A Lexical Comparison of
Tajik Sign Language and Afghan Sign Language

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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

cf. Thomason & Kaufman (1988)

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)

Deaf education programs in Afghanistan

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Background: Tajik Sign Language

Deaf education programs in Tajikistan

- 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

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Background: Summary

	Afghanistan	**Tajikistan**
Duration	2-3 years	1940 - 1990s
Geography	Peshawar	Large urban areas (Dushanbe and Khujand)
Foreign signers	2 fluent ASL signers	Russian educators and caregivers
Context	Vocational training program for adults	Educational institutions (Preschool - grade 10)

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)
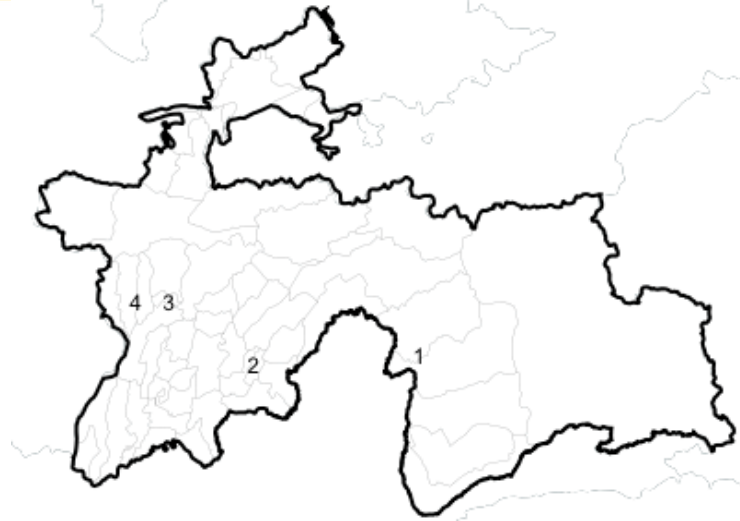
[1]Shelter Now International and Serve Afghanistan

Data: Afghan signers

- Age of signers < 30

- No direct contact with American signers

Data: Tajik signers

Signer	1	2	3	4
Age	62	62	52	41
Age at deafness	7-8	Young child	Congenital	Congenital
Age at exposure to Russian signers	19	28	4	7

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

pronouns, body parts

- 151 concepts used in this study

Swadesh (1971), Woodward (1978), Haspelmath & Tadmor (2009)

Methodology: Similarity

- Comparison of superficial similarity

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

Guerra Currie *et al* (2002)

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Methodology: Assessing similarity

Afghan SL

American SL

FULL similar in Afghan SL and American SL

Methodology: Assessing similarity

Tajik Signer 3

Russian SL

WATER similar in Tajik SL and Russian SL

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# Methodology: Assessing similarity

Tajik Signer 4

Afghan SL

NAME dissimilar in Tajik SL and Afghan SL

Methodology: Similarity

- Distance-based measure of similarity, not cognacy

- Split network analysis using NeighborNet in SplitsTree4

Bryant & Moulton (2004), Huson & Bryant (2006)

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Methodology: Phylogenetic trees and networks

