

Studies of Amuzgo-Mixtecan Tones

Kosuke Matsukawa

National Museum of Ethnology, Japan

Email: kosuke222@hotmail.com

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Amuzgo-Mixtecan Languages

- Amuzgo Languages
- Mixtecan Languages
 - Mixtec Languages
 - Cuicatec Languages
 - Triqui Languages

Amuzgo Languages

- Guerrero Amuzgo: 30,600 speakers (2000 INALI)
- Ipalapa Amuzgo: 900 speakers (2000 INALI)
- San Pedro Amuzgos Amuzgo: 3,480 speakers (2000 INALI)

Mixtec Languages

- Mixtec Languages: 52 languages
- Number of Speakers: 34 (Sindihui)-46,600 (Metlatónoc)

Cuicatec Languages

- Tepeuxila Cuicatec: 8,682 speakers (2000 INALI)
- Teutila Cuicatec: 3,140 speakers (2000 INALI)

Triqui Languages

- Copala Triqui: 30,000 speakers (2007 SIL)
- Chichahuaxtla Triqui: 4,060 speakers (Adelaar 2007)
- Itunyoso Triqui: 2,000 speakers (1983 SIL?)

Reconstruction of Proto-Mixtecan Tones

- Longacre (1957)

Data Sources: 2 Mixtecs (San Miguel el Grande,
San Esteban Atatláhuca)

1 Cuicatec (Concepción Pápalo)

1 Triqui (Chichahuaxtla)

Cognates: 279 sets

Reconstructed Tones: *4, *3, *2, *1 (4 = highest, 1 =lowest)

- Rensch (1976)

Reconstruction of Proto-Mixtecan Tones (Longacre 1957)

P-Mixtecan	Mixtec	Cuicatec	P-Triqui	Triqui
* (3)3	MM	MM	* (4)4	(3)3
* (3)3?	MM	MM?/ML	* 4?	4h
* (2)2	ML	MM	* 44	(3)3
* (2)2?	ML	ML	* 3?	3h
* 32	ML	MM	* 43	32
* 23	LM	MM	* 43	32
* 21	MM	ML	* 32	21
* 12	MM	ML	* 31	31
* 31	ML	MM	* 31	31
* 13	LM	MM	* 31	31
* 34	HM	HH	* 5?	45
* 44	HH	HL	* 54?	41/4h
* 41	HM	HH		41h/4h/43
* 42	HM	HL/HH		41h/4h/43
* 14	LH	HL/HH	* 5?/5	45/4
* 23				

Mixtec Tones

- Modern Mixtecs H, M, L
 H, ø, L (Daly and Hyman 2007)
 H, M, ø (Snider 1999)

*Atatláhuca (Mak 1953), Yoloxóchitl: 4, 3, 2, 1 ?

*Atatláhuca (Alexander 1980): H, M, L

- Proto-Mixtec *Modified, *H, *L (Dürr 1987)
 *H, *M, *L (Longacre 1957)

*Modified (Dürr 1987) or *H (Longacre 1957) has developed from word-final /ʔ/ which is retained in Ayutla and Santa María Zacatepec.

Historical Developments of Tones in Mixtec Languages

Longacre	Dürr	Molinos	Peñoles
*M-M	*H-H	M-M	M-M (∅-∅)
*M-L	*H-L	M-L	M-H (∅-H)
*L-M	*L-H	L-M	H-M (H-∅)
*L-L	*L-L	L-L	H-H
*H	*Modified	H	L

- /H/ and /L/ of some Mixtec languages (e.g. Molinos, San Miguel el Grande, Chalcatongo, Atatláhuca, Ocotepéc) correspond to /L/ and /H/ in other Mixtec languages (e.g. Peñoles, Diuxi, Jicaltepec, Coatzacoapan) respectively.

Tone Sandhi in Mixtec Languages

- San Miguel el Grande

ʔisò ('rabbit')

kee (/ø-ø^H/) ʔisó ('rabbit will eat')

kee (/ø-ø/) ʔisò ('rabbit will go away')

- Peñoles Mixtec

dító ('uncle') ñáñá (/H-H^L/) dító ('uncle's coyote')

Cuicatec Tones

- Concepción Pápalo H, M, L (Needham and Davis 1946)
- Santa María Pápalo 4, 3, 2, 1 (Anderson and Concepción Roque 1983)
 - *tone 2 & tone 3 are sometimes free variants:
nda²¹ & nda³¹ ‘llevar’, ta²ʔa¹ & ta³ʔa¹ ‘mano’
yen³¹² & yen³¹³ ‘espuma’, ʔdu¹ni² & ʔdu¹ni³ ‘mollera’
- Proto-Cuicatec ?

