21) *wadashida* ('wa.da)(,shi.da)
 wada -shid -a
 sow -do.all.night -PRF
 'sowed all night'
- (22) *pi:shĩ* *('pi:.shi)di
 pi: -shid -i
 eat -do.all.night-IMPRF
 'is eating all night'
- AM suffixes do not delete [d] based on metrical considerations.
 - There are also two weird cases: the reciprocal *-nã~-nũnã*, which has no oral form, and the causative *-bad~-ba* which does not nasalize with [d] deletion.
 - The reciprocal causes nasal spread, so it presents no complication for my analysis. Like the MAL, AUG, and ERG suffixes, it bears a nasal feature.
- (23) *beei*
 bee -i
 hit -IMPRF
 'is hitting'
- (24) *mẽẽnãkadi*
 bee -nã -kad -i
 hit -RECIP -3PL.IMPRF -IMPRF
 'they're hitting each other'
- The causative just doesn't behave like the other valency changing suffixes (*-xud* and *-kid*). I offer examples, but no solutions $\bar{_} _ (_ _) _ /$
- (25) *wadabada*
 wada -bad -a
 sow -caus -prf
 'made someone sow'
- (26) *pi:baa*
 pi: -bad -a
 eat -caus-prf
 'made someone eat'.

A comparison of nasality in N. and S. Yaminawa

- Loos (2006) identifies both the benefactive and the circadian temporal *-shid* as spreading nasality in the Yurua and Embira dialect of Yaminawa. It seems likely that there is a gradient along the dialect continuum for which suffixes bear a nasal feature due to [d] deletion.
 - In the southern Peruvian dialects, this is only the MAL, ERG, AUG, and RECIP. In northern Peru, then, it appears that the valency changing and circadian temporal suffixes also bear a nasal feature.
 - There is not evidence from Loos that the associated motion suffixes spread nasality leftward or that they are subject to metrical alternations.
 - They can, when nasalized after [d] deletion, cause rightward spread to following vowels in both the northern and southern Peruvian dialects.
 - How might AM suffixes behave in Headwaters Nawa languages? Does nasality spread?
 - Metrical structure appears to be very different in the eastern dialects (Saynáwa (Couto 2010), Yawanawá (de Paula 2004)), what impact does this have on metrical phonology and nasality?

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