

Anatomy of a conference handout

The emergence of ejective fricatives in Upper Necaxa Totonac*

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Talk's title, your name, and affiliation

Upper Necaxa Totonac (a.k.a. Patla-Chicontla) has an unusual phonemic inventory in that it has a series of three ejective fricatives (including the rare /t'/), but no ejective stops, as in (1):

Concise statement of the problem

(1) Upper Necaxa consonants

	stop	aff.	fric.		app.	nas.
labial	p				w	m
alveolar	t	c	s	s'		n
lateral-alveolar			ɬ	ɬ'	l	
post-alveolar		ç	š	š'	y	
velar	k		x			
glottal	ʔ					

This inventory differs from those of other Totonacan languages in

- the presence of ejective consonants (although Tepehua may have ejective stops)
- the absence of the uvular stop /q/
- the presence of a phonemic glottal stop triggering vowel-lowering and backing /n/ to /ŋ/

Thesis

As it turns out, these features are connected by a series diachronic developments, namely

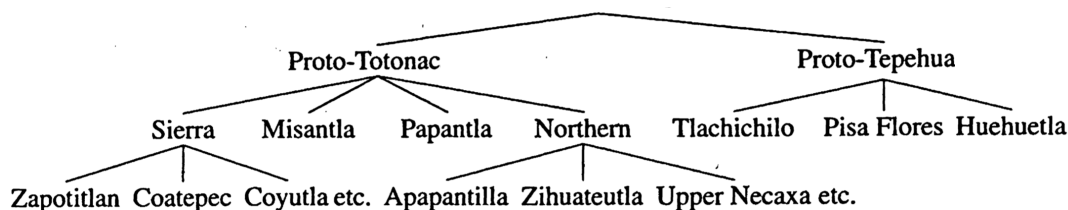
- an initial shift of Proto-Northern-Totonac *q > ʔ in Upper Necaxa
- a collapse of fricative (F) + glottal stop sequences to ejective fricatives, *Fʔ > F'

Totonac phonotactics rules out sequences of stops (T), removing the input for a homologous Tʔ > T' process. This results in a phonemic inventory with a series of ejective fricatives but no ejective stops — something which is, to my knowledge, unique among the world's languages.

1) The Totonacan family

Very little work has been done on the Totonacan (a.k.a. Totonac-Tepehua) family and the relations between individual languages are still unclear. Our best guess at the family tree is Figure 1 (see also Map 1):

Figure 1: Totonacan family of languages



* I'd like to thank David Bennett, Robert Kirchner, Paulette Levy, and Terry Nearey for discussions that helped me come to grips with this topic. Data on Upper Necaxa Totonac was collected in the field in 1998–1999 on a project supported by a SSHRC Doctoral Fellowship and grants from the OAS and the University of Toronto. TL = Tlachichilco Tepehua; PF = Pisa Flores Tepehua; H = Huehuetla Tepehua.

Acknowledgements, abbreviations, etc.

2) Cognates of Upper Necaxa /ʔ/

Obvious cognates of Upper Necaxa (UN) words with /ʔ/ are found in a number of other Totonacan languages. A few of these are given in (2) (sources for languages other than UNT are listed in the references):

(2) Cognates of Upper Necaxa /ʔ/

	<u>UNT</u>	<u>Apapantilla</u>	<u>Papantla</u>	<u>Zapotitlan</u>	<u>Tepehua*</u>
a) 'far'	maʔát	maqát	máqat	maqát	máqati
b) 'sky'	aʔapú:n	aqapú:n	aqapú:n	aqapú:n	Tl. ʔaqapú:-
c) 'flower, bloom'	paʔl-	paqł-	paqł-	paqł-	—
d) 'freshwater shrimp'	aʔačóʔ	aqaçoq	aqáčoq	aqaçoqa	Tl. aqč'óqni PF aʔačóqni
e) 'knee'	coʔósni	coqosni	coqosni	—	Tl. ʔaqcoqóqni PF coʔótni H. coq'oti
f) 'wing'	peʔén	peqen	paqan	paqan	Tl. paqačuh PF. paʔačuh H. peqstıl
g) 'guacima (fruit)'	aʔéštu	aqéštu	aqašti	—	Tl. ʔaqayštah
h) 'explode'	paŋ-	panq-	panq-	panq-	Tl. paq-
i) 'owl'	mó:ŋšu	mó:nqšu:	monqšnú	mó:nqšnu:	PF mó:qšnu: H. móqšnu:

