Pre-nasalized Retroflexion in Somali Bantu Kizigua: A Typologically Rare Sound Change Facilitated by Historic Contact with Related Languages

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Presentation Overview

• Topic: Contact with Genetically Related Languages
• Question: What implications does contact with related languages have for the study of sound change?
• Data: Somali Bantu Kizigua (SBK)
  – An underdocumented language from East Africa
  – History of 19th Century migration from Tanzania to Somalia and subsequent contact with Chimwiini (a related Bantu language)
  – Diachronic retroflexion of prenasalized stops: nt, nd > nʈ, nɖ
• Conclusion: Relatedness through lexical similarity facilitated a typologically rare sound change that otherwise appears to be the result of internal motivation when in fact it was contact with a related language through shift-induced interference (not borrowing)
Issues Encountered in Contact with Related Languages (Epps et al 2013)

What actually happens

• Minor differences between languages easily conflatable

• Speakers may see less of a distinction between languages → Facilitate transfer of linguistic features
  – Ex: Transfer of bound morphemes very rare, but the few attested cases occur in contact with related languages (cf. Mithun 2013 for Tuscarora, Law 2013 for Mayan languages)

How to analyze the outcome

• Difficulty distinguishing between inherited and non-inherited (ex: borrowed) features
  – Similarity can be a result of common inheritance or borrowing

• Problematic in the reconstruction of phylogenetic trees
The Importance of Similarity in Contact

• Interlingual Identification (Weinreich 1953)
  – The identification of points of similarity by bilingual/multilingual speakers to identify equivalent meanings in two or more languages
  – Mechanism that facilitates transfer
  – Example: Russian /p/ vs. English /p/
    • Different phonetic pronunciations (sometimes aspirated in English)
    • But treated by speakers as similar enough to be equivalent
    • Explains “foreign accent”
      – Unaspirated pronunciation in English by Russian L1 speakers in contexts in which aspiration found for L1 English speakers
      – Aspirated pronunciation in Russian by English L1 speakers
Typology vs. Relatedness in Contact

Typological Similarity

• Weinreich (1953)
  – Structural similarity facilitates transfer of features between two languages
  – Genetic relatedness immaterial to transfer
  – “A language is a dialect with an army”

Genetic Relatedness

• Law (2013)
  – Structural similarity facilitates transfer, but related languages share a much higher number of points of similarity across all levels of linguistic structure
    • Morpho-Syntactic similarity AND
    • Phonological similarity AND
    • Lexical similarity
  – Thus, genetic relatedness can be a facilitating factor in a way that is less likely for unrelated languages because of the much greater magnitude of similarity
    • Transfer of bound morphemes (otherwise very rare in cases of unrelated languages)
Lexical Similarity

• Possible in unrelated languages
  – Example: /hol/ in Mayan and /hol/ ‘hole’ in English (Law 2013)
  – But such points of similarity relatively few

• Much more frequent in related languages
  – In fact, such frequency used to establish cognates and to identify sound correspondences to identify genetic relationship between languages
Question

1. If related languages share a much higher degree of etymological similarity and
2. If etymologically related vocabulary is the starting point for identifying cognates and sound correspondences

• What implications could contact between related languages have for the study of sound change?
  – SBK data used to explore this question
Presentation Goals

To show that:

1. Contact with genetically related languages played a major role in facilitating a typologically unusual change.

2. The mechanism was *shift-induced interference*, NOT *borrowing* (following Thomason & Kaufman 1988)

3. Genetic relatedness and shift-induced interference conspired together leading to change that appears to be the result of internal motivation
The Traditional Dichotomy

Inheritance

Proto-Bantu
*bantu

* n > 0 / _ t

TZ Kizigua
[wantu]

Standard Swahili
[watu]

Contact (borrowing)

Somali Kizigua
[ndoni] ‘boat’

Somali
[doni] ‘boat’

Internally Motivated Change

Externally Motivated Change
Two Mechanisms for Contact-Induced Change

Following Thomason & Kaufman (1988)

Borrowing (external)

- L1 speakers of a language influencing direction of change
- What usually first comes to mind

