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A Comparative Study of Phonological System of Kurdish Varieties

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Abstract
In this paper a range of methods for measuring the phonetic distance between dialectal variants are described. It concerns variants of methods as wordnet method for testing lexicostatic similarities and phonostatic differences, graded map and statistical analysis of linguistic levels. In addition, all features like simple (based on atomic characters) and complex (based on feature bundles) have been studied. The dialects were compared with each other directly and indirectly via a standard dialect. The results of comparison were classified by clustering and by training of a multidimensional map. The results were compared to well established scholarship in dialectology, yielding a calibration of the methods like information visualization technique. These results indicate that computational techniques are more sensitive in feature representations of dialects and such visualizations of information have good measures of phonetic overlap of feature bundles. The results of clustering give the sharper classification, but the graded map is a nice supplement. The findings show that Kurdish has composed of different regional groups which are relate to one ancestor which it might be the proto-Kurdish language and it is not a group of languages.

Key words
linguistic atlas, computational linguistics language, dialect, Kurdish, Azerbaijan-e Qarbi

Introduction

In traditional dialectology, isoglosses are the main focus which divided maps into dialect areas. Indeed, isoglosses sometime abridge dialectal reality too much, not only when they fail to coincide, but above all, when language varieties are spread through migration or war. This paper features computational dialect comparison and classification methods. First, we will explain the area and the language which we want to deal with it through the paper then we will show comparison of variations and methods applied here. By using these visualization and computational methods, the problems signaled above are solved. On the basis of the output of the comparison methods, then we can classify the dialects. The data used for comparing dialects comes for the most part from the Linguistic Atlas of Azerbaijan-e Qarbi (LAAQ), which was compiled by Asadpour (2002-

2011). From this atlas we chose 85 dialects. They were chosen to contain "easy" cases as well as difficult ones. The 85 dialects are evenly scattered over the Kurdish language areas across Azerbaijan-e Qarbi, so we think they are representative of dialects in this area. In the LAAQ for each dialect always the same 300 linguistic items are translated and transcribed in phonetic script. From this huge database we chose 100 words, which we believe are representative for the range of sounds in the varieties. So in all we compare and classify 85 dialect varieties. It would be interesting to compare LAAQ languages not only to Kurdish dialects in other parts of Iran, but also with other neighboring dialects in neighboring countries as well. This study is the first computer developed linguistic atlas of Kurdish dialects especially in Iran which has been a rather long time in the making.

As mentioned the surveyed region covers a population of over 2873459 million people in some 3151 localities. It is bounded on the north and the northwest until south by four international frontiers, those of Iraq, Turkey, Armenia and Azerbaijan and the eastern part is closed to the Urmia Lake and three other internal administrative boundary with Zanjan, Tabriz and Hamedan and all run by the crest of the main ridge of Zagros with different mountain ridge of up to 1500 feet above the plain and by a straight line up and southward across Kurdistan back to the Iraqi frontiers. Among the languages existed in the region as Kurdish, Turkish Azeri, Armenian and Assyrian-NeoAramaic, Kurdish is a more prominent and predominant language in the area, therefore we focused on this language. Kurdish belongs to Northwest Iranian languages according to (Dorleijan, 1997; Haig, 1998; Haig and Matras, 2020) and some other believes it relates to Indo-European languages. The language is sub-divided into different dialect groups as Northern dialects (Kurmanji), Central dialects (Sorani), Gorani dialects and ZaZa (or Dimili) dialects. The majority of Kurdish dwell in the Middle East. The modern studies about the Kurdish people and language increased during the decline period of the Ottoman Empire. But still there is a dearth of in-depth qualitative and quantitative research in Iranian Kurdish dialects. The most important dialects among these main four groups based on the numbers of speakers and the existence of literature might be Sorani and Kurmanji. All Kurdish dialects differ considerably from each other to this point that many scholar wonder whether there is one Kurdish language in a linguistic sense or it consists of different languages (Comrie, 1981; Dabir-Moghaddam, 2006; Dorleijan, 1997). The Kurdish dialects beside similarities have significant differences with other Iranian languages which it needs further diachronic studies (MacKenzie, 1961a, believes that Kurdish have a lot in common with Southern Iranian languages). In defining Kurdish as one or a group of languages it needs extralinguistic studies beside linguistic one. Factors like ethnic,