- Trees model idealized descent with differentiation from a single ancestor
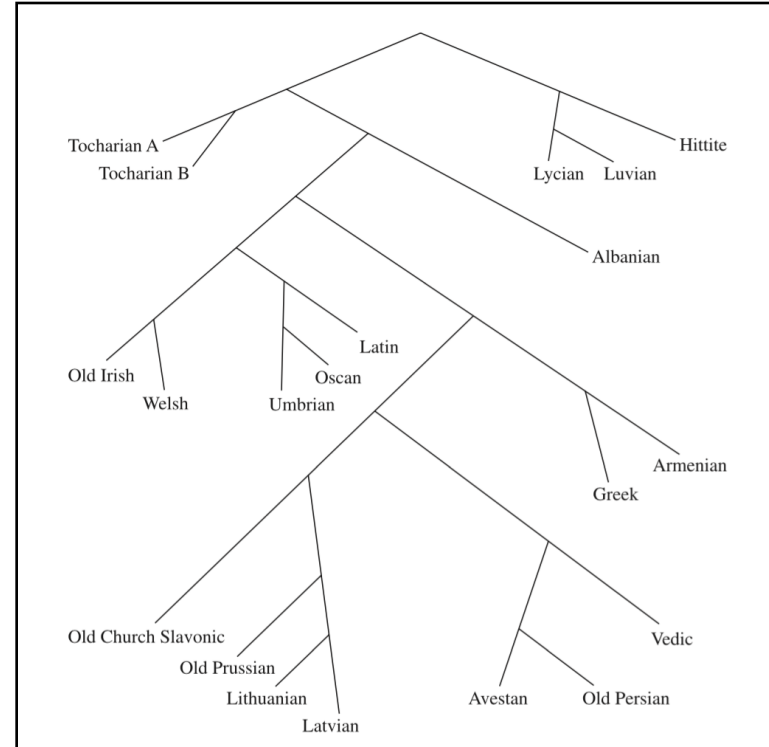
Phylogenetic tree of Indo-European
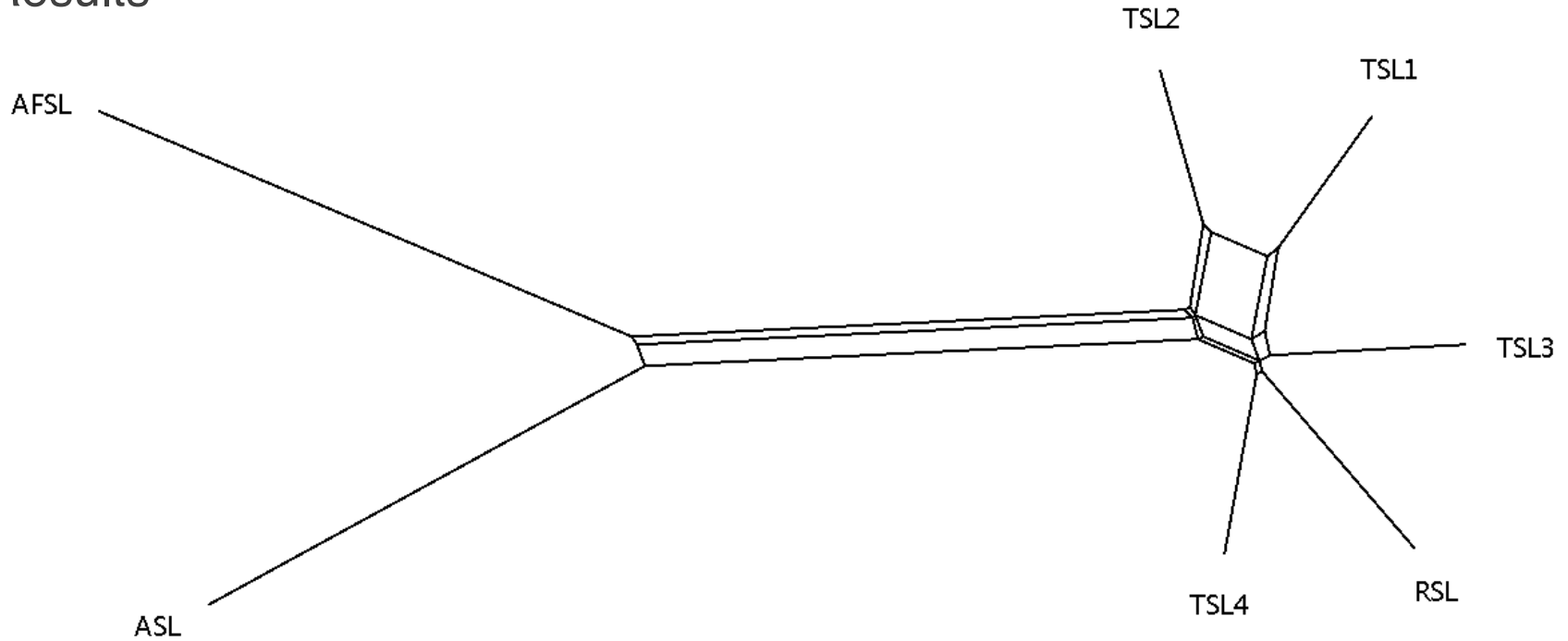from Figure 8 in Ringe *et al* (2002)