Triqui Tones

- Copala 5, 4, 3, 2, 1 32, 31, 23
- Chichahuaxtla 5, 4, 3, 2, 1 32, 31, 23
- Itunyoso 5, 4, 3, 2, 1 32, 31, 23
- Proto-Triqui *4, *3, *2, *1 *32, *31, *23

see: Matsukawa (2012) for details

Historical Developments of Tones in Triqui Languages

Proto-Triqui	Copala	Chichahuaxtla	Itunyoso
*VV ⁴ [VV ³⁵]	VV ⁵	V ⁵	Vh ⁵
*Vh ⁴	Vh ⁵	Vh ⁴	Vh ⁴
*V ⁴	V ⁴	V ⁴	V ⁴
*V [?] ⁴ [V [?] ³]	V [?] ³	V [?] ³	V [?] ³

Historical Developments of Tones in Triqui Languages

Proto-Triqui	Copala	Chichahuaxtla	Itunyoso	
*achraa ⁴	achraa ⁵	achra ⁵	arah ⁵	‘to sing’
*rãh ⁴	rãh ⁵	rãh ⁴	rãh ⁴	‘to buy’
*ane ⁴	ane ⁴	ane ⁴	ane ⁴	‘to chew’
*riʔ ⁴	riʔ ³	riʔ ³	riʔ ³	‘to get’

Amuzgo Tones

- Modern Amuzgos

H, M, L

H, L (Williams 2004)

- Proto-Amuzgo

*H, *L (Rensch 1976)

*H (on controlled syllables) > H

*H (on ballistic syllables) > L

*L > M

Some Linguistically Interesting Issues

- Universal of tones
- Influence of laryngeals on tones
- Position of phonemic tones
- Do tone systems historically become more complicated?
- Upstep H in Mixtecs

1. Universal of Tones

a language may contrast up to five levels of tone,
but no more

(Maddieson 1978:338)

Contrastive Five Levels of Tones?

- Miao & Yao
- Gaoba & Shidong Kam
- Bouyei
- Dan
- Ngamambo
- Triqui
- Usila Chinantec
- Ticuna

Ch'ing Chiang Miao

la ⁵⁵	'short'
la ⁴⁴	classifier
la ³³	'cave'
la ²²	'to move away'
la ¹¹	'candle'

(from Anderson 1978:145)

Dan

gba ⁵	‘antelope’
gba ⁴	‘(house)-roof’
gba ³	‘fine (noun)’
gba ²	‘shelter’
gba ¹	‘caterpillar (species)’

(from Anderson 1978:146)

Contrastive Five Levels of Tones?

- Usila Chinantec (Skinner 1962)?

Quetzalapa Chinantec?

- Ngamambo?

Underlying Tones: H & L (Asongwed and Hyman 1976)

- Chori/Cori?: 6 levels of tones?

Underlying Tones: 3 levels (Dihoff 1976)

2. Influence of Laryngeals on Tones

- Usually, post-vocalic [h]/aspiration lowers a tone and post-vocalic [ʔ]/glottalization raises a tone (Haudricourt 1954; Hombert 1978; Hombert et al. 1979; Matisoff 1970, 1973; Ohala 1973; Pulleyblank 1962; Mei 1970; Maran 1971; Yip 2002; etc.).
- In Triqui languages, historically post-vocalic [h] (aspiration) raised a tone and post-vocalic [ʔ] (glottalization) lowered a tone.
 - *Vh⁴ > Vh⁵ (in Copala Triqui), *Vʔ⁴ > Vʔ³ (in all Triquis)
- In Mixtec languages, H has developed from word-final /*ʔ/.

Vietnamese

Proto-Vietnamese

*pas *bas *paX *baX

Pre-Vietnamese

*pah *bah *paʔ *baʔ

6th century Vietnamese

*pâ *bâ *pǎ *bǎ

(Matisoff 1973:74-75)

Other Examples

- Middle Chinese

A falling tone developed from post-vocalic [h] (Pulleyblank 1962) and a rising tone developed from post-vocalic [ʔ] (Mei 1970).

- Burmese

H in Burmese corresponds to [ʔ] in Jingpho (Maran 1971).

