Poqomam $p'$ as a “stone soup” phonological borrowing

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New Ways of Analyzing Variation (N WAV) 49
Several Lowland Mayan languages innovated a /p’/ phoneme

- Present in Poqomam (and western varieties of Poqomchi’)
- Sound change diffused from Lowlands
- No loanwords
- Follows the pattern of a “stone soup” diffusion (Blevins 2017)
Phonological diffusion

- Standard model: borrowed phonemes enter a recipient language through loanwords
  - “[P]honological borrowing’ of this sort is in each case...transfer of pattern...as a result of transfer of fabric. It is rather unusual for a borrowed sound or a borrowed phonological pattern to permeate words in a donor [sic] language that have not been borrowed” (Grant et al. 2020: 77)
Blevins’ (2017) “stone soup” model

- The Yurok language of northwest California innovated glottalized consonants
- Influenced by neighbors that had those sounds
- Few or no loanwords
Blevins’ (2017) “stone soup” model

► “Stone Soup” folktale
  ▶ A hungry traveler comes into a town and starts boiling a rock
  ▶ Tells townspeople he is making “stone soup” but is missing some ingredients
  ▶ They bring ingredients and end up with a delicious soup
  ▶ The stone contributed nothing to the soup directly, but it was the impetus

► Metaphor for phonological borrowing
  ▶ Donor language ejectives are the “stone” - a perceptual target
  ▶ Yurok-internal conditioned sound change produced ejectives
  ▶ Influence from donor language, but no loanwords
The Maya Lowlands

- Zone of prolonged contact in the Classic Period (c. 200-900 AD)
- Shared sound changes, lexicon, grammatical patterns
- Includes over half of Mayan languages
  - Core: Ch’olan, Yucatecan, and Tseltalan subgroups
  - Peripheral influence on other groups
- (Justeson et al. 1985, Law 2014)
Poqom Setting

- “Poqom” - Poqomchi’ and Poqomam
- Very little divergence
- Belong to the K’iche’an branch of Mayan
  - Also includes K’iche’, Kaqchikel, and Q’eqchi’
- Location
  - Poqomam: central Guatemala, around Guatemala City
  - Poqomchi’: east central highlands, in Alta Verapaz and Baja Verapaz
After Kaufman (2017), with revisions based on DuBois (1981)
The Mayan Languages before the Spanish Conquest

1. Wastek
2. Chikonuseltok
3. Yukateke (Maya)
4. Mupan
5. Itza’
6. Lakantun
7. Chol
8. Chontal
9. Chol Mixe
10. Ch’orti’
11. Tzeltal
12. Tzotzil
13. Tojol-ab’al
14. Chuj
15. Q’anjob’al
16. Akateko
17. Popt’i
18. Mocho’
19. Mam
20. Tekiteko
21. Awakateko
22. Ixil
23. K’iche’
24. Kaqchikel
25. Tz’utujil
26. Sakapulteko
27. Sipakapense
28. Uspehiko
29. Poqomchi’
30. Poqomam
31. Q’eqchi’

Map credit: Law (2014)
Poqom History

- Originally a contiguous group
- In the 1400s, K’iche’ expansion into Rabinal drove a “wedge” between the northern and southern groups (Campbell 1978)
- Currently considered distinct ethnic and linguistic groups
- Evidence of contact:
  - From Lowland Mayan languages, especially Ch’olan (Wichmann 2006, Law 2014, Vinogradov 2020)
  - Between Poqom(chi’) and Q’eqchi’ (Campbell 1973, Vinogradov 2020)
Poqomam and Poqomchi’: Dialectology

- Three major dialect areas (Campbell 1978)
  - Eastern Poqomchi’
  - Western Poqomchi’
  - Poqomam
- Western Poqomchi’ and Poqomam share the innovation of /p'/
  - Occurred before the K’iche’ expansion
- Some innovations occurred only in Poqomam or only in Poqomchi’ (Eastern and Western)
  - Malchic Nicolás et al. (2000)
The /p’/ phoneme