Shift-Induced Interference
(Also External)

- L2 speakers of a language influencing development of language by introducing L1 features into the L2
- May have historically happened more often than discussed in the literature
  - Can be difficult to prove
    - If a group shifts to another language, evidence often lost of the language before the shift
  - But for SBK, argument developed that there is sufficient evidence supporting shift-induced interference
Model of Shift-Induced Interference

Proto-Bantu
*bantu

19C Tanzanian Kizigua
[wantu]

21C Tanzanian Kizigua (still spoken)
[wantu]

SBK (initial contact)
[wantu]

nt > nʈ
nd > nɖ

SBK (after contact)
[wantu]

Chimwiini
[wantu]

Chimwiini (still spoken)
[wantu]
Major Data Sources

• **19th Century Tanzanian Kizigua (TK)**
  – 3,500 word Dictionary of Late 19th Century TK (Kisbey 1906)

• **21st Century Somali Bantu Kizigua (SBK)**
  – Pitt Kizigua Corpus
    • Lexicon of ~ 700 words, including 220 basic word list from Samarín (1967)
    • Began with 4-month long Field Methods course at U. Pitt.
    • Supplemented by consultant work with additional speakers in the Pittsburgh Somali Bantu community
## Kizigua Documentation

<table>
<thead>
<tr>
<th>Approx. Time Period Represented</th>
<th>Tanzanian Kizigua</th>
<th>Somali Kizigua</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840’s-1860’s</td>
<td>Migration to Somalia</td>
<td></td>
</tr>
<tr>
<td>1860-1910</td>
<td>Last 1885, Kibsey 1897, Kibsey 1906</td>
<td>???</td>
</tr>
<tr>
<td>1995-present</td>
<td>Mochiwa 2008</td>
<td>Odden n.d</td>
</tr>
</tbody>
</table>

- No retroflex stops reported in any documentation of TK (19th Century-present)
- All documentation on SK describe presence of retroflex or /r/-like sounds
  - Retroflexion likely developed in SK either in the 19th or early 20th Century
Words from Pitt Corpus with /nʈ/ or /ndʃ/:

<table>
<thead>
<tr>
<th>Late 19th Century TZ</th>
<th>SK</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>mntʰu</td>
<td>mntu</td>
<td>‘person’</td>
</tr>
<tr>
<td>ntʰondo</td>
<td>nṭondo</td>
<td>‘star’</td>
</tr>
<tr>
<td>ntʰambo</td>
<td>(mwe)ntambo</td>
<td>‘traveler’</td>
</tr>
<tr>
<td>ntʰembo</td>
<td>nṭembo</td>
<td>‘elephant’</td>
</tr>
<tr>
<td>banthʰi</td>
<td>bantʃi</td>
<td>‘door’</td>
</tr>
<tr>
<td>ntʰangulu</td>
<td>nṭangulu</td>
<td>‘basket’</td>
</tr>
<tr>
<td>ndevu</td>
<td>ndevu</td>
<td>‘beard’</td>
</tr>
<tr>
<td>vundi</td>
<td>vunde</td>
<td>‘cloud’</td>
</tr>
<tr>
<td>nkonde</td>
<td>honde / qonde</td>
<td>‘cultivated field’</td>
</tr>
<tr>
<td>tunda</td>
<td>tunḍa</td>
<td>‘fruit’</td>
</tr>
<tr>
<td>kindedi</td>
<td>cinḍedi</td>
<td>‘correct’</td>
</tr>
<tr>
<td>kudantʰa</td>
<td>kuɕantʃo</td>
<td>‘to lie, to deceive’</td>
</tr>
<tr>
<td>nkande</td>
<td>hande / qande</td>
<td>‘food’</td>
</tr>
</tbody>
</table>

- Unconditioned pair of sound changes: nt > nʈ, nd > ndʃ
# Noun Class Prefix Alternation

