

*Phonetic and Phonological Problems in Kyrgyz*  
*A Fulbrighter's plans for gathering data in the field*

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## *Background: Kyrgyzstan*



# Background

## *Kyrgyz people*

### Kyrgyz people

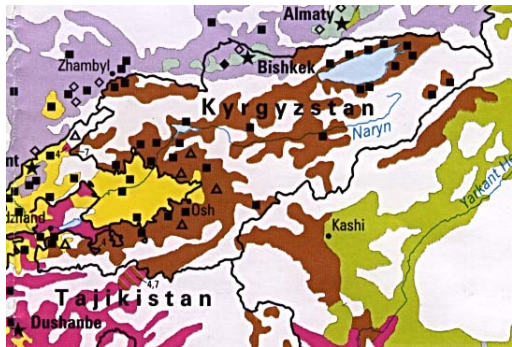
- Originally from Mongolia
- Alaroo ±1000 years ago
- Traditionally
  - nomadic pastoralists
  - Tengriistic
  - superficially Islamicised
- Soviet collectivisation
- Most bilingual in Russian
- (South) many bilingual in Uzbek



# Background

## Kyrgyz language

### Kyrgyz language



- 3½ million speakers
- Mostly in Kyrgyzstan
- Also:
  - Tajikistan
  - China
- Turkic language
  - SOV word-order
  - agglutinative
  - vowel harmony
  - etc.

# Phonetics

## Vowels

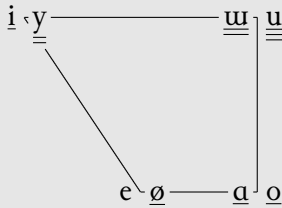
### Kyrgyz vowel inventory & space

- Short:

i, y, e, ø, a, o, u

- Long:

i:, y:, e:, ø:, a:, o:, u:



- distinguished by ±high, ±back, ±round
- “typical 8-point Turkic vowel system”
- long vowel equivalents

# Phonology

## Vowel harmony

### Vowel harmony

- Front/back harmony
- Rounding harmony
- Exception: [ɑ] after /u/
- “Southern dialect”:  
[o] after /u/
- Long vowels are the same

	A	I
i	e	i
e	e	i
y	ø	y
ø	ø	y
ɑ	ɑ	ʊ
ʊ	ɑ	ʊ
o	o	u
u	<u>ɑ</u>	u

## *Phonetic vowel space*

### Pilot study of phonetic vowel space

- Mono-syllabic stems with one of two endings
  - /CV<sub>z</sub>+NI/ (accusative), /CV<sub>z</sub>+DA/ (locative)
  - V = all [short] vowels
  - Desonorisation of /n/ after /z/ → [d]
  - All forms [CV<sub>z</sub>dV]
- Syntactically equivalent carrier phrases
- Randomised, with filler sentences
- 5 repetitions of each phrase
- Measured vowels in 3 interior repetitions
- Some problems:
  - initial /C/ not [well-]controlled for
  - measured inner 20ms of [V]s
  - [V]s ranged from voiceless (0ms) to 120ms+



## Phonetic vowel space

### Pilot study of phonetic vowel space

- Example sentence pair:

- (1) dʒajlo:–ko kœtʃ–kœn–dœ, saz–du    saʃwʒʒan bas–ʃp  
*jayloo*–DAT move–GER–LOC, *swamp*–ACC raven    push–PART  
ket–ip–tir  
leave–EVID.PAST–3rd.SG

Жайлоого көчкөндө, сазды сагызган басып кетиптир.

“While moving to the summer pasture, the swamp was full of ravens.”

- (2) dʒol–do dʒyr–gœn–dœ, saz–da    dʒaman dʒwt dʒwt–ta–n–du  
road–LOC walk–GER–LOC, *swamp*–LOC bad    smell smell–VERB–PASS–PAST

Жолдо жүргөндө, сазда жаман жыт жыттанды.

“Walking [down] the road, a bad smell was smelled in the swamp.”

- Findings:

- Some height harmony
- /ɑ/ doesn't pattern with /o/ phonetically
- Vowels in stems vs. affixes behaved differently...

## Phonetic vowel space

- Pilot study findings (*ctd*):
  - Vowel space different for affixes and stems
  - Affix vowel space more typical
  - Affix vowel space more condensed / less distinct

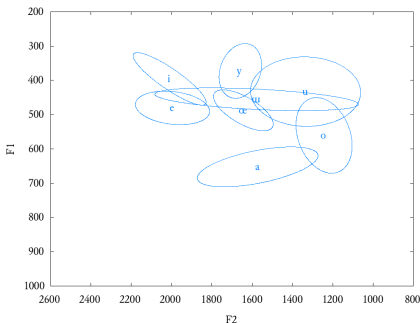


Figure: Affix vowel space

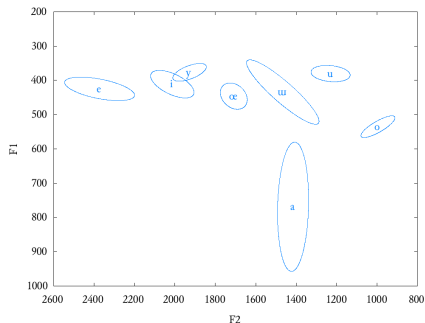
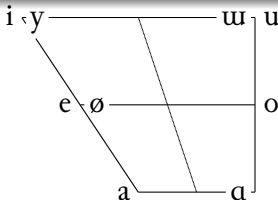


