

More than phonologization:  
The emergence and decay of vowel  
harmony in Turkic

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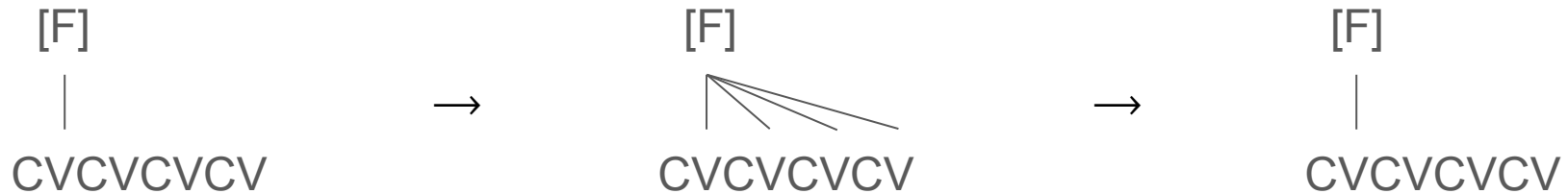
Adam McCollum  
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# Introduction

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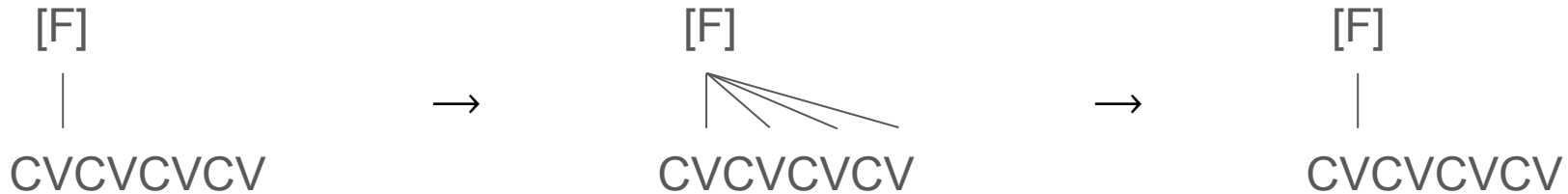
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# Introduction

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The question is how does simple vowel-to-vowel coarticulation yield the sort of harmony found in Turkic, where words can be very long.



# Introduction

Barnes (2006) posits that initial strengthening plus coarticulation yielded the phonologization of backness harmony in the history of Turkic.

However, he writes (p. 198):

*All the foregoing, however, buys us no more than a single sound change: Vowel 2 assimilates to Vowel 1 in frontness/backness in Pre-Proto-Turkic. But this alone cannot be the fully story. I am also less than sanguine about the plausibility of an analysis in which word-domain harmony is brought about gradually by the methodical creep of palatality across from left margin to right in the word. Rather, the sound change described here must account for only the first step in the rise of Turkic vowel harmony.*

# Introduction

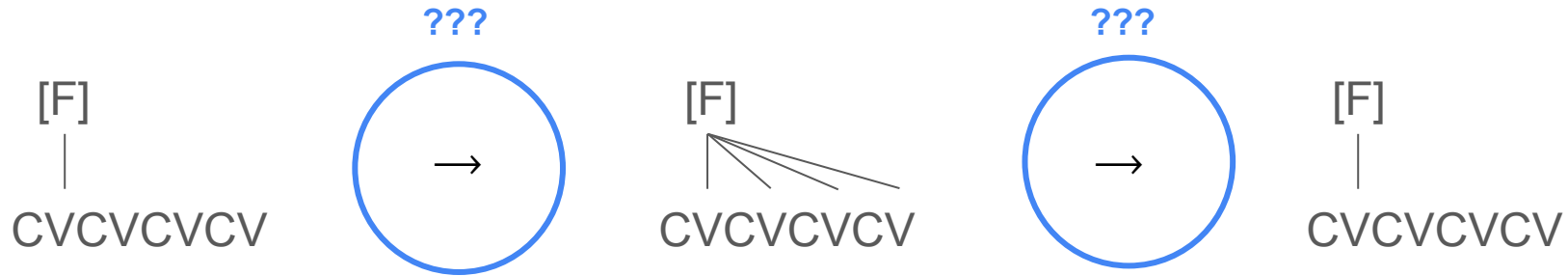
Barnes' concerns are reiterated in Hyman (2013)