*Tl. = Tlachichilco; PF = Pisa Flores; H. = Huehuetla

- *q > ʔ occurred both between vowels (a, b) and preceding consonants (c); in Pisa Flores Tepehua the same shift seems to have occurred in some words (d – f) between vowels.
- UN /ʔ/ lowers /i/ to [e] and /u/ to [o], as does /q/ in other languages (d – g)
- adjacency to /ʔ/ or /x/ is the conditioning environment for [o] and most [e] (/e/ is phonemic in a few Northern Totonac stems, but it is not phonemic in other branches)
- /ŋq/ (phonetically [ŋq]—Levy 1987, MacKay 1999) corresponds to UN /ŋ/ and /ŋʔ/ (h, i)
 - there are a few instances of UN /ŋ/ inside of stems
 - none of these stems have high vowels in adjacent syllables
 - all other instances of /ŋ/ are associated with /ʔ/
 - /ʔ/ in a /ŋʔ/-sequence disappears in coda position
 - it reappears when it is needed to provide an onset to a following syllable:

paŋ- 'to explode' páŋʔa 'it explodes' páŋlĭ 'it exploded'
- nasals seem to be transparent to the vowel-lowering effect of /q/ and /ʔ/ —see (2i) above

Bullets are a good alternative to large blocks of text

The q ~ ʔ correspondence is thorough-going (no words in UN have /q/) and is recognized as a dialect marker by speakers in the Necaxa Valley and surrounding regions.

3) Cognates of Upper Necaxa /F’/

The ejective fricatives /s’/, /š’/, and /ʔ’/ in UN correspond to /sq/, /šq/, and /ʔq/ sequences in other Totonacan languages, as in (3):

(3) Cognates of Upper Necaxa /F’/

	<u>UN</u>	<u>Apapantilla</u>	<u>Papantla</u>	<u>Zapotitlan</u>	<u>Tepehua</u>
a) ‘small; baby’	s’àt̩	sq̩t̩	sq̩t̩	sq̩t̩	Tl. sʔat’a H. sq’at’a
b) ‘lamp, candle’	pu:maʔs’ót	pu:maqsqo	pu:sqon	pu:maqsqo	—
c) ‘corn husk’	š’a:m	šqa:m	šqam	šqa:m	—
d) ‘to yawn’	taʔeʔs’apàʔ-	taqaʔšqapa:ta	aqšqapa:tnan	tašqapa:ta	—
e) ‘lizard, iguana’	š’q̩l̩l̩	šq̩l̩l̩	šqo:l̩l̩	šqo:l̩l̩	Tl. šqu:lúʔ
f) ‘to burn, cook’	ʔ’oy̩ ‘burn garbage’	ʔqoyunún ‘burn’	ʔqoyú ‘cook’	ʔqoyunan ‘bake in kiln’	—
g) ‘gums’	ʔeʔ’éw̩	qaʔqew̩	qaʔqawi ‘jawbone’	—	—
h) ‘crooked, bent’	ʔ’aw̩l̩	ʔqaw̩l̩	ʔqawili	—	—

➤ UN F’ has the same vowel-lowering properties as /q/ in other languages (b, e, f, g)

➤ synchronic Fʔ sequences remain sequences of two consonants:

iš- ‘3SG.POSSESSIVE’ + *ʔo:lú:* ‘old man, husband’ > *išʔo:lú:* ‘her husband’, **iš’o:lú:*

These facts point to the origin of F’ in the collapse of historical *Fq sequences. The same process might be expected to give rise to ejective velar fricatives /x’/ and ejective stops, however,

ʔ/x’/: /xq/ sequences seem not to exist in other Totonacan languages

- the reflexes of Proto-Totonacan *x differ phonologically from other fricatives
- in Papantla /xT/ > [hT] (Levy 1987)
- in UN, /x/ has allophones [x] and [h], the latter becoming phonetically a voiceless extension of a preceding vowel (i.e. /Vx/ > [VV≤])
- in Misantla, *x corresponds exclusively to /h/; hT clusters are unattested (MacKay 1999)

ʔ T’: Totonac phonotactics rule out TT clusters (McQuown 1990; Levy 1987; MacKay 1999), eliminating the input *Tq which might have created T’ in UN

4) Conclusion Summarize your findings

The evidence points to Upper Necaxa F' arising through a familiar diachronic sequence:

$$F_q > F? > F'$$

Even though the individual steps in the process are not in themselves remarkable, their net result is a highly marked phonemic inventory unique among the world's languages.

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References (only those cited in the handout)



Map1: Totonacan languages