The three faces of Kazym Khanty schwa

Sasha Shikunova

HSE University (Moscow)

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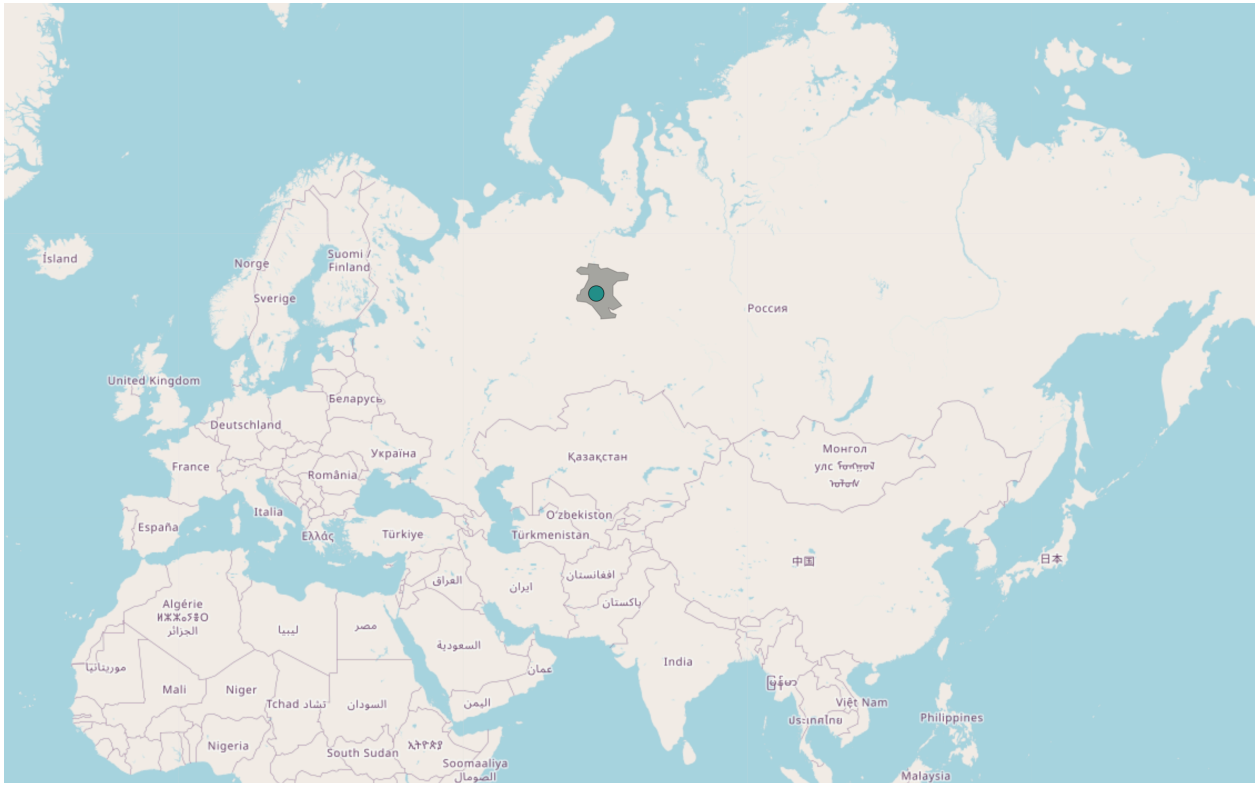
Kazym Khanty

- Minority Uralic language spoken in Khanty-Mansi and Yamalo-Nenets okrugs of Russia
- Kazym Khanty – a Northern Khanty dialect, data collected in Kazym village (Khanty-Mansi okrug)



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Khanty schwa

- Schwa can be inserted to avoid complex onsets, which are prohibited

(1) *əškola* from Russian *škola* ‘school’

- Schwa can alternate with zero

(2) a. *juχət-λ* ‘come-PST[3SG]’

b. *juχt-λ-ən* ‘come-PST-2SG’

- Schwa can be a stable vowel that never alternates with zero

(3) a. *orət-s* ‘drag-PST[3SG]’

b. *orət-s-ən* ‘drag-PST-2SG’

Search for the simplest analysis

- Phonologically, is it possible to treat the schwa as a single entity, whose surface realisation depends on the context?
- That is, can we avoid postulating two different schwa phonemes with distinct behaviour?
- Is it possible to avoid allomorphy where schwa alternates with zero?

