



Toneme neutralisation in Tibeto-Burman iambic compounds

A study of North Patkaian varieties

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Typical MSEA features

Mainland South East Asia (MSEA) linguistic area

- Monosyllabic morphemes
- Lexical tone
- Tendency toward being more isolating
- Compounds are frequent

Found in multiple families: Sino-Tibetan (Trans-Himalayan), Hmong-Mien (Miao-Yao), Kra-Dai (Tai-Kadai), Austronesian, Austroasiatic





Typical syllable structure

$C_1[G]V[C_2]$

C_1 as any consonant

G as /j w/

C_2 as /m n ŋ p t k ʔ/

Tone-bearing unit (TBU) as the rime (nucleus+coda)

This syllable structure is found throughout the Mainland South East Asia (MSEA) linguistic area, including in the languages I'll discuss here.



lambic sesquisyllables in MSEA

$C_1^{\text{ə}}C_2V[C_3]$ $\text{t}^{\text{ə}}\text{ei}$, die $t^{\text{ə}}\text{-t}^{\text{ə}}\text{ei}$, CAUS-die > kill

$C_1^{\text{ə}}$ carries **no lexical tone**, often derived morphology. C_2 begins the stem.

Can be **phonemically distinct from onset clusters** $C_1C_2V[C_3]$, e.g. Turung (Morey p.c.)

$C_1V[C_2] - C_2V[C_3]$ $[\gamma a\text{ʔ}_4\text{u}\eta_3] / > [\gamma^{\text{ə}}_0\text{u}\eta_3]$ “village”

Compound of two stems, frequent method of lexeme formation

Within a compound forming a single word*, some degree of pitch contour & vowel neutralisation is expected on σ_1



To what extent are tonemes neutralised in σ_1 stems in disyllabic compounds?

Why:

- semantic identification in compounds
- tonal reconstruction
- analysis of toneme shifts unrelated to assimilatory features
- potential phylogenetic value / contact effects
- Accurate identification of underlying tonemes is needed to understand differences in verb stem alternations involving a toneme shift
- Implications on script development / orthography reform, mother-tongue education &c

Zooming in

Specifically, how does this look in closely-related Patkaian (“Northern Naga”) varieties?



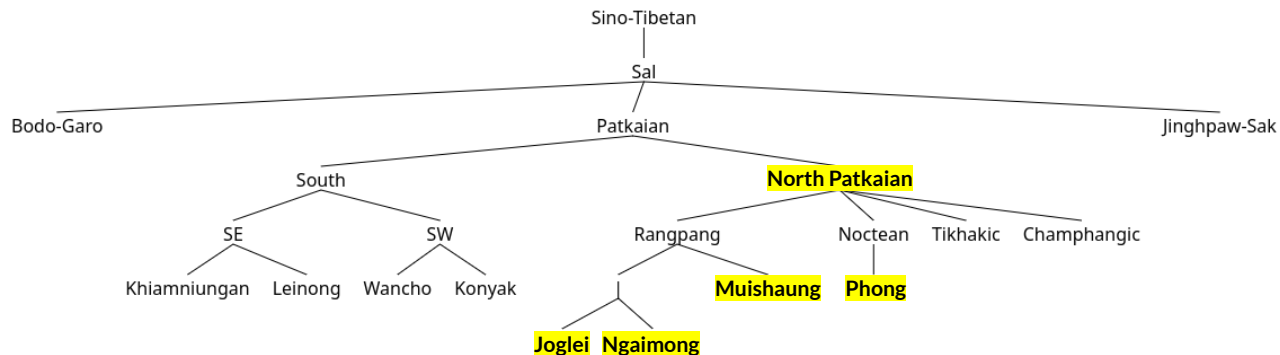
North Patkaian

Referred to as Tangsa-Nocte or Tangsa-Nocte-Tutsa, Tangsa-Nocte-Tutsa-Ollo in the literature

The northern branch of Patkaian, also known as Northern Naga (but not closely related to South-Central Naga languages)

Approximately **80 varieties** with complex internal diversity.