anthropological, perceptual and cognitive studies of the awareness of speakers. Dorleijan (1997); Haig (1989); Haig and Matras (2002) all believe that applying a group of languages for Kurdish might be more promises but for evaluating this hypothesis we will try to show the distribution of the two main dialects of Sorani and Kurmanji in Northwestern part of Iran. A place that geopoilitically is very important due to many factors. Kurmanji Kurdish is mainly spoken in Eastern and Southeastern areas of Turkey, Northern Iraq, Northwestern Iran and Northeast Syria. Moreover there is Kurmanji speakers in Armenia, Caucasian republic, Turkmenia and Northeastern Iran (Khorasan). The most updated estimation of Kurmanji speakers in 1996 is at 22 million and for Sorani is might be 18 million (Asadpour, 2012, in press; Hassanpour, 1992).

Discussion and data analysis

One of the important things in phonology is the arrangement of phonemes and since different languages have different phonotactic structures (Lass, 1998, p. 248). Please note that in LAAQ by Asadpour (2011, 2012) there is a comprehensive literature on phonology of Kurdish dialects based on previous findings. we will focus here on the final findings in order to draw the linguistic maps and computational analysis.

Phonological system of Sorani Kurdish in LAAQ

Vowels

In Sorani Kurdish we have 11 simple vowels and 7 diphthongs based on field data.

Simple vowels

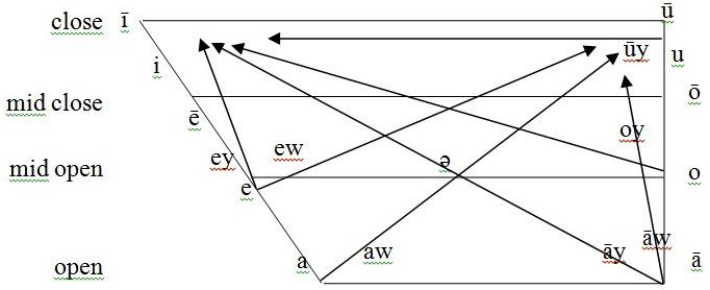
back low vowel	/ā/	soap [ʔāʃ] – brave [ʔāzā] – load [bār]
high front vowel (long i)	/ī/	belief [ʔīmān] - old [pīr] – thirty [sī]
high back vowel (long u)	/ū/	----- - red [sūr] – mulberry [tū]
semi-high back vowel	/ō/	nation [ʔōmat] - smell [bōn] – [ʔatō] you
semi-high front vowel	/ē/	you (pl.) [ʔēwa] – pain [hēʃ] – three [sē]
back low vowel	/a/	this [ʔawa] - festivity [bazəm] – plane [randa]
high front vowel (simple i)	/i/	Iraj [ʔiradʒ] - pole [tirak] – hungry [bərsi]
high back vowel (simple u)	/u/	----- - pack-saddle [kurtān]– spittal [tu]
semi-high back vowel (simple o)	/o/	room [ʔotāq] - frog [boq] – sour milk [do]

semi-high front vowel (simple e)	/e/	now [ʔestā] - food [tʃeʃt] - up [sare]
semi-high central vowel	/ə/	----- - full [pər] – ------

Diphthongs

/aw/	[ʃaw] night – [kaw] Kind of bird
/āw/	[tāw] sun – [ʔāw] water
/āy/	[rāykeʃa] pull – [dāyk] mother
/ew/	[sew] apple – [ḳew] mountain
/ey/	[dey], [ley], [tey] (prepositions)
/oy/	[royʃtən] to go – [boy] For him
/ūy/	[fūylēka] blow – [rūy] face

