

# Vowel-consonant harmony in Uyghur

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## Overview

- Uyghur (Eastern Turkic) exhibits a typologically rare pattern of vowel-consonant interactions.
- The velars /g/, /k/ and uvulars /g/, /q/ participate in backness harmony.
- This V-C interaction will be captured by Agreement by Correspondence.

## Data

	Vowels		Relevant consonants	
	[-bk]	[+bk]	[-rd]	[+rd]
[+h]	/i/	/y/	/u/	
[-h, -l]	/e/	/ø/	/o/	
[+l]	/ɛ/	/a/		

### Vowel harmony

- Affix vowels surface as either [+bk] or [-bk] depending on the vowel backness in the root:
  - (1) *kyn-ler* ‘day-PL’  
*quf-lar* ‘bird-PL’ (Hahn 1991b:48)
- If a root features vowels of different backness specifications, the affix vowel is realized according to the last (closest) vowel of the root:
  - (2) *adem-ler* ‘man-PL’
- The vowels /i/ and /e/ are neutral to backness harmony and appear with both [-bk] and [+bk] vowels in the stem:
  - (3) *nersiler* ‘things’  
*kynseri* ‘day by day’  
*jelindza* ‘burn’  
*etibar* ‘preference’

### Consonant harmony?

- Some suffixes feature velars/uvulars that alternate according to backness.
  - (4) *jer-ge* ‘place-DAT’  
*kytf-ke* ‘power-DAT’
  - (5) *kør-mek* ‘seeing’  
*jygyr-mek* ‘running’
  - (6) *dunja-ga* ‘world-DAT’  
*mabus-qa* ‘prisoner-DAT’
  - (7) *jaz-maq* ‘writing’  
*ju-maq* ‘washing’  
(Engesæth et al. 2010:301-310)

☞ In the absence of harmonic vowels, affix velars/uvulars “alternate” according to velars/uvulars in the root.

- As this includes non-adjacent segments, it will be considered consonant harmony here:
  - (8) *tegifi-lik* ‘essential’  
*tegez-lik* ‘tall’  
*kifi-lik* ‘human’  
*tegifi-lik* ‘essential’
  - (9) *jeqim-liq* ‘gracious’  
*beliqtfi-liq* ‘fisheries’  
*qetim-liq* ‘time’  
*qijintfi-liq* ‘difficulty’

## One or two harmony processes?

☞ Evidence for two distinct harmony processes comes from “inconsistent roots” (with segments of different [±bk] specifications):

1. Affix vowels agree with the last harmonic root vowel in backness.

(10) *tʃakir-gan* ‘call-PTCP.PST’  
*gimnastiki-ga* ‘gymnastics-DAT’ (Engesæth et al. 2010:87)

2. Affix consonants agree with the closest harmonic/harmonizing segment.

(11) *qudret-lik* ‘powerful’ *hejran-liq* ‘surprise’  
*exmeq-liq* ‘fool’ *qepez-ge* ‘cage-DAT’

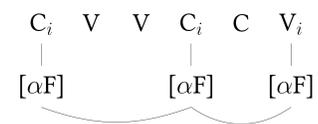
3. An affix consonant adjacent to both a participating vowel and consonant agrees with the consonant.

(12) *kawak-ka* ‘pit-DAT’  
*xelq-qe* ‘people-DAT’ (Hahn 1991a:82)

## Analysis

### The Agreement by Correspondence mechanism

- ABC (Rose & Walker 2004; Hansson 2001) establishes agreement between segments via output-output-correspondence relations based on similarity.



Similarity between segments is defined by constraints of the CORR<sub>[F]</sub> family: Segments sharing a given feature enter a correspondence relation.

CORR<sub>[dor]</sub>

- \* for each pair of segments specified for [dorsal], being closest neighbours and not in a correspondence relation.

Harmony is regulated by the IDENT<sub>SS</sub> constraints:

They determine the feature that corresponding segments have to agree for.

ID<sub>VV/CC/VC</sub>

- \* for each pair of closest corresponding vowels / consonants / vowel and consonant contrastively specified for [±back] in the output that do not agree for [±back].

Features & contrast

- All vowels and velar/uvular consonants are assumed to be [dorsal] (Sagey 1986).
- Only segments contrastively specified for [±back] participate in harmony.