Tone system reconstructed from ~26 varieties, with subsequent data collection confirming reconstruction



North Patkaian



North Patkaian

Approximate village locations circa 1950

Phong

Joglei

Muishaung

Ngaimong

SW

N

SE





North Patkaian tones

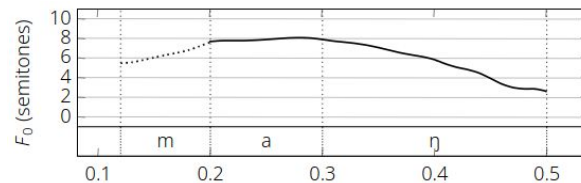
A single tone system can be reconstructed for proto-North Patkaian (van Dam 2018):

Tone 1	<	*creaky
Tone 2	<	*modal
Tone 3	<	*breathy / *- <i>h</i> nominaliser
Tone 4	<	CVC

As with Sinitic and Tai, CVC syllables behave as a separate toneme.

This is not the case for Southeast Patkaian, where no such “checked” category can be supported.

North Patkaian tones



In these 4 varieties, tone contours are fairly similar (not the case elsewhere)

Tone 1	<	*creaky	<	low-falling	31:
Tone 2	<	*modal	<	“emphatic” falling	341:~331:
Tone 3	<	*breathy	<	level	33:
Tone 4	<	CVC	<	checked	<u>5</u> :

In other closely related varieties, tone 1 is 55:, tone 3 is falling, etc. The contours above do not reflect a larger pattern within North Patkaian.

Even in these varieties, contours do not exist as toneme targets.

Rather, better analysed as a series of OT-like constraints against ambiguity.



North Patkaian tone neutralisation

In disyllabic compounds, a degree of neutralisation occurs to the tone of the first syllable.

Of the four varieties discussed here, **each shows a different degree of neutralisation** ranging from full shift of toneme identity to full retention of the underlying tone.

Neutralisation can be caused by regressive assimilation, as well as overall reduction of the contour present.

This is not sandhi. Ngaimong shows potential sandhi patterns independent of neutralisation.



Retention of tonal identity

Two main factors were considered for determining identity of a toneme

1. Retention of contour features as distinguishable on a pitch plot and sometimes phonation too
2. Self-reporting by speakers
 - a. corresponding shifts in the orthographies
 - b. Identification based on semantic transparency

These do not consistently align in all cases.



Methodology

Compounds were collected for which σ_1 were reliably tone 1 or tone 2, with differing σ_2 tonemes.

In these languages, σ_1 is typically a semantic class, thus **fire**-related words will have **ɥar*₁ in σ_1 position, words relating to trees or **wood** will have **pul*₂, allowing for the full range of tonemes in σ_2 with known σ_1 tonemes.

These were then analysed to determine the degree of neutralisation based on pitch contour reduction or loss, combined with self-reported perceptions by speakers.



Example concepts

**ɰar*₁ fire

/βər₁bor₁ma₃/ blister from fire

**ɰar*₁ kin₂ charcoal

**ɰar*₁ pai₃ to ignite

#*ɰar*₁ k^huʔ₄ smoke

**pul*₂ wood, tree

#*pul*₂ d*u*₁ to fell a tree

**pul*₂ t*ʃuŋ*₂ tree trunk

#*pul*₂ p*i*₃ flower

**pul*₂ ʒek₄ leaf



Results by language

Full identity loss / reinterpretation

Conditional loss / reinterpretation based on opacity

Clear identity retention

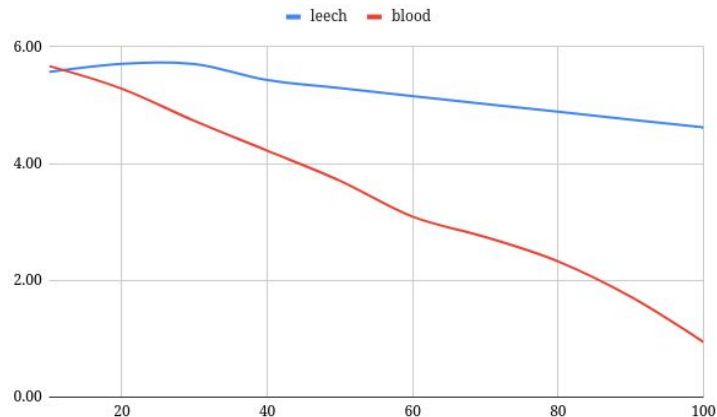
Instrumentally-verifiable retention

Full identity loss: Phong (Pontai)

Speakers self-report full tone loss on many compounds, even with semantic transparency. The underlying stem can be identified, but as having a fully changed tone. True even when contours show some retention

**sĩ₁* **uβat₄* *si₃βat₄*
blood + pierce = leech

Muklom (Noctean) also has full identity loss in this case
as transcribed in Mulder (2020)