	ā	a	ō	o	ə	e	ē	ū	u	ī	i
High	−	−	−	−	−	−	−	+	+	+	+
Low	+	+	−	−	−	−	−	−	−	−	−
Round	−	−	+	+	−	−	−	+	+	−	−
Back	+	−	+	+	−	−	−	+	+	−	−
Tense	+		+		−		+	+	+	+	−



In Sorani vowels can be occurred within the words in different positions. In this dialect /ə/ alternates between other vocalic sounds. Unlike Kurmanji dialect, the /ə/ in Sorani can occur in stressed positions. Two allophones of the Sorani phoneme /ɛ/ and /ə/are in complementary distribution: [ɛ] and [ə]. The complementary distribution is dependent on the environment in which /ə/ is found. When /ə/ occurs before the glide /j/ or high front unrounded vowel /i/ but not in the same syllable, it surfaces as /ɛ/, the same phenomena happen in Suleymaniye Kurdish as stated by McCarus (1958, p. 15).

Complementary distribution of /ə/

a. [ɛ]: /həyə/ → ['hɛ.yə] 'there is, are'

b. [ə]: /həybu/ → ['həy.bu] 'he had'

In addition to the complementary distribution of [ɛ] and [ə] before high front vowels and glides, there are also three allophones of /ə/ which occur in free variation within other positions: [ə], [ɛ], and [æ]. Generally, stress plays a role on when and where the allophones will be used. The front vowels [ɛ] and [æ] are typically found in stressed situations whereas [ə] is found in unstressed situations (for the findings on SK cf. McCarus 1958, p. 15).

Vowels in monosyllabic words go through a deletion process under morphological affixation. In initial position, when a preposition is affixed onto a morpheme, the vowel in the preposition will be deleted if the morpheme begins with a vowel. All prepositions within Sorani variation include schwa /ə/ and are affixed onto the beginning of a word.

/lə/ 'in, from' + /era/ 'here' ⟶ ['lera] 'here, in this place'
/lə/ 'in, from' + /tʃwe/ where ⟶ ['latʃwe] where
/lə/ 'in, from' + /sar/ on ⟶ ['lsar] on the bove

Sorani consonants

This dialect has 28 consonants which can occur in all positions of the morpheme. There is however, one that has limited distribution: the voiced labiodental fricative /v/.

	Bilabial	Labiodental	Dental	Alveolar	Post Alveolar	Velar	Uvular	Pharyneal	Glottal
Stop	p b		t d			k g	q		ʔ
Affricate					tʃ dʒ				
Fricative		f v	s z		ʃ ʒ	x ɣ		(ʕ) ħ	h
Nasals	m		N			ŋ			
Lateral			L	ɬ					
Flap			ɾ						
Trill			R						
Glid	w				y				

As it is stated in next pages, /ɾ/ appears in the initial, mid and final position of one syllabic word, while /r/ appears only in mid and final position. /r/ also occurs in intervocalic position as well. When a trill appears as an intervocalic it might be as the onset of second syllable. Consequently when trill and flap occurs simultaneously they could be in contrastive distribution. When two nouns combine together to make a compound noun a marker like /a/ will be add. McCarus (1958: 93) has found the same thing in SK while in SK /ə/ is used and the same phenomenon has happened in Arabic.

/nīw-/ (half) + /-a-/ + /-ro/ (of) ⟶ [nīwa'ro] (afternoon)
/renus-/ (pen) + /-a-/ + /-spy-/ (white) + /-aka/ (definite article) ⟶ [renusaspya'ka] (white color).