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Methodology: Phylogenetic trees and networks

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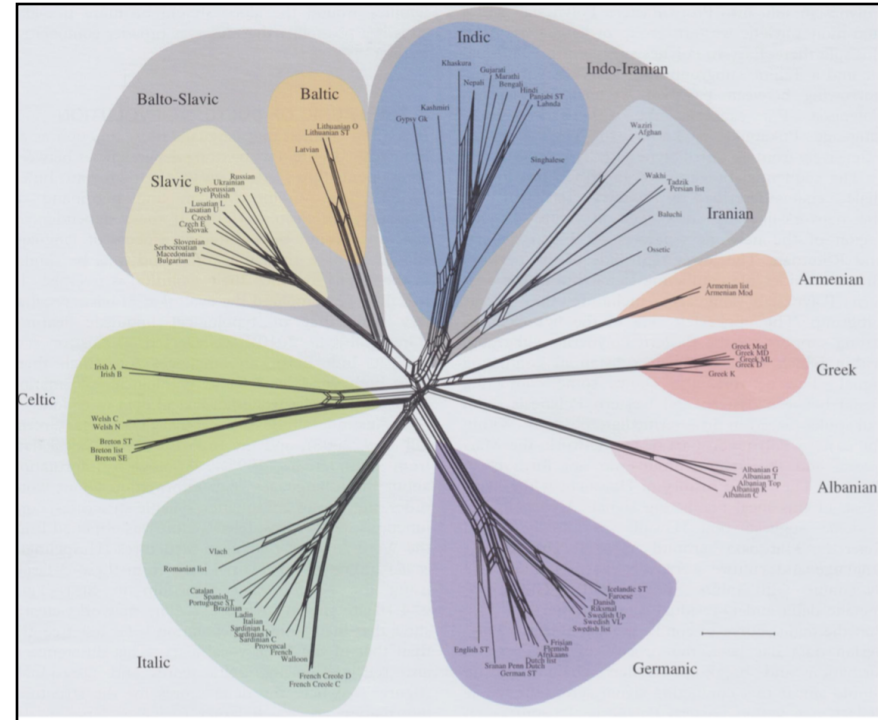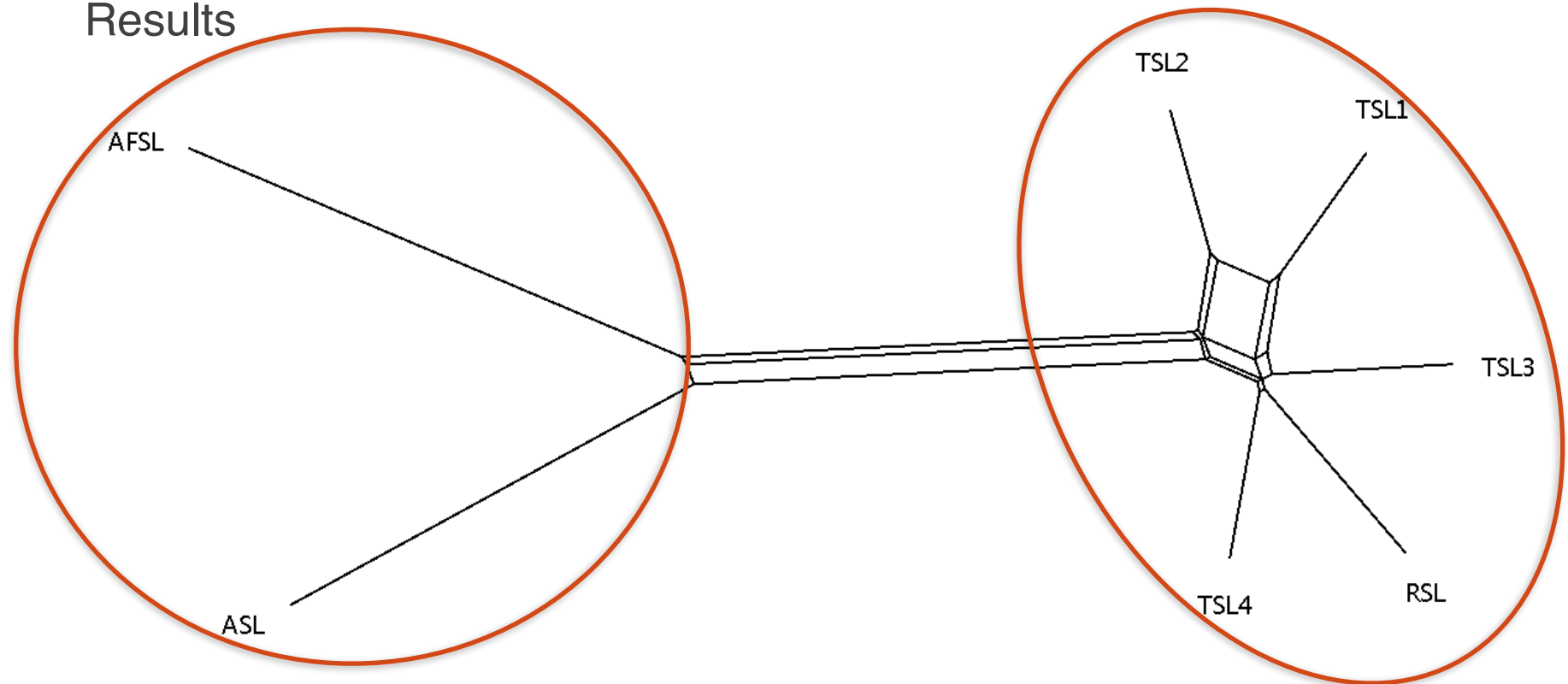