*Attempts to attribute VH to the phonologization of vowel coarticulation (Ohala 1994b; Beddor & Yavuz 1995; Przedziecki 2005) must account for why VH is typically unbounded and word-delimited.*



# Introduction

In this talk we examine the history of rounding harmony in Turkic to better determine the nature and pathways of the emergence and decay of harmony.





# The emergence of harmony

In the Orkhon inscriptions and Uyghur manuscripts (roughly 7th to 10th century CE), morpheme-specific rounding harmony is present

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[-round]	tilky-niŋ 'fox-GEN' (HT 53)      øl-ti 'die-PST.3' (KT E20)

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Alternating	kytŋ-lyg ‘force-NMLZR’ (O4)	øl-yr-yp ‘die-AOR-CVB’ (BK S7)

# The emergence of harmony

In addition to lexical factors, phonological constraints still appear to exist

- No alternations in word-final position
  - Modern Uyghur: kəl-i 'lake-POSS.3' but kəl-y-ni 'lake-POSS.3-ACC'

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  - Modern Uyghur: køl-i ‘lake-POSS.3’ but køl-y-ni ‘lake-POSS.3-ACC’
- Harmony may be blocked by two intervening consonants
  - CVB usually alternates, ol-ur-up ‘be-AOR-CVB’
  - But after CC harmony may fail
    - bæl-gyrt-ip ‘appear-CAUS-CVB’
    - Ili Turki: un-i(n) ~ un-u(n) ‘3S-POSS’ but qol-din ‘hand-ABL’

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In addition to lexical factors, phonological constraints still appear to exist

- No alternations in CV suffixes
- Optionality - especially as distance from the initial trigger increases
  - kyn-lyg ‘day-NMLZR’
  - kyťj-lyg ~ kyťj-lig ‘force-NMLZR’
  - kyndyz-lik ‘daytime-NMLZR’
  - This kind of optionality is also mentioned in Kazakh

# The emergence of harmony

Viguier's (1790) compendium notes a difference between literary and colloquial Ottoman Turkish

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Lexeme-specific behavior	yolsız mı	yolsuz mu	“roadless?”
	dostın	dostun	“your friend”

# The emergence of harmony

In Old Turkic and Ottoman Turkish we see the following properties of emerging rounding harmony

- Lexeme-specific behavior
- Phonological factors
  - Non-iterativity
  - Ban on harmony word-finally
  - Blocking by intervening CC
  - Optionality

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- Uzbek: the loss of harmony is affected by contact with Persian (Laude-Cirtautus 1977, Harrison et al. 2002)
- West Rumelian Turkish: the loss of harmony is derived from contact-induced change (Dombrowski 2013)
- Vowel harmony may be inherently unstable, and that diachronic loss of harmony may be the cumulative effect of smaller, often phonetic tendencies rather than the result of external forces (Binnick 1991)

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Variable contraction of the harmonic domain of rounding harmony in Noghay dialects (Baskakov 1940):

/kyn-lAr-lmlz-GA/ 'day-PL-POSS.1P-DAT'

[kynlerimizge]	(the first syllable only)
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These three types of rounding harmony are not just characteristic of Noghay, but of the larger family

# The decay of harmony: Kazakh

Radlov (1870): consistent rounding of all non-initial high vowels and non-high front vowels

/ʒol-ɪmlɪz-nɪ/ [ʒol-umuz-du]      'road-POSS.1P-ACC'

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Melioranskij (1894) reports that harmony may not affect later vowels in a word, but also transcribes iterative harmony in the only text he records