Contrastive distribution of trill and flap:
['bɸin] (injury) and ['brin] (cut)
['kaɾ] (donkey) and ['kar] (deaf)

When a flap and trill form a morpheme in a cluster, they treat as a phonetic cluster and the result is a geminate trill within the syllable.
/ʔawkurɾe/ ⟶ [ʔawku'rre] (this boy)
/pərɾa/ ⟶ [pə'rra] (it is full)
/xərɾa/ ⟶ [xə'rra] (it is circle)

Another consonant which is important regard to phonemic distribution is the voiced velar nasal /ŋ/. This consonant might not appears in word or syllable initial position.

[raŋ] (color), [daŋ] (voice), [zaŋ] (ring) etc.

McCarus (1958, p. 16) in SK found that there is a voicing distinction in the obstruent system of SK and the same exist in Sorani dialect. Although, there are some assimilation processes that neutralize this distinction, most voiced obstruents and sibilants remain voiced even if a voiceless obstruent or sibilant follows. Fricatives and stops go through a limited regressive assimilation when followed by other stops and fricatives (also cf. McCarus, 1958, p. 17).

[bāʃ] (fine) ⟶ [bāʒbu] (it was fine)
[peʃ] (before) ⟶ [peʒmarga] (a person who scarify his/her body for others)

In Sorani, stops are fully released in all positions. Aspiration occurs in single stop initial and mid words and stop/stop or stop/fricative clusters. In Suleymaniye Kurdish, McCarus (1958) makes no mention of aspiration in final or medial positions. However, Sorani in AQ does not have a contrastive distribution among aspirated and unaspirated phonemes.

Aspiration within voiceless stops

/kalâna/ (a kind of food)	['kʰalâna]
/tawazən/ (lazy)	['tʰawazən]
/kulla/ (a kind of animal)	['kʰulla]

In Sorani of AQ, palatalization takes place on three stops and one fricative, /p, k, g, f/. Palatalization occurs on the phonetic level. The four stops are palatalized before high front vowels and glides the same phenomenon has happened in Suleymaniye Kurdish which is another Sorani variation (c.f. McCarus 1958, p. 17). In the surface representation, the consonants are represented phonetically as [pʲ, kʲ,gʲ, and fʲ].

Voiceless	P	t	k	f	s	ʃ	tʃ	ɬ	ʃ	h
Voiced	B	d	g	v	z	ʒ	dʒ	l	r	ħ

and individual phonemes are as follows:

ŋ	ʔ	y	n	w	m	x

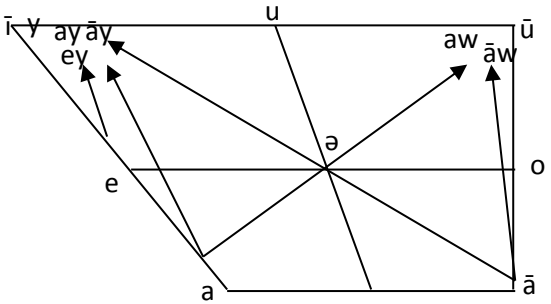
	Initial position	Mid position	Final position
/p/	[pʰir] (old)	[səpʰla] (useless)	[top] (ball)
/b/	[bīr] (imagination)	[bæħædab] (polite)	[badbæxt] (unlucky)
/t/	[tēr] (garlic)	[batamā] (wanting)	[saxt] (hard)
/d/	[dəl] (heart)	[badbaxt] (unlucky)	[bard] (stone)
/f/	[fu]	[bafr] (snow)	[of] (interjection)
/v/	–––––––	[bəva] (don't touch)	[mərov] (human)
/s/	[səpla] (useless)	[məsqāl] (a bit)	[qals] (nervous)
/z/	[zəl] (big)	[dazu] (string)	[marz] (border)
/l/	[lāfāw] (water tearing)	[ʃəleŋ] (big cucumber)	[tʃəl] (forty)
/ɬ/	–––––––	[ʃəɬeŋ] (doing big stuff)	[tʃəɬ] (a thin branch)
/r/	–––––––	[mərān] (murdering)	[sūr] (red)
/ɾ/	[ɾāəīn] (shaking)	[məɾān] (making noise)	[sūɾ] (circulating)
/ʃ/	[ʃəɬpa] (interjection)	[tʃeʃt] (food)	[raʃ] (black)
/ʒ/	[ʒyān] (life)	[bʒār] (to weed)	[roʒ] day
/tʃ/	[tʃɬes] (gluttonous)	[pʰətʃkɾān] (to tear)	[pʰərtʃ] (hair)
/dʒ/	[dʒgā] (place)	[mədʒewr] (mosque labor)	[brindʒ] (rice)
/k/	[kəteb] (book)	[ʃəkʰānden] (to break)	[dāik] (mother)
/g/	[gal] (people)	[māŋā] (male cow)	[barg] (leaf)
/x/	[xezān] (family)	[barxola] (small goat)	[dāx] (hot)
/ɢ/	[qałā] (castle)	[manqał] (brazier)	[ʃaq] (kick)
/ɣ/	[ɣæws]	[āɣā] (mr.)	[məɬɣ]
/m/	[mutʃa] (farm)	[mamkməʒ] (baby)	[bałām] (but)
/n/	[zargata] (honey)	[mazən] (big)	[barz] (tall)
/y/	[yek] (one)	[hawyā] (hope)	[yāyi] (o aunt!)