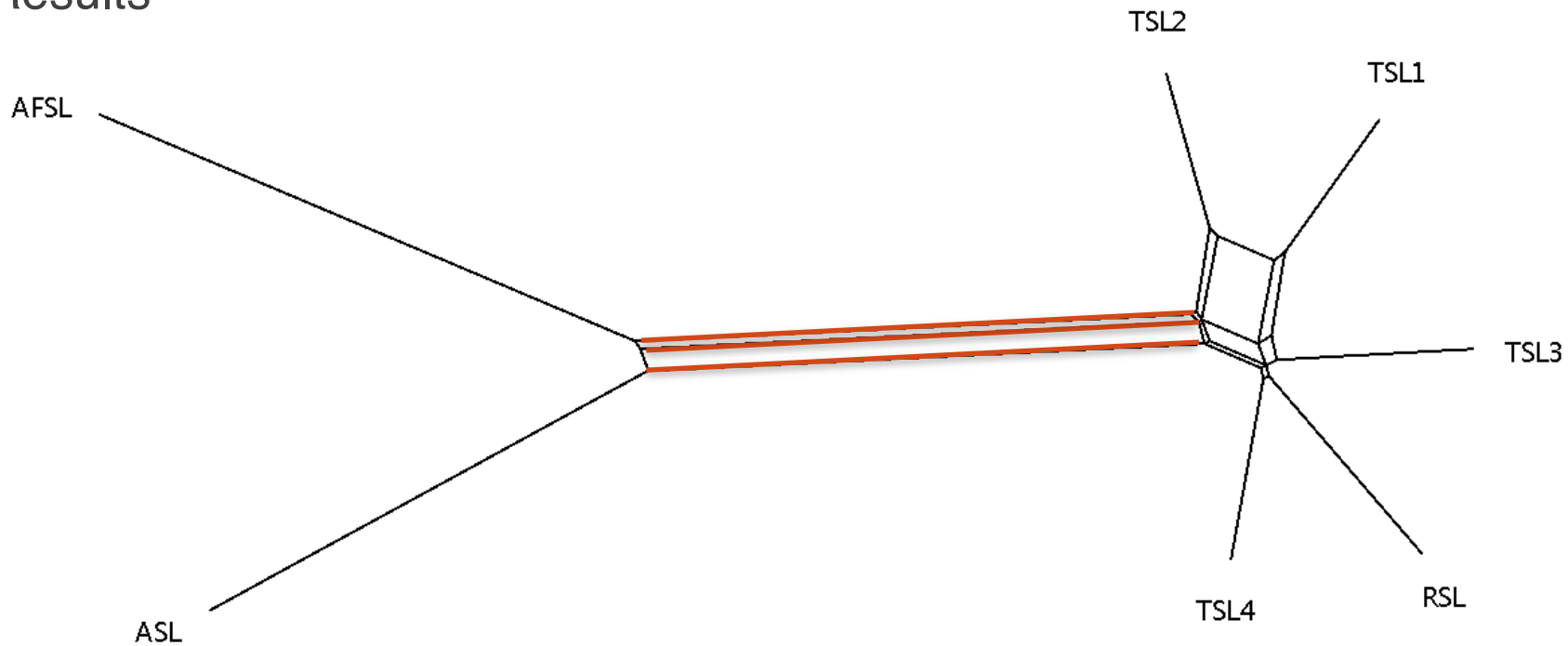Phylogenetic network of Indo-European from Figure 5 in Gray *et al* (2010)