<table>
<thead>
<tr>
<th>SBK</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ᱞ日正式 - ᱞu-hu</td>
<td>‘other person’ (Noun Class 1)</td>
</tr>
<tr>
<td>ᱞt人 - ᱞa-u-hu</td>
<td>‘other people’ (Noun Class 2)</td>
</tr>
<tr>
<td>ᱞ份人 - ᱞi-u-hu</td>
<td>‘other thing’ (Noun Class 7)</td>
</tr>
<tr>
<td>ᱞ份人 - ᱞi-u-hu</td>
<td>‘other things’ (Noun Class 8)</td>
</tr>
<tr>
<td>/mbwa N-u-hu/ → [mbwa n-u-hu]</td>
<td>‘other dog’ (Noun Class 9)</td>
</tr>
<tr>
<td>/mbwa N-u-hu/ → [mbwa n-u-hu]</td>
<td>‘other dogs’ (Noun Class 10)</td>
</tr>
</tbody>
</table>

- Some speakers say [mbwa n⁵u-hu]
  - Still have voicing contrast elsewhere: [mŋtu] vs. [ŋu-hu]
- Similar alternation in TK (Kisbey 1897, Nurse & Hinnebusch 1993), but t → th / n _
  - No alternation discussed for /d/.
## Exceptions to Retroflexion

<table>
<thead>
<tr>
<th>SBK</th>
<th>19th C TK</th>
<th>21st C TK</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>kuandika</td>
<td>(kugonda)</td>
<td>kuandiko</td>
<td>Standard (Southern) Swahili: [kuandika]</td>
<td>‘to write’</td>
</tr>
<tr>
<td>bandera</td>
<td>bendela</td>
<td>bendelo</td>
<td>Portuguese: [bandeira] or Italian: [bandiera], possibly via Std Swa [bandera]</td>
<td>‘flag’</td>
</tr>
<tr>
<td>ndoni</td>
<td>--</td>
<td>(mashua)</td>
<td>Somali: [dɔnĩ]</td>
<td>‘boat’</td>
</tr>
<tr>
<td>asante</td>
<td>(kushukulu)</td>
<td>(hongela, kushukulu)</td>
<td>Std Swa: [asante]</td>
<td>‘thank you’</td>
</tr>
<tr>
<td>haranti</td>
<td>(lwazo)</td>
<td>(lwazo)</td>
<td>Possibly Northern Swahili: [hara +nţi] LOC + ‘ground’ (Odden 2012, p.c.)</td>
<td>‘courtyard’</td>
</tr>
</tbody>
</table>

- All appear to be loans
Data Summary

• Retroflexion limited to words that are inherited from 19th C. TK.
• Retroflexion completely absent in words that are loans or have unknown origin
• One POA for coronal pre-nasalized stops in TK (19th-21st C.)
  – Alveolar
• But 2 POA possible for coronal pre-nasalized stops in SBK
  – Alveolar and Retroflex
• An alveolar/retroflex contrast has emerged in SBK
Internal Motivation?

• Bhat (1973)
  – Survey of retroflexion based on 150 lgs
  – Most languages with retroflex sounds developed retroflexion through contact
  – Very few phonetic environments lead to retroflexion
    1. A preceding apical tap or trill
       – N/A to SBK
    2. A following retroflex consonant
       – N/A to SBK
    3. A following back vowel
       – N/A to SBK, can occur before front AND back vowels
    4. Implosion
       – Found in SBK, but NA to pre-nasalized stops
Internal Motivation? (contd.)

- Hamann & Fuchs (2010)
  - $d > \dot{q}$ in Dhal, Thulung, Afar
    - Due to greater phonetic tendency for $[d]$ to retract than for $[t]$
  - Not clear about whether applicable to prenasalized stops
  - Would not explain $nt > n\dot{t}$ in SBK
  - Still needs an external trigger (sociolinguistic factors)
Northeastern Kenyan/Somali Bantu Languages

• Nurse (1985), Nurse & Hinnebusch (1993)
  – Introduction of dental phoneme from Cushitic loan words with dentals
  – Subsequent perceptual enhancement of two-way coronal contrast
    • nt, nd > nʈ, nɖ

• Lack of loan words in SBK with dentals, so explanation N/A

• Instead, better evidence for SBK contact with these languages
History of the Zigua

