

Towards a Complete Mapping of Kurdish Dialectology

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Varieties

Introduction

The Kurdish language and its many variations have been actively researched [1] with little concensus about their classifications. Fundamental issues are still occupying recent work [2, 3]:

- Gorani and Zazaki to be standalone languages [4, 5]
- Gorani and Zazaki are part of the Kurdish language [6, 7, 8, 9, 10].
- Zazaki and Gorani are one dialect [11, 9]
- Them being separate dialects [12, 13].

This work aims to shed light on Kurdish dialectology via the creation of an **interactive map**.

Methodology

Applying Evaluative Language Mapping Typology (ELM-T) proposed by [20] in six sections:	
1. Technical	$\mathbf{Digital\ aspects} \rightarrow \mathbf{Interactivity\ in\ use\ and\ creation}$
setup	$\mathbf{Accessibility} \rightarrow \mathbf{Colorblind}$ -friendly palette [21]
2. Context	$\mathbf{Social\ context} o \mathrm{Author} = \mathrm{Audience}$
and theme	$\mathbf{Map\ language(s)} \to \mathrm{En,\ De,\ Ku,\ Ar,\}$
3. Type of	Language varieties treated \rightarrow Identification & Categorization of varieties
language map	Other types \rightarrow Language classification taxonomies & diachronic extension
4. The data	$\mathbf{Data\ sources} o \mathrm{References\ to\ publications}$
	$\mathbf{Data}\ \mathbf{selection} \to \mathbf{Choice}\ \mathrm{of}\ \mathrm{data}\ \mathrm{and}\ \mathrm{grouping}$
5. Visualisations	$\mathbf{Canvas} \to \mathbf{Administrative\ divisions\ and\ borders}$
and other	$\mathbf{Visualisation}$ of \mathbf{key} data \rightarrow From labels & polygons to heatmaps
representational	Overlap of points/polygons \rightarrow Colours & textures
strategies	Overlap of polition polygons / Colours & textures
6. Critique	Possible motivation and bias \rightarrow Interest & advancement of knowledge
	$\mathbf{Limitations} \to \mathbf{Scope} \ \& \ \mathbf{ambiguity} \ \mathbf{of} \ \mathbf{data} \ \mathbf{and} \ \mathbf{third} \ \mathbf{party} \ \mathbf{usage}$

Related Work

Early work on Kurdish dialect geography [5], proposed a division of the Kurdish language into the three dialect groups Northern, Central and Southern Kurdish, which have been the basis for much of the linguistic work for Kurdish. Later sub-classifications took place Northern Kurdish (Kurmanji) first into five [14], later adjusted into three [15] distinct dialect groups.

New understanding grows upon and rectifies prior work as can be seen by [16] writing about the often referenced work of [17]:

"it seems obvious that the seven subgroups identified by (Fattah, 2000) cannot be treated as clear-cut, sharply-defined bundles of dialects. They show considerable internal variation and in some cases seem to include dialects manifesting highly diverging features. Some varieties cannot be easily ascribed to any specific subgroup, but are transitional between subgroups."

The here allured concept of **dialect continuum** is crucial for under standing or even displaying the Kurdish language.

Work on Kurdish language, regardless of producing a map or not, tends to focus on just a few or only a single dialect: **Northern Kurdish** [14], **Central Kurdish** [18], **Southern Kurdish** [16] and **other dialects** [19].

Be it personal interest, or borders between countries- for some reason most works fail to deliver more than a very rough outline of the Kurdish language landscape to interested readers.

