A Lexical Comparison of Tajik Sign Language and Afghan Sign Language

Justin Power
The University of Texas at Austin
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Introduction

• Are Afghan SL and Tajik SL related?

• What is relatedness amongst signed languages?
Introduction: Relatedness amongst signed languages

- Traditional view: Languages do not have genetic relationships if
  - Transmission not typically from parent to child
  - Multiple ancestors

Introduction: Relatedness amongst signed languages

• Sign researchers have differed on question of relatedness

  • Traditional view: Guerra Currie et al (2002)

  • Relatedness view: McKee & Kennedy (2000), Woodward (2011)
Introduction: Relatedness amongst creoles

• Relatedness between creoles and colonial European languages
  • Traditional view: Creoles do not have genetic relationships
  • Relatedness view: Mufwene (2001, 2008)

cf. Campbell (2013)
Outline

1. Background: Afghan Sign Language and Tajik Sign Language
2. Data and methodology
3. Network analysis results
4. Discussion and conclusions
Background: Afghan Sign Language (AFSL)

- 1992: Vocational training project for ca. 60 deaf refugees in Peshawar
  - American Sign Language (ASL) used for communication for 2-3 years
- 1995: First school for the deaf in Jalalabad
  - Collection of Afghan signs published
- Today: AFSL signers in major cities and locations with education programs
  - approx. 1,000 students in 3 largest schools for the deaf (2 in Kabul and 1 in Jalalabad)
Background: Tajik Sign Language

- 1940: First school for the deaf in Rudaki south of Dushanbe
  - Established by Russian educators and caregivers

- 1975: Second residential school established in Khujand

- Russian Sign Language (RSL) and Russian taught in schools until 1990s

- Today: Residential schools in Rudaki and Khujand
  - total approx. 800 deaf and hard-of-hearing students

Deaf education programs in Tajikistan
### Background: Summary

<table>
<thead>
<tr>
<th></th>
<th>Afghanistan</th>
<th>Tajikistan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>2-3 years</td>
<td>1940 - 1990s</td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td>Peshawar</td>
<td>Large urban areas (Dushanbe and Khujand)</td>
</tr>
<tr>
<td><strong>Foreign signers</strong></td>
<td>2 fluent ASL signers</td>
<td>Russian educators and caregivers</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td>Vocational training program for adults</td>
<td>Educational institutions (Preschool - grade 10)</td>
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Features of contact with foreign signed language
Data

- Afghan SL: Videos collected for dictionary\(^1\) between 2009-12 in Kabul
- Tajik SL: Four signers in Dushanbe, collected in 2016
- Russian SL, American SL: Online video dictionaries (spreadthesign.com)

\(^1\)Shelter Now International and Serve Afghanistan
Data: Afghan signers

- Age of signers < 30
- No direct contact with American signers
Data: Tajik signers

<table>
<thead>
<tr>
<th>Signer</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>62</td>
<td>62</td>
<td>52</td>
<td>41</td>
</tr>
<tr>
<td>Age at deafness</td>
<td>7-8</td>
<td>Young child</td>
<td>Congenital</td>
<td>Congenital</td>
</tr>
<tr>
<td>Age at exposure to</td>
<td>19</td>
<td>28</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Russian signers</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Map of Tajikistan with numbers 1-4 indicating signers.
Methodology: Concept list

• 185 total basic vocabulary concepts
  • Swadesh 100-item list
  • 100-item list for sign research
  • 100-item list of least borrowed concepts

• 151 concepts used in this study

Methodology: Similarity

• Comparison of superficial similarity

• Similar: synonyms with at least 2 of 3 matching parameters (handshape, location, movement)

Guerra Currie et al (2002)
Methodology: Assessing similarity

Afghan SL

FULL similar in Afghan SL and American SL

American SL
Methodology: Assessing similarity

Tajik Signer 3

Russian SL

WATER similar in Tajik SL and Russian SL
Methodology: Assessing similarity

NAME dissimilar in Tajik SL and Afghan SL
Methodology: Similarity

- Distance-based measure of similarity, not cognacy
- Split network analysis using NeighborNet in SplitsTree4

Methodology: Phylogenetic trees and networks

• Trees model idealized descent with differentiation from a single ancestor

Phylogenetic tree of Indo-European from Figure 8 in Ringe et al (2002)
Methodology: Phylogenetic trees and networks

- Networks represent conflicting signals in a data set (e.g., due to contact) and do not force the data into a tree graph
Results

Phylogenetic network for four Tajik signers, AFSL, ASL, and RSL
Results

Difference in edge lengths
Results

Split separating AFSL and ASL from RSL and Tajik signers
Results

Cluster of Tajik signers and RSL
Results

Cluster of Tajik signers and RSL
Results: Summary

• Robust split separating RSL and Tajik signers from AFSL and ASL

• Distance of AFSL and ASL greater than distance of TSL and RSL

• Two splits separate Tajik signers 1 and 2 from other TSL signers and RSL: possible effects of regional differences and/or age of exposure to signed language
Discussion: Relatedness

- Little support for genetic relationship between Afghan SL and Tajik SL
Discussion: Relatedness

- Characterizing similarity between Central Asian and foreign SLs
  - Iconicity (parallel development)
  - Diffusion
  - Genetic relationship
Discussion: Relatedness

- Iconicity and shared gestural repertoires
Discussion: Relatedness

- Afghan SL and American SL
  - Adult learning
  - Limited contact
  - Low lexical similarity

- Suggests diffusion
Discussion: Relatedness

• Tajik SL and Russian SL
  • Child learning
  • Intensity and duration of contact
  • High lexical similarity

• Suggests possible genetic relationship
Conclusions

- Different features of contact situations in Afghanistan and Tajikistan have led to different levels of lexical similarity to foreign sign language.

- Network analysis can help distinguish similarity based on parallel development from other causes, but cannot differentiate similarity due to inheritance or diffusion.

- Possible to conceive of relatedness among signed languages involving intensive contact, child learning, and shift by adults.
References


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