- Innovation of /p’/ phoneme in Maya Lowlands
- Yucatecan, Ch’olan, Tzeltalan, and Poqom
- From words that originally had /p/ and /ɓ/ (Kaufman and Norman 1984)
- Sporadic change (Wichmann 2006)
  - Notoriously impossible to write a rule
- Fills a gap in the inventory
### Proto-Mayan consonants (Campbell 2017)

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<thead>
<tr>
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<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatalized alveolar</th>
<th>(Alveo-)palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
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<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p ɓ t t’</td>
<td>t t’</td>
<td>ṯ ṯ’</td>
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<td>k k’</td>
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## Lowland consonants (generalized)

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The /p’/ phoneme in Poqom

- Poqomam and Western Poqomchi’
- Phonemic split
- Subsequent phonetic change affected /ɓ/ (Campbell 1978)
  - /ɓ/ > [ʔm] syllable-finally
  - /ɓ/ > [ʔw] elsewhere
The /p’/ phoneme in Poqom

- Yucatecan likely the ultimate source (Wichmann 2006)
- Probably by way of Western Ch’olan
- But Poqom has very few loanwords from Lowland languages (Vinogradov 2020)
  - “[i]t must be assumed that /p’/ developed in Pocom independently of the b’:p’ contrast in the Lowland Maya languages” (Kaufman and Norman 1984: 85)
- How was /p’/ innovated?
Methodology

- Consulted three Poqomam dictionaries
  - Zinn and Zinn (n.d.)
  - Comunidad Lingüística Poqomam (2003)
  - Conguache Coj (2019)
- Western Poqomchi’ dictionaries are not extensive; excluded here
- Listed all words beginning in ‘p’
Methodology

- Compared to dictionaries of Ch’olan and Yucatecan languages
  - Chol (Aulie and Aulie 2009, Hopkins et al. 2011)
  - Chontal (Keller and Luciano 1997)
  - Yucatec (Bricker 1998, Gómez Navarrete 2009)
- Manually identified plausible and possible loanwords
  - Plausible loanwords: (near-)identical form and meaning
  - Possible loanwords: passably similar form, plausible extension of meaning
  - Not a possible loanword: has phonemes not found in Lowland languages
- Compared roots to roots, mostly
Methodology

- Also compared words to (conservative) Eastern Poqomchi’
  - Comunidad Lingüística Poqomchi’ (2001)
  - Dobbels (2003)
- Some perceived loanwords could actually be cognates
  - Effect of contact between (distantly) related languages
  - Presence of a cognate in Eastern Poqomchi’ or other K’iche’an languages suggests a Poqomam-internal sound change, not a loanword
Note on orthography

- $b'$ = [ɓ]
- $ch$ = [tʃ]
- $j$ = [$χ$]
- $tz$ = [ts]
- $x$ = [$ʃ$]
- $y$ = [j]
- $'$ = [ʔ]
- $VV$ = [Vː]
Data

- 130 headwords across the 3 dictionaries
- About 52 unique roots
  - Grouped based on my judgment and any information in the dictionaries
  - Not always clear which headwords should be considered the same root - vowel variation and inconsistent transcription of $j$ or $h$. 
Results

- Two roots were plausible loanwords
  - \( p’on \) (synonym \( b’ol \)) ‘bulky, swollen’
  - \( p’us^- \) ‘to fold, bend’
  - Yucatec \( p’ol \) ‘swell up’
  - Yucatec \( p’us \) ‘bend, arch, hump up’
  - Chontal \( p’usu u pat \) ‘hunched (back)’

- But equally or more plausible as retentions
  - Poqomchi’: \( b’onb’on \) ‘thick, bulky’
  - Poqomchi’: \( b’us^- \) ‘to fold’
12 more roots were possible (but unlikely) loanwords

- **p’oh’-**, **p’ahb’-** ‘to kick’
  - Yucatec **p’oh** ‘bend over’

- **p’aj**- ‘to beat, hammer, make tortillas’
  - Chol **p’aj** ‘to insult’, **p’ajtel** ‘to fall’

- **p’uy**-, **p’ay**- ‘weak (watered down); soft’
  - Yucatec **p’ay** ‘crumble, shred’