# The decay of harmony: Kazakh

Balakaev (1962): harmony extends rightward only one syllable

/qol-ɪmlz-nɪŋ/      [qol-ʊmɯz-dɯŋ] ‘hand-POSS.1P-GEN’

# The decay of harmony: Kazakh

Balakaev (1962): harmony extends rightward only one syllable

/qol-ɪmlz-nɪŋ/      [qol-ʊmɯz-dɯŋ] ‘hand-POSS.1P-GEN’

We can thus characterize the change in Kazakh as being from iterative to non-iterative harmony.

# Some Kazakh consultants



# Crimean Tatar: a case study

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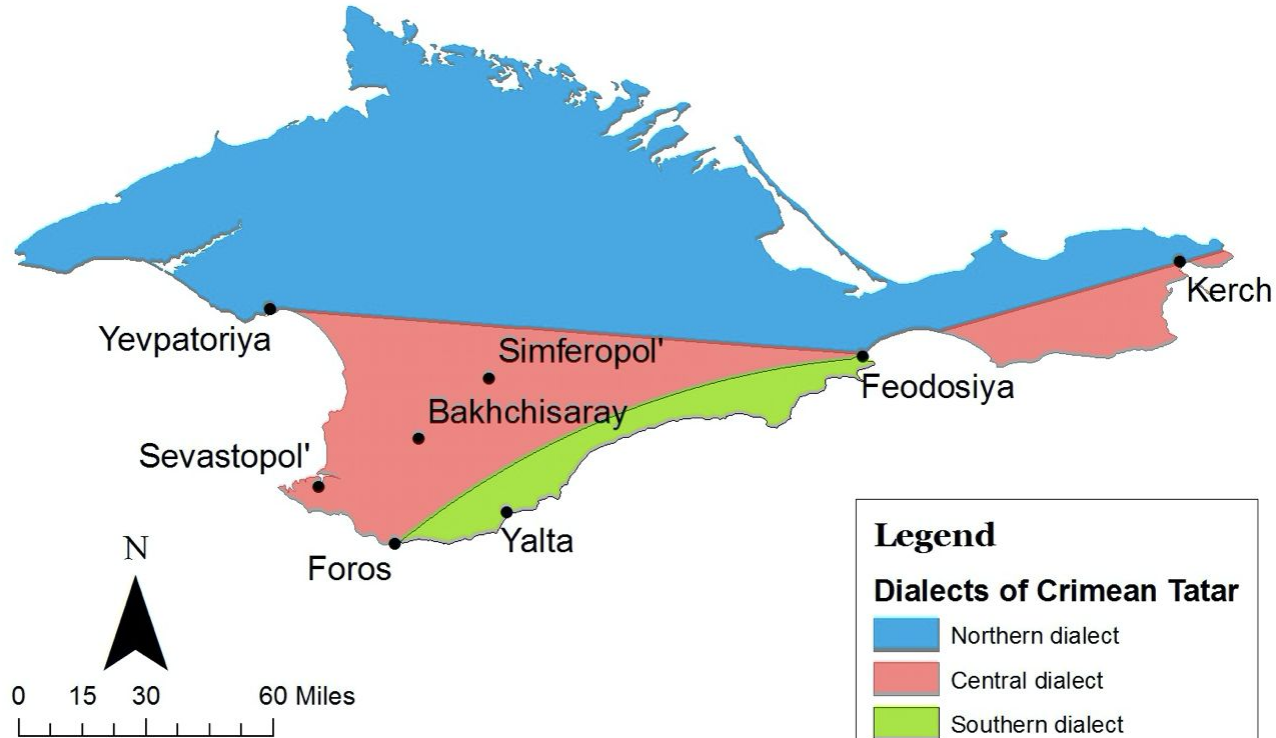
Belongs to the West Kipchak branch of the Northwestern subgroup of the Turkic family