North Patkaian

Approximate village locations circa 1950





Identity loss where opaque: Muixshvungx /mɪ₂ʃeun₂/

Romanisation system largely skips toneme on the first syllable due to being recoverable

Muishvungx == Mui₂shaung₂ tone letters: z x c = 1 2 3

Reanalysis has resulted in development of folk etymologies

Tvungc ₃ saz ₁	<	Tvungx ₂ saz ₁	emphatic 231: > level 33:
sacrifice -child	<	hills -child	

Muixshvungx is complicated by the considerable influence of a single speaker & his family, opposition to dialectal diversity, and a high frequency of stem suppletion carrying tone changes (*-h > t3 effects)

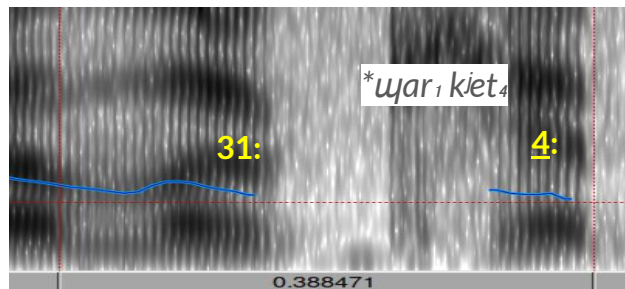
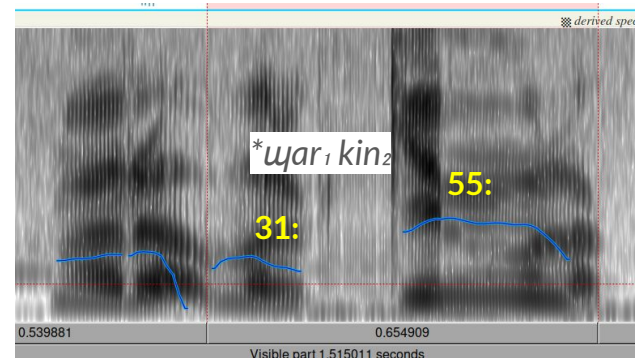
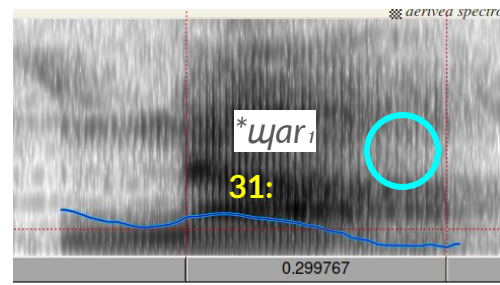
Identity Retention: Ngaimong

- Tone 2 is high-level, not usable for assimilation effects
- Tone 3 is mid-level, thus also not useful

However,

- Retention of contour identity of tone 1
- Retention of **creak* on sonorant codas

Ngaimong is phonologically conservative, retaining many sonorant codas and phonemic creak lost elsewhere in the group.

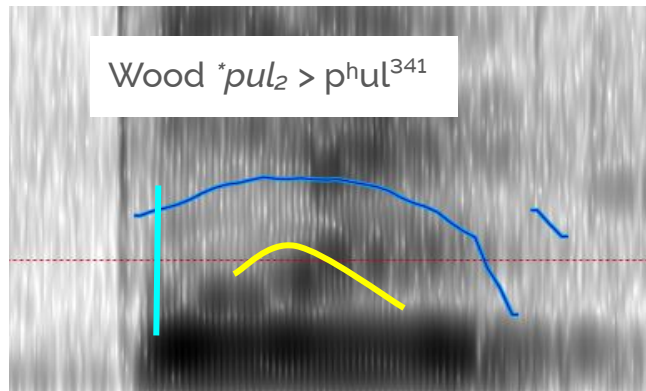
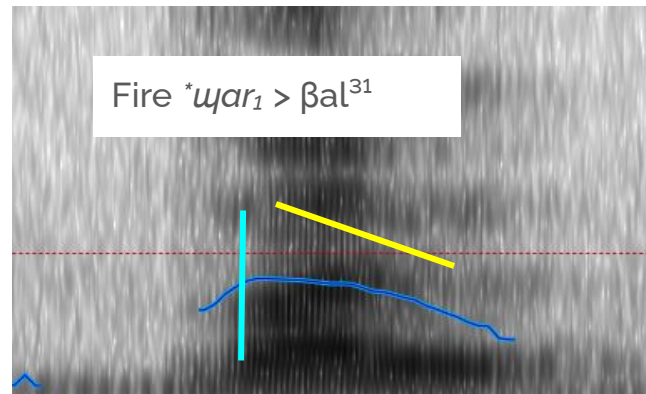


Instrumental retention: Joglei

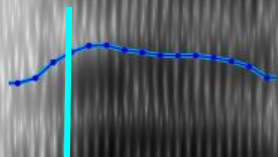
Impressionistically, contours are neutralised in rapid speech. Even in such cases, a distinction can be made between tone 1 \searrow and tone 2 \frown when looking at the pitch contour, with 2 having a slight rise.