- Experiment with Arabic speakers (Hombert 1978)

F0 goes down from 25Hz to 50Hz before [h] and goes up from 9Hz to 48Hz before [ʔ].

Post-vocalic [h] Raised a Tone

- Tsat (Thurgood 1996)

Proto-Chamic	Tsat	
*pluh	piu ⁵⁵	‘broken’
*lanah	lə ¹¹ na ⁵⁵	‘pus’
*blah	phia ⁵⁵	‘cut’

- Yukatek, Punjabi, Moken? (H tonic pitch)

Post-vocalic [ʔ] Lowered a Tone

- Athabaskan (Krauss 2005)

L developed before [*ʔ] in Sarcee-Kutchin-Navajo and H developed before [*ʔ] in Chipewyan-Hare.

Proto-Athabaskan	*-taʔ ('father')	*-tsiʔ ('head')
Sarcee	-táʔ	-tsíʔ
Navajo	-tá·ʔ	-tsí·ʔ
Chipewyan	-tá	-t ^θ í
Hare	-táʔ	-f ^(w) íʔ

3. Position of Phonemic Tones

- In Amuzgo-Mixtecan languages except Triqui languages, phonemic tones may occur on any syllable.
- In Triqui languages, phonemic tones usually occur only on the final syllable of a word: e.g. *zuwe*³ ‘dog’, *aʔmi*³² ‘to speak’ (in Chicahuaxtla).

Why have phonemic tones been lost on non-final syllables
in Triqui languages?

Position of Phonemic Tones

- Tone association proceeds one-to-one from left to right (Goldsmith 1976).
- Counter examples have been presented by Haraguchi (1977), Clements and Ford (1979), Hyman and Ngunga (1994), etc.
- Phonemic tones occur only on the final syllable in Zhuokeiji Jiarong and only on the penultimate syllable in Caoden Jiarong.

4. Do Tone Systems Historically Become More Complicated?

- Usually, a new tone emerges in particular phonological environments.
- before [ʔ]/glottalization or [h]/aspiration
- from different vowel heights or ATR
- from stress or intonation
- from voicing contrast of consonants

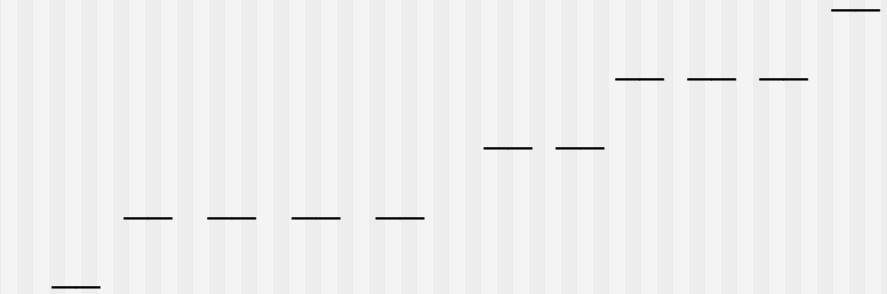
Simplification or Loss of Tonality

- Bantu Languages (Swahili, Tooro, Nyoro, etc.)
- Similar Case: loss of contrastive accents in Japanese dialects

Is there any phonological reason to simplify or lose tonality?

5. Upstep H in Mixtecs

- Acatlán Mixtec (Pike and Wistrand 1974)



[kān^á mángú náʔn^ú kúʔ^ú tú yúk^á]

/kàn^á māngū nàʔn^ú kùʔ^ú tū yùk^á/

‘The large mangos usually seen there are starting to grow.’

Upstep & Downstep in Mixtecs

- Mixtec with Upstep H: Peñoles (Daly and Hyman 2007),
Molinos? (Hunter and Pike 1969)
- Mixtec with Downstep H: Coatzospan (Pike and Small 1974)
Ayutla? (Pankratz and Pike 1967)
- Mixtec with Downstep M: Peñoles (Daly and Hyman 2007)

Characteristics of Peñoles Mixtec Tone System (Daly and Hyman 2007)

- Peñoles Mixtec has /H/, /ø/, /L/
- /ø/ is most frequent & unmarked
/L/ is least frequent & marked
- *universal markedness of tones: $H > M > L$ (de Lacy 2002)
- /H/ is marked in San Miguel el Grande (Tranel 1995),
Chalcatongo (Hinton 1991; Macauley 1996)

Thank you!

Any advice or comment is welcome.

Email: kosuke222@hotmail.com

Please feel free to email me.