1840’s: Famine and drought

1865-1890: >20K slaves escape

Gosha: a de facto “republic of free ex-slaves” (Declich 1995:96) until Italian colonization (early 1900’s)

Zigua Leadership

Non-Zigua would learn Kizigua

100+ years in Gosha region

Until Somali Civil War (1990’s-present)

Adapted from Grotanelli (1955)
Historical Overview from Eno & Eno (2007)
Two Major Groups in Contact in Gosha

1. The Zigua

2. Mixed Group of
   – Indigenous Tribes
     • Bantu: Bajuni, Pokomo
     • Cushitic: Oromo, Boni, Somali
   – Other fugitive slaves
     • All Bantu: Yao, Makua, Ngindo, Nyasa

http://www.suppressedhistories.net/matrix/zigula.html, Copyleft 2006 Max Dashu
Two Groups in Gosha

According to Menkhaus (2003):

**The Zigua**
- All Adults
  - Explains why Kizigua was maintained
  - Very strong loyalty to ancestral language/culture

**Other Bantu Slave Groups**
- Included some children
  - More likely able to acquire other languages
  - Did not pass their heritage languages to subsequent generations

**In the city of Brava:**

**Languages Spoken**
1. Chimwiini (dialect of Northern Swahili) – lingua franca
2. Af-Maay (Cushitic)
3. Tunni Dialect of Somali (Cushitic)

Other Bantu Slave Groups shifted to these languages and some to Kizigua
## Source of SBK /nt/ and /nd/?

<table>
<thead>
<tr>
<th>Language</th>
<th>Family</th>
<th>[-voice] Prenasalized Retroflex Stops</th>
<th>[+voice] Prenasalized Retroflex Stops</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Af-Maay</td>
<td>Cushitic</td>
<td>--</td>
<td>--</td>
<td>(Paster 2006)</td>
</tr>
<tr>
<td>Aweera (Boni)</td>
<td>Cushitic</td>
<td>--</td>
<td>--</td>
<td>(Nurse 1985)</td>
</tr>
<tr>
<td>Oromo</td>
<td>Cushitic</td>
<td>--</td>
<td>--</td>
<td>(Gragg 1982)</td>
</tr>
<tr>
<td>Somali –Standard</td>
<td>Cushitic</td>
<td>--</td>
<td>--</td>
<td>(Saeed 1999)</td>
</tr>
<tr>
<td>Somali – Tunni Dialect</td>
<td>Cushitic</td>
<td>--</td>
<td>--</td>
<td>(Tosco 1997)</td>
</tr>
<tr>
<td>Northern Swahili –</td>
<td>Bantu G Zone</td>
<td>--</td>
<td>✓</td>
<td>(Nurse 1985)</td>
</tr>
<tr>
<td>Bajuni Dialect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Swahili –</td>
<td>Bantu G Zone</td>
<td>✓</td>
<td>✓</td>
<td>(Nurse and Hinnebusch 1993)</td>
</tr>
<tr>
<td>Chimwiini Dialect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Pokomo</td>
<td>Bantu E Zone</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Pokomo</td>
<td>Bantu E Zone</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makua</td>
<td>Bantu P Zone</td>
<td>ŋ (some dialects)</td>
<td>✓</td>
<td>(Maples 1879; Kröger 2005)</td>
</tr>
<tr>
<td>Yao</td>
<td>Bantu P Zone</td>
<td>ʂ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TZ</td>
<td>SBK</td>
<td>Chimwiini</td>
<td>Gloss</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-----------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>-nkundu</td>
<td>-hundu</td>
<td>-hu:ndu</td>
<td>‘red’</td>
<td></td>
</tr>
<tr>
<td>nkondo</td>
<td>qondo</td>
<td>nkondo</td>
<td>‘war’</td>
<td></td>
</tr>
<tr>
<td>kenda</td>
<td>cenda</td>
<td>kenda</td>
<td>‘nine’</td>
<td></td>
</tr>
<tr>
<td>matunda</td>
<td>matunda</td>
<td>matu:nda</td>
<td>‘fruit’</td>
<td></td>
</tr>
<tr>
<td>kintu</td>
<td>cinṭu</td>
<td>cinṭu</td>
<td>‘thing’</td>
<td></td>
</tr>
<tr>
<td>mntu</td>
<td>mṭntu</td>
<td>muntu</td>
<td>‘person’</td>
<td></td>
</tr>
<tr>
<td>ntembo</td>
<td>ntembo</td>
<td>(tembo)</td>
<td>‘palm wine’, ‘elephant’</td>
<td></td>
</tr>
<tr>
<td>ntondo</td>
<td>ntondo</td>
<td>(noota)</td>
<td>‘star’</td>
<td></td>
</tr>
<tr>
<td>vundi</td>
<td>vunde</td>
<td>(i-wiingu)</td>
<td>‘cloud’</td>
<td></td>
</tr>
<tr>
<td>nkonde</td>
<td>honde / kondę</td>
<td>ikonde</td>
<td>‘fist’</td>
<td></td>
</tr>
<tr>
<td>nkonde</td>
<td>honde / qonde</td>
<td>honde</td>
<td>‘cultivated field’</td>
<td></td>
</tr>
</tbody>
</table>