In careful speech as seen here the rise is clearly pronounced

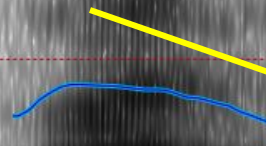
One-ish generation out from total loss? Speakers surveyed were roughly 30 or older



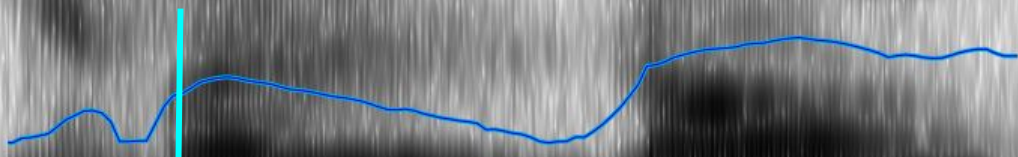
smoke $*\varpi ar_1 ket_4 > \beta al^{31} ket^4$



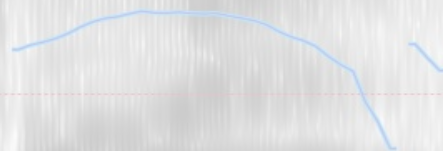
Fire $*\varpi ar_1 > \beta al^{31}$



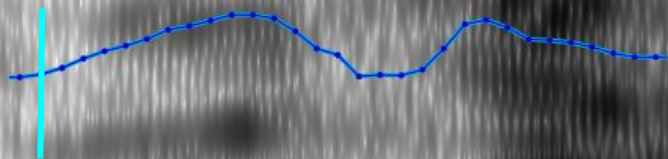
Flame $*\varpi ar_1 lon_3 > \beta al^{31} lon^{33}$



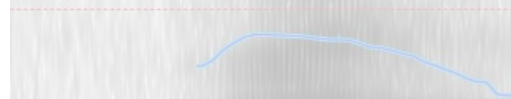
Wood $*pul_2 > phul^{341}$



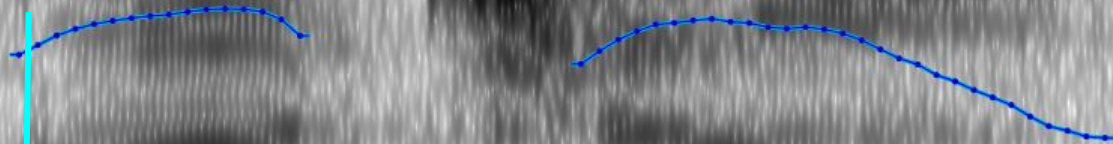
leaf $*pul_2\zeta ak_4 > p^{hul^{341}}\eta ak^4$



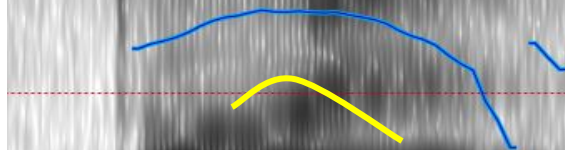
Fire $*\varphi ar_1 > \beta al^{31}$



tree $*pul_2t\eta \eta_2 > p^{hul^{341}}t\epsilon \eta \eta^{341}$



Wood $*pul_2 > p^{hul^{341}}$





Conclusion

Despite great similarity across varieties, there are differences in how they handle tonal assimilation/neutralisation of σ_1 stems in disyllabic compounds.

In some varieties, neutralisation is partial with tonal identity retained.

In others, assimilation has resulted in a predictable re-assignment to a different toneme.

e.g. Phong, some lexemes in Muishvung

In yet others, assimilation is not significant

e.g. Ngaimong

Speaker perception of underlying tones can be affected, and often overrules contour retention

as in Muishvung



To do:

Collect more data from more speakers per language from a wide age range and from different villages for each language, with perceptual testing of reanalysed tone contours / phonation.



Thank you

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ke₃tʃu₁ ʈoʒuŋ₂ hɐl₂

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