Concept

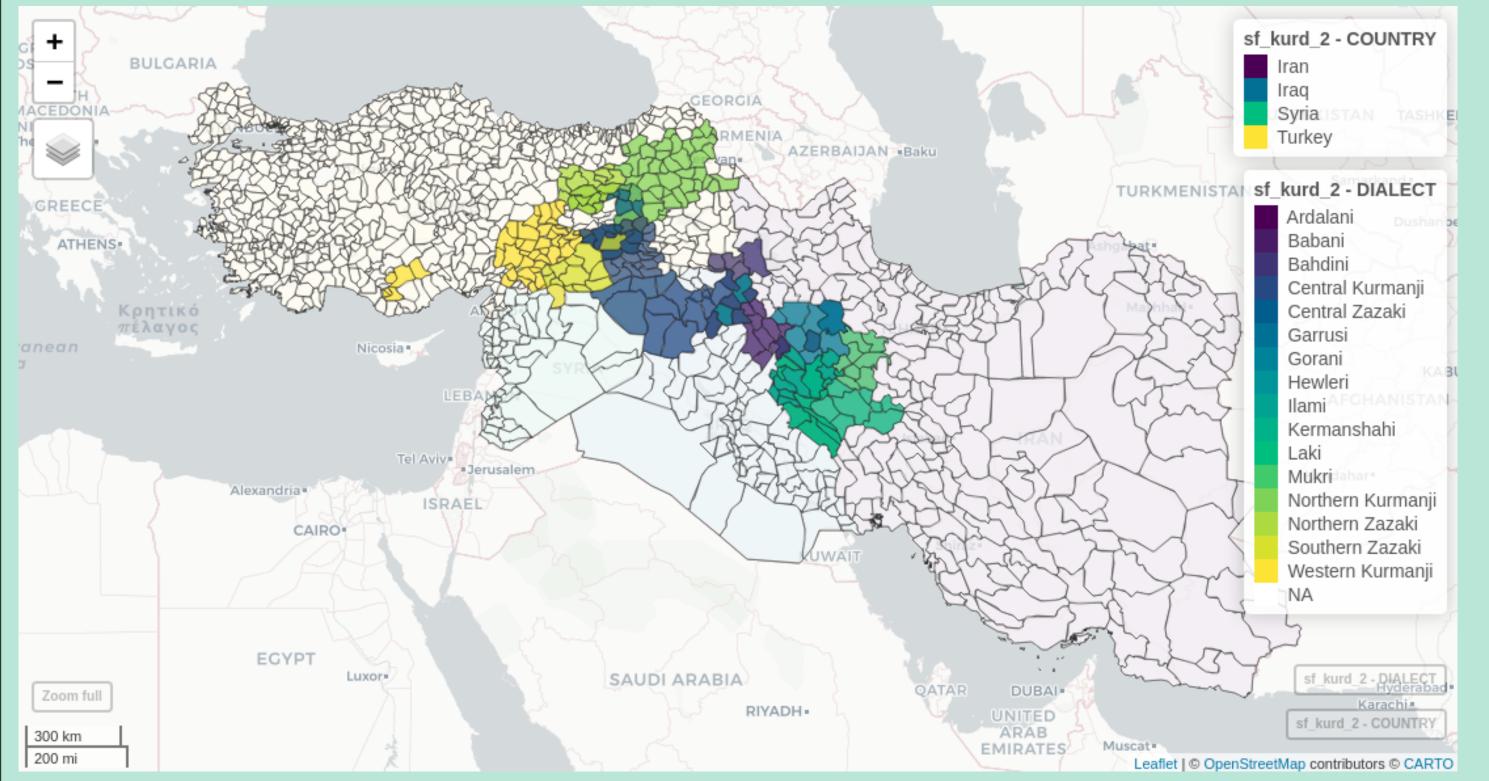
Planned steps of this work.

Classification (Topology)