- **p’ees** ‘crooked, curved, bent’
  - Yucatec **p’é’es** ‘to cut, score’,
    - Chol **p’asun** ‘to cut in slices’

- **p’ejek** ‘cold, frozen’
  - Yucatec **p’eh** ‘to chip, break’

- **p’ex’-** ‘to bring sth closer’
  - Yucatec **p’ex** ‘to diminish, lessen’

- **p’ix**- ‘to break (long thin object)’
  - Chol **p’ijtel** ‘to break (iv.)’
Results

- 12 more roots were possible (but unlikely) loanwords
  - *p’irik* ‘multicolored’
  - *p’ix* - ‘lying down’
  - *p’ol* - ‘to reach, overtake’
  - *p’uch* - ‘to smash’
  - *p’ulú’us* ‘to fart’
  - *p’iris* ‘flick with fingers, thump’
  - *p’ixil* ‘awake’
  - *p’ol* ‘to produce’
  - *p’uch* ‘to beat, flail, thresh’
  - *p’ulú’us* ‘inflate’
18 roots could not have been loanwords

/q/, /q’/ phonemes not present in Lowlands (where *q,*k > k)

/r/ is marginal in Yucatec, absent in Ch’olan (except Ch’orti’)

- p’aq- ‘to hang down; throw down (something flat)’
- p’aq- ‘to crush’ (if a distinct root from the previous)
- p’ar- ‘to burn’
- p’aramp’an ‘butterfly’
- p’arik ‘type of noise’
- p’ehq- ‘to throw’
Results

- 18 roots could not have been loanwords
- /q/, /q'/ phonemes not present in Lowlands (where *q,*k > k)
- /r/ is marginal in Yucatec, absent in Ch’olan (except Ch’orti’)
  - p’irik ‘multicolored’
  - p’irit ‘type of traditional food’
  - p’oq- ‘to grind corn on a stone’
  - p’oq ‘seated, positioned’
  - p’oq- ‘to burst, explode’
  - p’oqs ‘species of fish’
Results

- 18 roots could not have been loanwords
- /q/, /q’/ phonemes not present in Lowlands (where *q,*k > k)
- /r/ is marginal in Yucatec, absent in Ch’olan (except Ch’orti’)
  - p’or ‘a bunch, handful, roll’
  - p’uq- ‘to split open’
  - p’uq- ‘to throw packages to the floor’
  - p’uq ‘swollen cheeks’
  - p’uq- ‘to leave pieces of meat or masa’
  - p’ur- ‘ears back’
Discussion

- /p’/ in Poqomam follows the pattern of a “stone soup” diffusion
  - Circumstantially linked to Lowland contact
  - No clear loanwords
  - Sound change happened in retained Poqom words

- In this case, fills a gap in the phoneme inventory
  - “Class 1” borrowing per Grant et al. (2020: 78)
  - The place (bilabial) and manner (voiceless ejective) already exist in the language
  - Easiest class of sound to borrow
Blevins (2017: 99) gives three conditions on “stone soup” diffusion

- Target sound is perceptually salient
- Speakers must be sufficiently exposed to the sound
- Recipient language must have enough tokens of a similar sound to serve as a source for the change

Poqomam:

- Perceptual salience not evaluated here - but it’s an ejective
- Exposure assumed to be sufficient - Lowland influence on grammar
- /b’/ and /p/ both phonetically similar to /p’/ and fairly common
Discussion

- Sporadic sound change
- Minimal pairs in W. Poqomchi’ (Comunidad Lingüística Poqomchi’ 2012: 195-196)
  - p’irooj ‘broken (green bean)’, b’irooj ‘calculated’
  - p’uuq ‘roadrunner’, b’uuq ‘child’
Ramifications and further work

- Provides an example of sound change without loanwords per Blevins (2017)
- Vinogradov (2020) suggests that low lexical borrowing may indicate effort by Poqom speakers to maintain linguistic identity
- Future work may identify any conditions in Poqom where this sound change was blocked (after Wichmann 2006)
- How do speakers perceive the marker socially?
- Part of ongoing research program in Poqom historical dialectology
Dictionary Sources


Dictionary Sources


Other Sources


Other Sources


Other Sources


Thank you!