- One-to-one correspondence between SBK and Chimwiini /nt/ and /nd/
Borrowing Hypothesis

• If all words with retroflex stops borrowed from Chimwiini
  – Why would some words with retroflexion in SBK lack cognates in Chimwiini?

<table>
<thead>
<tr>
<th>TZ</th>
<th>SBK</th>
<th>Chimwiini</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ntembo</td>
<td>ntembo</td>
<td>(te:mbo)</td>
<td>‘palm wine’, ‘elephant’</td>
</tr>
<tr>
<td>ntondo</td>
<td>ntonqo</td>
<td>(noota)</td>
<td>‘star’</td>
</tr>
<tr>
<td>vundi</td>
<td>vundé</td>
<td>(i-wiingu)</td>
<td>‘cloud’</td>
</tr>
</tbody>
</table>
Shift-Induced Interference

• Chimwiini L1 speakers learned Kizigua as an L2

• Would have spoken Kizigua with Chimwiini phonological features
  – Would have included pronunciation of Kizigua /nt/ and /nd/ as [nʈ] and [nd]

• No need to explain lack of corresponding cognates with retroflexion in Chimwiini
  – They would have observed (unconsciously or consciously) the sound correspondence and extended it to words in SBK lacking cognates in Chimwiini
How /nʈ/ and /ndʃ/ may have spread from Chimwiini to SK

The Zigua

1st Generation (in Brava)
- All adults Spoke Kizigua

2nd Generation (in Gosha)
- Spoke Kizigua

3rd Generation (in Gosha)
- Spoke Kizigua

Both parents Zigua Spoke Kizigua

Other Bantu Groups

Some children Acquired Chimwiini and Maay

L1: Chimwiini & Maay
L2: Kizigua (with Chimwiini phonology)

intermarriage

1 Zigua parent Acquired Kizigua with Chimwiini substrate features

Spoke Maay only

...
Review of Shift-Induced Interference

Proto-Bantu
* bantu

19C Tanzanian Kizigua
[wantu]

21C Tanzanian Kizigua
(still spoken)
[wantu]

nt > nʈ
nd > nɖ

SBK
(initial contact)
[wantu]

nt ~ nʈ
nd ~ nɖ

SBK
(after contact)
[wantu]

Chimwiini
[wantu]

Chimwiini
(still spoken)
[wantu]
Conclusion

• The restriction to inherited vocabulary makes it appear that pre-nasalized retroflex sounds developed through internal motivation

• Socio-historical evidence suggests otherwise
  – Contact with many other Bantu languages including Chimwiini, one of the few languages that has /ⁿt/ and /ⁿd/
  – Intermarriage between different Bantu groups
  – Zigua leadership important in development of Gosha

• The diachronic correspondence we see today is a result of shift-induced interference rather than internally motivated phonetic change
  – Contact with genetically related languages made this pattern possible
Acknowledgements

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Asante! / Thank you! / Merci!
Questions, comments?
Je pourrai prendre des questions en français

For Handouts: email hbt3@pitt.edu
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