/w/	[walāt] (land)	[hawr] (cloud)	[wəʃtrāw] (middle of river)
/ħ/	[ħāł] (mood)	[baħr] (sea)	[gunāħ] (sine)
/h/	[hāł] (corridor)	[bahr] (result)	[rifāh] (wealth)
/ʔ/	[ʔāw] (water)	[taʔmin] (support)	–––––––
/ŋ/	–––––––	[haŋāuten] (managing aim)	[daŋ] (voice)

Kurmanji Vowels

The vowel inventory in Kurmanji of AQ includes nine vowels which is more or less similar to Sorani, the Kurmanji dialect vowel inventory includes /i, a, u, e, ə/. Similar to Sorani, in Kurmanji long vowels are in complementary distribution.

	y	o	ū	u	ə	e	y	ī	I
High	+	−	+	+	−	−	+	+	+
Low	−	−	−	−	−	−	−	−	−
Round	+	+	+	+	−	−	+	−	−
Back	−	+	−	+	−	−	−	−	−
Tense			−	+	−			+	+



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Simple vowels

Low back vowel	/ā/	[bār] (load)
High front	/ī/	[ʃīr] (milk)
High back	/ū/	[dūr] (far)
Low back	/a/	[dar] (in)
High back	/u/	[kurd] (Kurdish)
Semi-high back	/o/	[do] (juice of yogurt)
Semi-high front	/y/	[ʃyr] (lion)
Semi-high central	/ə/	[dəl] (heart)
Semi-high front	/e/	[per] (bridge)

Diphthongs
Diphthongs which exist in this dialect are as follows:

/aw/	[khaw] (a kind of bird)
/āw/	[lāw] young
/āy/	[dāyk] mother
/ey/	[dey] well
/ay/	[hay] (aware, information)

Kurmanji Brasdost consonant system:
There are 36 consonants for Kurmanji

	Bilabial	Labiodental	Dental	Alveolar	Post Alveolar	Velar	Uvular	Pharyngeal	Glottal
Stop	p p^h b		t t^h Ŧ d			k k^h g	q		ʔ
Affricate					tʃ Є dʒ				
Fricative		f v	s Ś z		ʃʒ	x ɣ		(ʕ) ħ	h
Nasals	m		n			ŋ			
Lateral			l	Ł					
Flap			ɾ						
Trill			r						
Glid	w				y				

In Kurmanji aspiration is phonemically distinctive in word-initial position only in comparison to Sorani. Kurmanji in aspirated and unaspirated position is in contrastive distribution and aspiration occurs only in mid and initial position. Some minimal pairs are as follows:

['pāʃi] (back) # ['pʰāʃi] (after)
['pāni] (width) # ['pʰāni] (the heel)
['ka] (where) # ['kʰa] bogrush
['kar] (monkey) # ['kʰar] (piece)
['ti] (thirsty) # ['tʰi] (husband's brother)
['Ɛər] (flexible as plastic) # ['tʃər] (to tear)
['Ɛaŋ] (mist) # ['tʃaŋ] (nail)
['tʃāl] (combination of black with white) # ['Ɛāl] (a well)

Moreover, if a syllable doesn't start with a consonant or glide /ʔ/ occurs in initial position which is a distinctive feature. In Kurmanji trills and flaps do not usually occur in the same environment. Flaps generally occur intervocalically. In some instances, however, flaps do occur in word-final position. Trills occur in the word final position and also within clusters. Kurmanji does allow trills in word-initial position.

['per] (bridge) ['peɾ] (full)

Voiceless	**p**	**t**	**tʰ**	**k**	**f**	**s**	**ʃ**	**tʃ**	**ɬ**	**ɾ**	**h**	**ʔ**
Voiced	**b**	**d**	**Ŧ**	**g**	**v**	**z**	**ʒ**	**dʒ**	**ɭ**	**r**	**ħ**	**ʕ**

Isolated phonemes:

ŋ	**y**	**n**	**w**	**m**	**x**	**pʰ**	**Ɛ**	**Ś**

	Initial position	**Mid position**	**Final position**
/p/	[pātak] (teared cloth)	[tepel] (finger)	[kap] (nose)
/ßʰ/	[ßātak] (back of neck)	-------	-------
/b/	[bā] (wind)	[goteba] (told)	[bāb] (father)
/t/	[tāv] (speed)	[pʰeter] (more)	[mat] (aunt)
/tʰ/	['tʰāv] (sun)	-------	-------
/Ŧ/	[Ţāzî] (nude)	-------	-------
/d/	[dūr] (far)	[barāxodan] (watching)	[dusad] (two hundred)

/f/	[fero] (to mix)	[bafr] (snow)	[daf] (a musical instrument)
/v/	[vera] (come)	[revi] (intestine)	[badav] (beatiful)
/Ś/	[Śa] (dog)	–––––––	–––––––
/s/	[sem] (poison)	[kūsal] (turtel)	[dars] (lesson)
/z/	[zu] (soon)	[tebzî] (rosary)	[gaz] (meter)
/l/	[lāw] (young)	[delovān] (kind)	[ʃel] (soft)
/ɬ/	[ɬām] (face)	[gaɬɬāk] (many)	[gaɬ] (male cow)
/r/	[rāv] predicate)	[harem] (I will go)	['per] (bridge)
/ɾ/	[ɾāv] (run away)	[deɾi] (itching)	['peɾ] (full)
/ʃ/	[ʃel] (soft)	[deʃem] (you can)	[?āʃ] (soup)
/ʒ/	[ʒen] (woman)	[rēʒu] (coal mining)	[debēʒ] (said)
/Ҽ/	[Ҽel] (forty)	–––––––	–––––––
/tʃ/	[tʃel] (glutonous)	[botʃe] (why)	[ketʃ] (girl)
/dʒ/	[dʒān] (corpus)	[bendʒegara] (ashtry)	[gendʒ] (young)
/kʰ/	[Ҡāl] (old)	–––––––	–––––––
/k/	[kāl] (not arrived)	[varīkeren] (to send)	[kiʃk] (checking)
/g/	[gaz] (meter)	[kegar] (reason)	[pung] (a kind of plant)
/x/	[xo] (self)	[kuxek] (cough)	[?āx] (soil)
/q/	[qend] (piece of sugar)	[taqin] (explosion)	[bəq] (frog)
/m/	[māl] (home)	[hamu] (all)	[mām] (uncle)
/n/	[nam] (wet)	[nīna] (isn't)	[sakenin] (to stand)
/ŋ/	–––––––	[haŋavin] (honey)	[Śiŋ] (chest)
/y/	[yār] (friend)	[ayb] (blemish)	[hay] (inform)
/w/	[wār] (earth)	[bewiawayi] (this way)	[daraw] (lie)
/ħ/	[ħākem] (ruler)	[maħzar] (presence)	–––––––
/h/	[harin] (to go)	[duhi] (yesterday)	–––––––
/ʔ/	[ʔaz] (I)	–––––––	–––––––
/ʕ/	[ʕalowk] (Turkey)	–––––––	–––––––