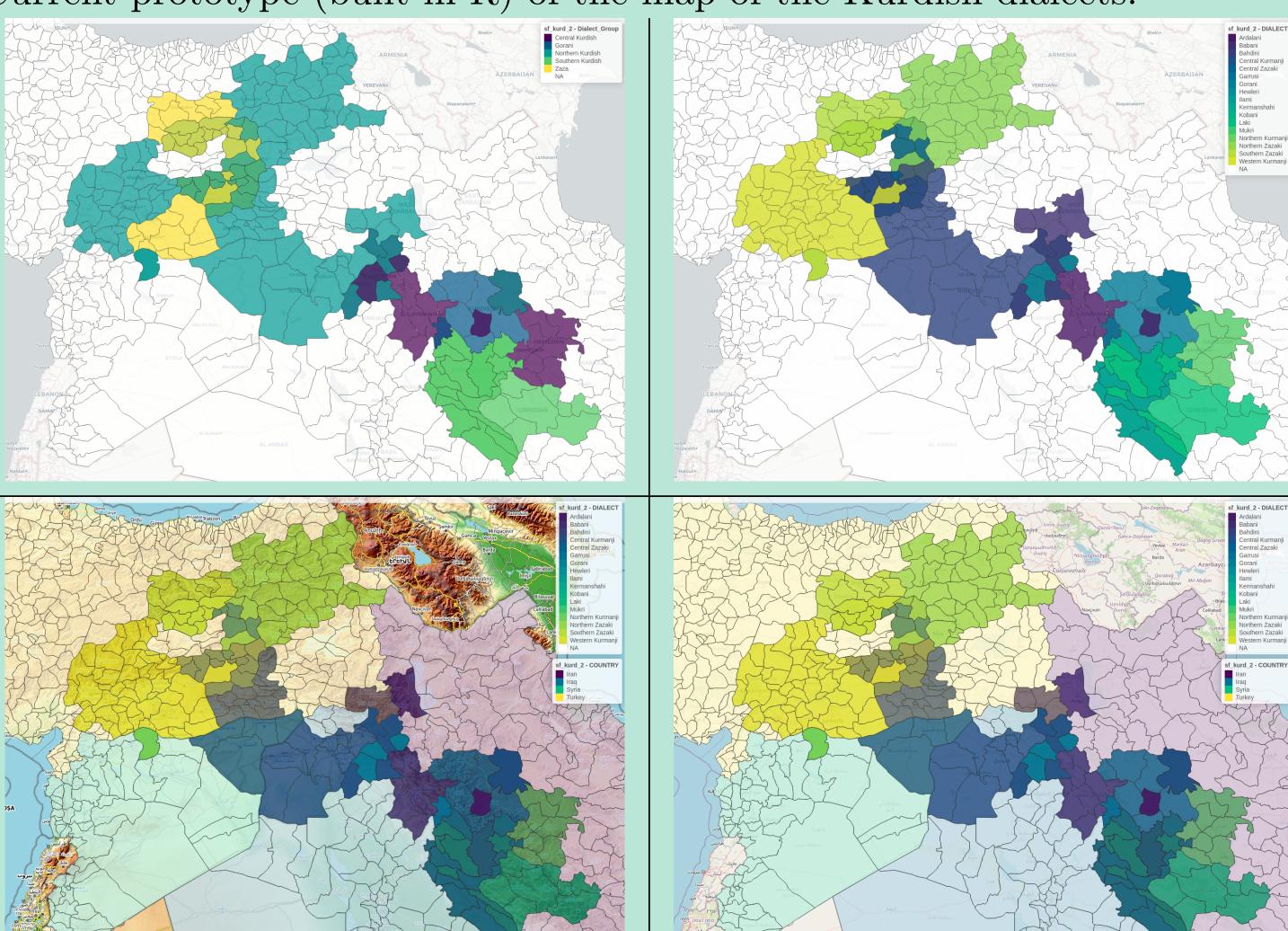
Data & Results

Utilizing various R-Packages, we now have information for **3551 distinct** locations, considering the second layer of administrative boundaries of the countries Iran, Iraq, Syria and Turkey.

Scouring the plethora of scientific publications rewarded us with a list of **over 100 dialect names** of varying granularity and specificity in their definition and geographic position and linguistic classification.



Current prototype (built in R) of the map of the Kurdish dialects.



Examples from the current prototype. **Top-Left**: Dialect groups layer. **Top-Right**: Dialects layer. **Bottom**: Different settings of the map.

References

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Conclusion & Next Steps

Stress-Testing

Server Setup

Stress-Testing

Collectible data is manifold but inconsistent- sometimes borderline chaotic requiring a well considered storage structure.

Managing the **resolution of visual complexity** given many overlapping dialects and diverging classifications.

Next up: Exploring server solutions for **online availability**, prior to **expanding map features**, followed by more **data integration**.

Central Kurdish Khorasani Kurmanj Mukriyanî, Mukrî **Urfa Kurmanji** Sine'i Mihemedî Sanandaji Marashi Southern Jafi **Bahdini** Warmawa Kochgiri Sorani Sarhadi Ardalani Bekrani Bingird Birjendi Garmiyani Cezîrî Hewleri Jiwanshiri Khanaguin Qocani Pizhdar Senjari Rewandiz Judikani Suleimanni Yuneki Kerkuki **Southern Kurdish** Kāmyārān Diwāndara Kurdish Garrusi Snayi, Senayi Malekshahi Fayzullābagi Laki Southern Kurdish Tilakūwi Kermanshahi Sarshiwi Kordali Laylākhi, Laylākhī Peripheral Kermanshahio Kurdali, Kordali, Palai Kalhori-Sanjabi-Zangane Kushnawi Kalhori Sanjabi Judeo-Kurdish Zangane Northern Kurdish Kolyai Northern Kurmanii **Bayezidi** Macho & Gurani **Bitlis Kurmanii** Bajelani **Erevan Kurmanji** Bayray Mush Kurmanji Kurdî Xwarîn Van Kurmanji Pehlewani Southeastern Kurman Akre **Amadiye Kurdish** Zazaki-Gorani **Barwari Jor** Gorani Gurani **Hawraman-I Luhon** Hakkari Mhallami **Hawraman-I Taxt Sheikhan Dohuk** Kakai **Nuclear Gurani** Shemdinani Surchi Gawhara **Zakho Kurdish** Kandula Southern Kurmanji Zardayana Shabak-Bajalani Bajelanı Western Kurmanji Shabaki **Northwest Kurmanji** Chabak Elbistan Kurmanji Sarli Sivas Zaza Dimli Southwest Kurmanji Aleppo Kurmanji Dumbuli Rojavayi Hazzu Kobanî, Kobankî Kori Shexi Motki Sivereki Surujki Shexi Kirmanijki Afrini Tunceli Qamisloki Varto Ashiti Dersim

Kurdish language varieties drawn from various sources.

Zengene

Sherbi