### Vowel / consonant harmony

- This mechanism can account for simple vowel and consonant harmony.

(13) *adem-ler* ‘man-PL’

I: adem-lar	ID-IO <sub>root</sub>	CORR <sub>[dor]</sub>	ID <sub>VV</sub>	ID-IO
a. a <sub>i</sub> de <sub>i</sub> m-la <sub>i</sub> r			**!	
☞ b. a <sub>i</sub> de <sub>i</sub> m-le <sub>i</sub> r			*	*
c. a <sub>i</sub> da <sub>i</sub> m-la <sub>i</sub> r	*!			*

(14) *kifi-lik* ‘human-ADJ’

I: kifi-liq	ID-IO <sub>root</sub>	CORR <sub>[dor]</sub>	ID <sub>CC</sub>	ID-IO
☞ a. k <sub>i</sub> i <sub>i</sub> f <sub>i</sub> l <sub>i</sub> -li <sub>i</sub> k <sub>i</sub>				*
b. k <sub>i</sub> i <sub>i</sub> f <sub>i</sub> l <sub>i</sub> -li <sub>i</sub> q <sub>i</sub>			*!	

### Vowel-consonant interactions

- ID<sub>VV</sub>, ID<sub>VC</sub> >> ID<sub>CC</sub>

follows from the fact that the consonant does not agree with the closest harmonic consonant, but with the closest harmonic vowel instead.

(15) *qudret-lik* ‘powerful’

I: qudret-liq	CORR <sub>dor</sub>	ID <sub>VV</sub>	ID <sub>VC</sub>	ID <sub>CC</sub>	ID-IO
a. q <sub>i</sub> u <sub>i</sub> dre <sub>i</sub> t-li <sub>i</sub> q <sub>i</sub>		*	**!		
☞ b. q <sub>i</sub> u <sub>i</sub> dre <sub>i</sub> t-li <sub>i</sub> k <sub>i</sub>		*	*	*	*

- ID<sub>VV</sub> >> ID<sub>VC</sub>

follows from the fact that the harmonizing vowel does not agree with a closer harmonic consonant, but with a more distant harmonic vowel instead.

(16) *heqq-i-de* ‘concern-POSS3-LOC’

I: heqq-i-da	CORR <sub>dor</sub>	ID <sub>VV</sub>	ID <sub>VC</sub>	ID <sub>CC</sub>	ID-IO
a. he <sub>i</sub> q <sub>i</sub> q <sub>i</sub> -i <sub>i</sub> -da <sub>i</sub>		*!	*		
☞ b. he <sub>i</sub> q <sub>i</sub> q <sub>i</sub> -i <sub>i</sub> -de <sub>i</sub>			**		

- although ID<sub>VC</sub> >> ID<sub>CC</sub>

if a harmonizing consonant in the affix is adjacent to both a vowel and consonant participating in harmony, the consonant agrees with the consonant.

- Candidates *a* and *b* in (17) equally violate ID<sub>VC</sub>; however, candidate *b* surfaces as the unmarked for not violating the lower ranked ID<sub>CC</sub> as *a* does.

(17) *kawak-ka* ‘pit-DAT’

I: kawak-qa	CORR <sub>dors</sub>	ID <sub>VV</sub>	ID <sub>VC</sub>	ID <sub>CC</sub>	ID-IO
a. k <sub>i</sub> a <sub>i</sub> wa <sub>i</sub> k <sub>i</sub> -q <sub>i</sub> a <sub>i</sub>			***	*!	
☞ b. k <sub>i</sub> a <sub>i</sub> wa <sub>i</sub> k <sub>i</sub> -k <sub>i</sub> a <sub>i</sub>			***		*
c. k <sub>i</sub> a <sub>i</sub> wa <sub>i</sub> k <sub>i</sub> -k <sub>i</sub> e <sub>i</sub>		*!	**		**

## Concluding remarks

- Uyghur features the rather rare interaction of backness harmony between vowels and velar/uvular consonants.
- “Inconsistent” roots reveal that there are two separate but interacting harmony processes: vowels agree with vowels, while consonants agree with the closest participating segment.
- This interaction can be viewed as argument for vowel and consonant harmony being rather similar and not fundamentally different.
- ABC could account for the observed patterns in a straightforward way: [dorsal] is the feature of correspondence and [±back] the harmonic feature.

## References

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