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Results

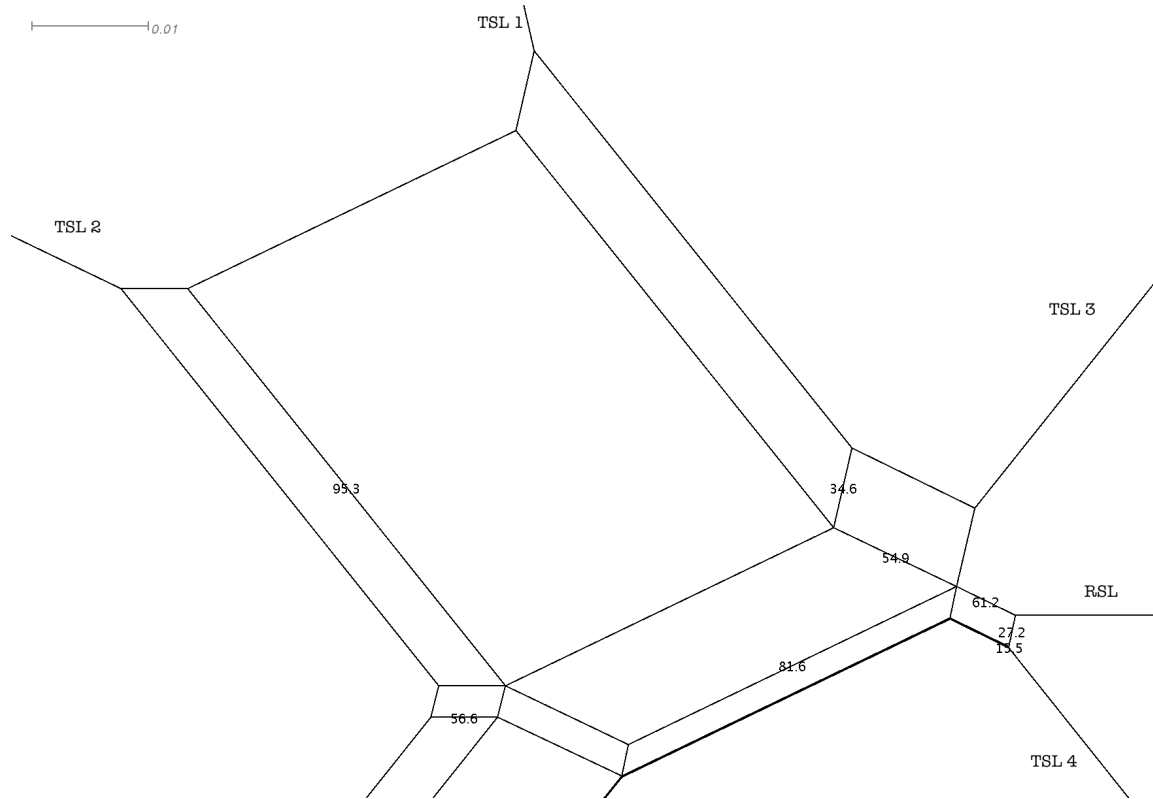Phylogenetic network for four Tajik signers, AFSL, ASL, and RSL