Comparative analysis of Sorani and Kurmanji phonemic structures

I explored the phonemic features of these variations separately, now we are going to compare these two dialects. Based on my findings and even previous results on other dialects which have done by other scholars, we can conclude that these two dialects are similar regard to phonemic features and some of the differences which exist might be as a result of contact with other neighboring languages like Azeri Turkish and to some extend Farsi and Arabic made some distinctions. Generally, based on data, there are 8 similar vowels /a, e, o, i, ī, u, ū, ə/. Moreover, /y/ is not detected anymore in Sardashti but compare to other Sorani sub-variations like Saghezi, Baneyi etc. the reason might be considered in cross linguistic studies.

In terms of vowel length both of them have /ī, ū, e/, in addition in Sorani stress is very important in vowel length while in Kurmanji it is conversely except in some few cases although the length in this case is due to the position of stress in onset or coda. Regard to contextual situation, in Sorani there are some limitations in arranging vowels and consonants in any position while in Kurmanji there is more freedom like use of trills and flaps which we exemplified in previous sections. In Sorani there is complementary distribution in the use of /a/ while in Kurmanji it is /ə/ and in both cases when vowels add to preposition, syncopation occurs. The researcher believes that based on previous findings on other variations and with more studies on Kurdish dialects we might see that there is 8 similar vowels in all Kurdish dialects /a, e, o, i, ī, u, ū, ə/ which five vowels are in common even among other languages. However, because of assimilation process in Kurdish with regard to the distribution if Kurdish in different regions, vowel system of this language has a lot of changes which needs further studies.

Consonant inventory in Sorani and Kurmanji is very similar except for some few consonants which in Kurmanji are phoneme while in Sorani are allophone. Both dialects have aspiration in initial position and to some extend in mid position but aspiration in Kurmanji has contrastive feature while in Sorani there is no such function. In Sorani we have palatalization while in Kurmanji it occurs few often.

Conclusion

Some features like race, history, ethnic relation, peaceful coexistence and etc. are some criteria for solidarity and unity in a society. A speech community has common race, language and geography although there might be differences in idiolects, accents and dialects in an ethnic group or nationality. But generally we can conclude that in the stream of language change to diversity and creating new and different dialects, what is obvious in lexical and phonological levels is that

lexemes change faster and what is more static and robust it might be syntactic rules. It seems that this rule react in the same way for phonemic system as well. Because the findings in this paper show that what is different in phonemic system of Kurdish is the amount of phonemes and it is the matter of existing or non-existing of some phonemes in different dialects not the way of their combination. Therefore, we can say that in progressing from a proto-Kurdish language all are the same and differences might be in adding or deleting some phonemes. Vowels and consonants are for the most part similar and in the same parallel and the main differences which can be as a result of contact with other languages such as Persian, Turkish, Arabic, Neo-Aramaic etc.

Beside many differences that Kurdish dialects have, there are many similarities among them as well and we can make a distinction between these similarities and individual features of a language and extract their universal features. Based on these features we can evaluate mutual intelligibility, the common core among languages and also make a comparison among dialects. Anyway, none of these terms are definite and on the one hand we can talk about more than one Kurmanji dialect e.g. Northern Kurmanji or Southern kurmanji, Sorani, Gorani etc. Indeed the main distinction between Kurmanji and Sorani is not clear. If we travel across Azerbaijan-e Qarbi we can understand that gradually the linguistic features of these variations will change. It is possible that Sorani might have mutual intelligibility with Kurmanji Kurds. Khan (1979) stated that with few changes in structure of one language they can communicate easily.