Spoken in Crimean peninsula and in Uzbekistan, Russia, Bulgaria, Romania, and Turkey

Three main dialects: Southern, Northern, Central

# Dialects of Crimean Tatar

*As described by A.N. Samoilovich (1916)*



# Crimea, Ukraine, and Eastern Europe



Source: ESRI

## Crimean Tatar (Radlov 1896)

	Syllable 2	Syllable 3	Syllable 4	Total
[+high, +round] after [+round]	4,559	946	105	5,610
[+high, -round] after [+round]	134	54	6	194
Total	4,693	1,000	111	5,804
Percent [+high, +round] after [+round]	97.1	94.6	94.6	

Table 1. Counts of harmony and disharmony aggregated over the Crimean Tatar corpus in Radlov (1896)

# Crimean Tatar (Radlov 1896)

Town	Region	Syllable 2		Syllable 3		Syllable 4	
		Counts	Percent harmony	Counts	Percent harmony	Counts	Percent harmony
Asau	Southern	128/167	76.6	35/35	100	4/4	100
Baqčisarai	Central	587/604	97.2	145/155	93.5	9/10	90
Biyük lambat (Malyi Mayak)	Southern	428/439	97.5	104/107	97.2	16/16	100
Biyük xojalar (Dolinnaya)	Northern	737/762	96.7	141/153	92.2	9/9	100
Deir (Yantarnoe)	Northern	47/48	97.9	6/6	100		
Istile (Lesnikovo)	Central	345/351	98.3	64/69	92.8	4/4	100
Kefe (Feosodia)	Central	300/301	99.7	50/54	92.6	8/8	100
Közleve (Kezlev; Evpatoria)	Northern	181/184	98.4	45/49	91.8	4/4	100
Mixxor	Southern	435/446	97.5	75/80	93.8	6/7	85.7
Özen-baş (Schastlivoe)	Central	193/199	97.0	44/44	100	5/5	100
Qaralez (Zalesnoe)	Central	395/397	99.5	86/90	95.6	15/15	100
Qarasu bazar (Belogorsk)	Central	621/628	98.9	121/127	95.3	18/18	100
Üsküt (Privetnoe)	Southern	162/167	97.0	30/32	93.8	7/7	100

Table 2: Counts and percent harmony for each town and syllable number in Radlov (1896)

# Contemporary Crimean Tatar

Contemporary Crimean Tatar exhibits three stages of the decay of rounding harmony

## Data

- Descriptive sources
- Fieldwork in Crimea (2001-2019; 78 speakers born in 1913-1980)
- A phonetic investigation (2016): 4 speakers of the Southern dialect (2 females, average age: 59 yrs, age range: 51-67 yrs) and 5 speakers of the Central dialect (5 females, average age: 64.6 yrs, age range: 60-77 yrs)



# Crimean Tatar consultants



# Southern Crimean Tatar

Rounding harmony affects all consecutive high vowels in a word; the most conservative dialect

- a.    dost-um            'friend-POSS.1S'  
       tuzluy-um        'salt shaker-POSS.1S'  
       syrgyn-lyk        'deportation-ADJ.SUF'  
       tykyr-yn-mek     'spit-PASS-INF'
- b.    dost-lar-um        'friend-PL-POSS.1S'



# Northern Crimean Tatar

Rounding harmony is lost, with rounding licensed in initial syllables only (a)  
and with optional unrounding of high vowels (b)

- |    |                   |                    |                                  |
|----|-------------------|--------------------|----------------------------------|
| a. | bojun             | ‘neck’             | (cf. southern/central [bojun])   |
|    | dost-um           | ‘friend-POSS.1S’   | (cf. southern/central [dost-um]) |
| b. | burun ~ bwrun     | ‘nose’             | (cf. southern/central [burun])   |
|    | bulamwq ~ bwlamwq | ‘a type of cereal’ |                                  |