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Results

AFSL

ASL

TSL2

TSL1

TSL3

TSL4

RSL

Difference in edge lengths

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Results

Split separating AFSL and ASL from RSL and Tajik signers

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Results

Cluster of Tajik signers and RSL

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Results

Cluster of Tajik signers and RSL

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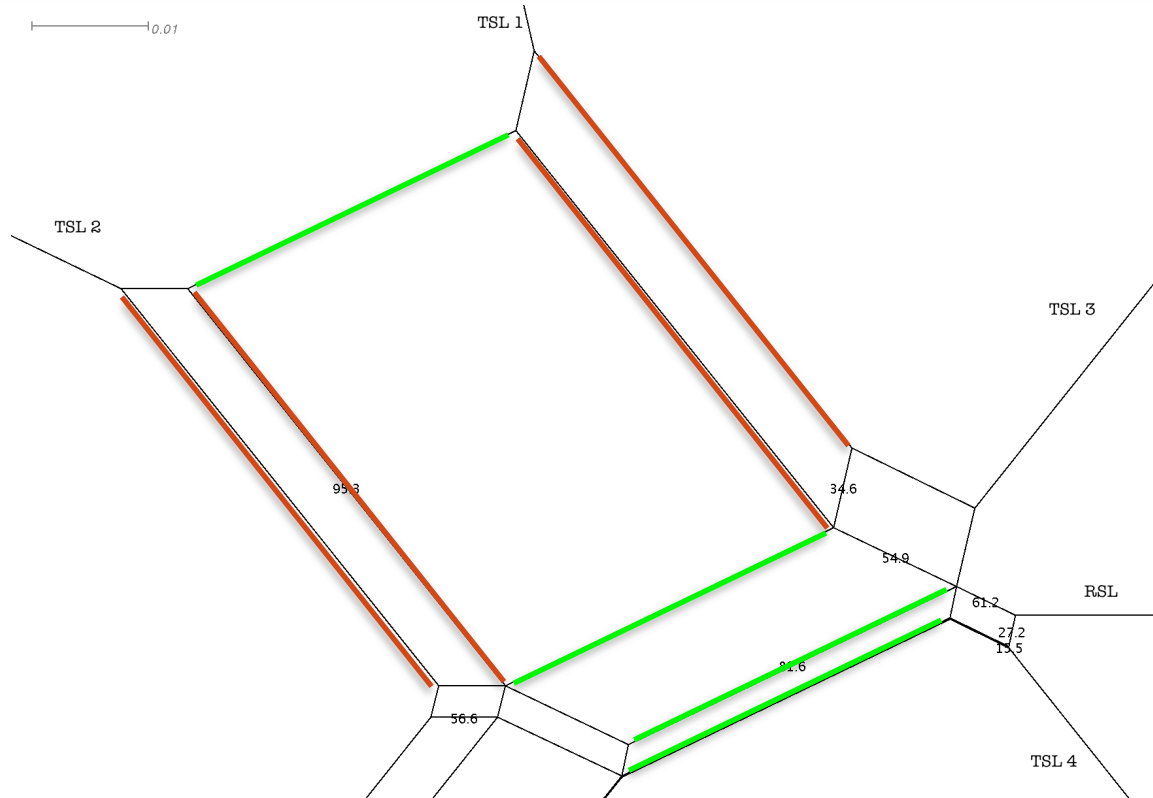
Results: Summary

- 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

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Discussion: Relatedness

- Iconicity and shared gestural repertoires

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Discussion: Relatedness

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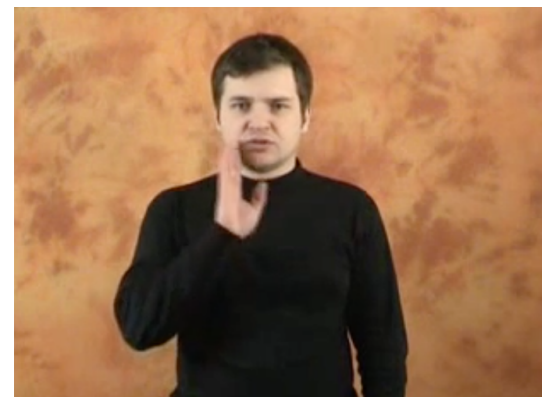   - Low lexical similarity

- Suggests diffusion

Discussion: Relatedness

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

- Suggests possible genetic relationship

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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

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