However, if the dialects shift away from their shared factors, this could increase the difficulty in speaking with each other. Due to the difficulty that speakers from different dialects have with each other when first communicating, it is a valid assessment that Kurdish dialects are not completely mutually intelligible. However, because there is the capability of understanding between the dialects, it is a fair evaluation that mutual unintelligibility is not an issue for this speech community.

References

ASADPOUR, H. (2011). A Survey of Language Varieties in Azerbaijan-e Qærbi through Dialectometric Analysis. *Journal of Persian Academy of Language, Dialectology*. 1, 173-202.

ASADPOUR, H. (2012, in press). *The Computer Developed Linguistic Atlas of Azerbaijan-e Qarbi: notes on Typological-Perceptual approache in Geolinguistics.* Tehran: Science and Research branch, Islamic Azad University.

CHAMBERS, J. K., & Trudgill, P. (1980). *Dialectology.* Cambridge: Cambridge University Press.

COMRIE, B. (1981). *The Languages of the Soviet Union.* Cambridge: Cambridge University Press.

DABIR-MOGHADDAM, M. (2006). Internal and External Forces in Typology: Evidence from Iranian Language. *Journal of Universal Language*, 29-47.

DORLEIJAN, M. (1997). The decay of ergativity in Kurmanci: Language internal or contact induced? *Studies in Multilingualism*, 183.

GOEBL, H. (1984). *Dialektometrische Studien. Anhand italoromanischer ratoromanischer und galloromanischer Sprachmaterialien aus AIS und ALF.* Tubingen: Max Niemeyer Verlag.

GOEBL,, H. (1982). *Dialektometrie; Prinzipien und Methoden des Einsatzes der numerischen Taxonomie im Bereich der Dialektgeographie.* Vienna: Verlag der Österreichischen Akademie der Wissenschaften.

HAIG, G. (1998). On the Interaction of Morphological and Syntactic Ergativity: Lessons from Kurdish. *Lingua*, 32, 149-173.

HAIG, G., & YARON, M. (2002). Kurdish Linguistics: A Brief Overview. *Sprachtypologie und Universalienforschung*, 3-14.

HASSANPOUR, A. (1992). *Nationalism and Language in Kurdistan.* San Francisco: Mellen Research University Press.

JAIN, A. K., & DUBES, R. C. (1988). *Algorithms for Clustering Data.* New Jersey: Prentice Hall, Englewood Cliffs.

LASS, R. (1998). *Phonology, An Introduction to Basic Concepts.* Cambridge: CUP.

MacKENZIE, D. (1961). The Origins of Kurdish. *Transactions of teh Philological Society*, 68-86.

McCARUS, E. N. (1958). *A Kurdish Grammar: Descriptive Analysis of the Kurdish of Sulaimaniya, Iraq.* New York: American Council of Learned Societies.

SÉGUY, J. (1973). *Atlas linguistique de la France par régions, atlas linguistique de la Gascogne, complément du volume VI.* Paris: centre national de la recherche scientifique.

Abbreviations

MKK = Maku Kurmanji Kurdish	MSK = Mahabad Sorani
OSK = Oshnaviya Sorani	BSK = Boukan Sorani
SKK = Salmas Kurmanji	SSK = Sardasht Sorani
ChKK = Chaldoran Kurmanji	KKK = Khoy Kurmanji
NSK = Naqada Sorani	UShK = Urmia Shekaki
OKK = Oshnaviya Kurmanji	PSK = Piranshahr Sorani
QKK = Qotur Kurmanji	AKK = Alvand Kurmanji
BeSK = Beqran Sorani	HSK = Hajiabad Sorni

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