Figure: Stem vowel space

## The 9<sup>th</sup> vowel

Phonemic status of front /a/



- Result of:
  - Borrowing from Persian, e.g. /ar/ 'each'
  - Regressive assimilation, e.g. /ajdøʃ/ 'sloping'
- No round counterpart
- No long counterpart
- No minimal pairs (with /a/)
- Doesn't interact with normal vowel harmony

## Tonogenesis

- Noticed in pilot study of vowels
- /Vz/ → [V:] with falling pitch
- Consistent pitch drop of 20Hz-30Hz
- Slight drop in intensity for /z/ remains

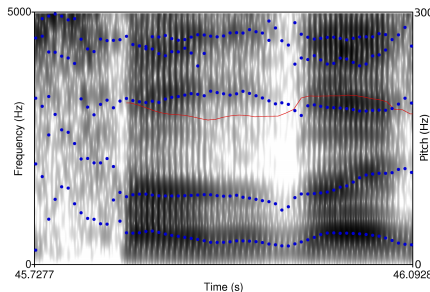


Figure: /sazda/

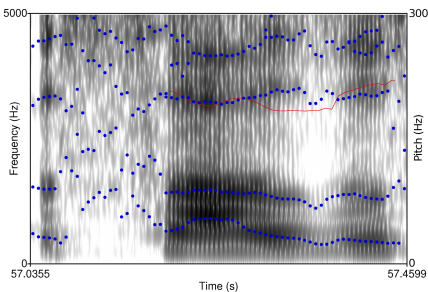


Figure: /sazdu/

# Monophthongisation

## Monophthongs and Diphthongs

- V: ← VC<sub>[+vc]</sub>
  - Old Turkic /sub/ → Kazakh /suw/, Kyrgyz /su:/ ‘water’
  - Old Turkic /taG/ → Kazakh /taw/, Kyrgyz /to:/ ‘mountain’
  - Old Turkic /kyd/ → Kazakh /kyj/, Kyrgyz /ky:/ ‘melody’
- 3rd person possessive morpheme /(s)I/
  - Meaning: ‘his/her/its/their ...’  
‘water’, ‘mountain’, ‘melody’ (‘apple’ /alma/, ‘dog’ /it/)
  - Kazakh: /suw/, /taw/, /kyji/ (cf. /almasw/, /ijti/)
  - Kyrgyz: /su:s/, /to:s/, /ky:s/ (cf. /almasw/, /iti/)
  - Talas Kyrgyz: /su(w)u/, /to(w)u/, /ky(j)y/
- Talas:
  - UFs? (phonemically diphthongs?)
  - SFs? (phonetically diphthongs?)
  - Dialects where /VG/, but [V:]?
  - Interaction with desonorisation?

# Sonority of /n/

## Desonorisation

	-L	-N
V	V.l	V.n
j	j.l	j.d
r	r.l	r.d
l	l.d	l.d
N	N.d	N.d
C <sub>[+vc]</sub>	C.d	C.d
C <sub>[-vc]</sub>	C.t	C.t

- /l/ desonorises after /l/ and anything less sonorous
- (Kazakh /l/ (and /m/) behave the same)
- Presumably due to highly ranked universal constraint: “sonority must fall across syllable boundary”
- What about /n/?

### Theory:

If desonorisation is due to above constraint, then suffix-initial(?) /n/ has the sonority of a glide.

## Sonority of /n/

### *Desonorisation*

- Exception: /r.l/ → [r.l], [r.d]
- [r.d]:
  - /bar+LIK/ → [barduq] ‘all’,
  - /ur+LA/ → [urda] ‘sing’,
  - /byr+LA/ → [byrdœ] ‘form buds’,
  - /tor+LA/ → [tordo] ‘darn, mend’
- [r.l]:
  - /ur+LAr/ → [urlar] ‘songs’,
  - /byr+LAr/ → [byrlœr] ‘buds’,
  - /zar+LAr/ → [zarlar] ‘sorrows’,
  - /tor+LAr/ → [torlor] ‘nets’
- either:
  - /zar+LUU/ → [zardu], [zarlui] ‘sorrowful’

## *Other (smaller) topics for research*

- How far through a word vowel harmony spreads
- Rounding harmony systems

### *Example (different vowel harmony systems)*

“Standard”: /tuz+DA/ ‘salt.LOC’ → [tuzda]

“Southern”: /tuz+DA/ ‘salt.LOC’ → [tuzdo]



## *Other (smaller) topics for research (ctd.)*

- Stress system, pitch system, and interaction
- VOT of stops (voiceless = aspirated, voiced = full)
- Word-final devoicing and word-initial voicing  
(What voices when? What devoices when?)

*Example (word-final devoicing, word-initial voicing)*

/tuz/ 'salt' → [dus]

/tuz+DA/ 'salt.LOC' → [dusta]

## *Sociolinguistic factors*

*Factors potentially contributing to linguistic variation*

- Age
  - Spread of rounding harmony through a word
  - Phonetic vowel system
- Geography, Multilingualism
  - Northwest (Talas): Kazakh-influenced?
  - Southwest (Osh): Uzbek-influenced?
  - North (Bishkek, Yssyk-köl): Russian-influenced?
  - Southeast (Naryn): “true” Kyrgyz?
  - “Southern dialect”??
- Urbanness (cities / villages / nomadic camps)
- Tribe (Patrilineal)

## *Data collection*



- Experimental design:
  - Various elicitation tasks
  - Local scholars' help
  - Illiterate subjects?
- Project (in summary):
  - “Researching Kyrgyz Dialects”
  - = excuse to figure out other issues

—Thank you—

Questions, comments, suggestions, etc. are welcome

Sources are available upon request