# Central Crimean Tatar

Rounding harmony operates only in the first two syllables of a word

- |    |              |                       |                               |
|----|--------------|-----------------------|-------------------------------|
| a. | dost-um      | ‘friend-POSS.1S’      |                               |
|    | kyz-lyk      | ‘autumn-ADJ.SUF’      |                               |
|    | bul-un-maq   | ‘find-PASS-INF’       |                               |
| b. | burun-um     | ‘nose-POSS.1S’        | (cf. southern [burun-um])     |
|    | tuz-luy-um   | ‘salt shaker-POSS.1S’ | (cf. southern [tuz-luy-um])   |
|    | syrbyn-lyk   | ‘deportation-ADJ.SUF’ | (cf. southern [syrbyn-lyk])   |
|    | tykyr-in-mek | ‘spit-PASS-INF’       | (cf. southern [tykyr-yn-mek]) |

# Non-iterative harmony in Central Crimean Tatar

2 initial syllables are not a prosodic domain

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# Non-iterative harmony in Central Crimean Tatar

Rounding harmony is truly non-iterative in the Central dialect, and not derivable from other, independent patterns in the language

Given that harmony is fully operative in all of Radlov's texts, the contraction of the harmonic domain in the Central dialect must be construed as a recent development.

When the three dialects are compared, we see three stages in the decay of harmony: full harmony, non-iterative harmony, and no harmony.

# Suffixes with invariant harmony in Crimean Tatar

Gloss	Contemporary CT	Radlov (1896)
'3S-ACC'	o-nw	o-nu (Kefe, p. 134)
'water-ACC'	suv-nw	su-nu (Suliman paiğambar, p. 191)
'word-ACC'	søz-ni	søz-ny (Qarasu bazar, p. 166)
'friend-GEN'	dost-nwŋ	dost-nuŋ (Közleve, p. 235)
'water-GEN'	suv-nwŋ	su-nuŋ (Čorba batir, p. 127)
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The invariance of these suffixes is due to decay, not incomplete development, of harmony.

# Discussion

In Turkic we see

[F]  
|  
CVCVCV

→

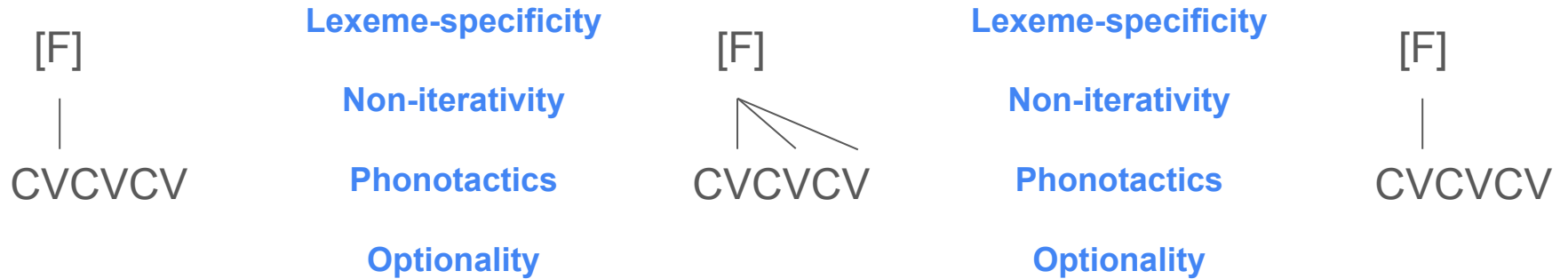
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There are possible intermediate stages between Stage 1 (no harmony) and Stage 2 (full harmony):

- Lexically-specific harmony (Old Turkic, Chaghatai)
- Non-iterativity (Crimean Tatar, Kazakh)
- Optionality (Kazakh)
- Phonological restrictions (Uyghur, Ili Turki)

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Also attested in the evolution of harmonies in other languages, e.g., increasingly optional height harmony in Old Norwegian

Thank you!

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