Allomorphy solution

- For a similar schwa pattern in a different dialect of Khanty (Tegi), Kozlov (2012) proposes a two-module solution
- Morphophonological module chooses between schwa and schwa-free allomorphs of tense and agreement suffixes
- Phonetic module is responsible for deleting the schwa in connected speech in some contexts, e.g. next to sonorants or between homorganic consonants

OT solution

- Egorov & Tjutjunnikova (2023) suggest postulating 2 schwas: /ə/ and /ə$_1$/
- One is stable and one is subject to the DEL(ə$_1$) constraint
- Such schwas are deleted when phonotactic restrictions are not met
- Serial OT (Harmonic Serialism, McCarthy 2010) has to be assumed

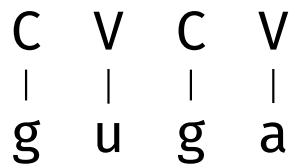
Is it possible to avoid postulating allomorphy or two phonemes for one schwa?

The association line

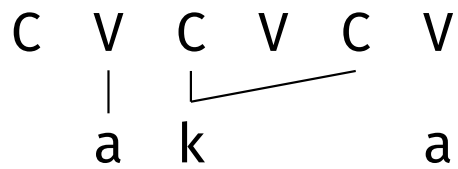
- Strict CV (Kaye, Lowenstamm & Vergnaud 1990, Scheer 2004) supposes that phonological representations consist of a syllabic tier and a melodic tier with association lines in between

(4) Example representations

a. [guga]



b. [akk(a)]

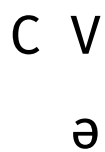


The association line

- A piece of melody can take three logically possible underlying forms:
  - Associated
  - Floating
  - Empty (empty slots are filled when ungoverned)

(5) Associated

(6) Floating



(7) Empty slot

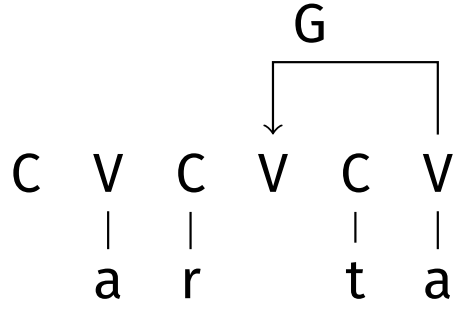
The association line

- Vowel-zero alternations are restricted by the Empty Category principle:

(8) Empty Category principle
A position may be uninterpreted phonetically if it is properly governed (Kaye, Lowenstamm & Vergnaud 1990: p. 219)

- where proper government is a relation between a filled V-slot and an empty slot on its left

(9) Empty nucleus governed in the cluster in [arta]



The association line

- Associated schwa does not alternate with zero
- Floating schwa is expected to alternate with zero
- Empty V is only filled when phonotactic requirements are not met, i.e. in prohibited clusters

What kinds of schwa do we find in Kazym Khanty?

All three

Verbal bases

- Verbal inflection: base-tense-agreement
- There are two types of verbal bases where schwa can occur
- One with an alternating schwa (*ir(ə)t-* ‘turn’) and the other with a stable schwa (*orət-* ‘drag’)

Form	**Alternating schwa**	**Stable schwa**
	ir(ə)t- ‘turn’	orət- ‘drag’
NPST[3SG]	irət-λ	orət-λ
PST[3SG]	irt-əs	orət-s
NPST-2SG	irt-λ-ən	orət-λ-ən
PST-2SG	irt-s-ən	orət-s-ən
NPST-1DU	irt-λ-əmn	orət-λ-əmn
PST-1DU	irt-s-əmn	orət-s-əmn

Different schwas

What kinds of schwa do we find:

- In verbal bases of two types (alternating and stable)?
- Before tense endings -*ʎ* ‘NPST’ and -*s* ‘PST’?
- In agreement endings -*ən* ‘NPST’ and -*əmn* ‘PST’?

And why are they behaving like they do?

Analysis

- Since in Strict CV, the same piece of melody can take three shapes in the phonology, distinct representations with the same melodic content come for free
- I claim that stable, floating *and* epenthetic schwas are observed in Khanty
- Together with rules dictated by association and government, there is a constraint against two schwas in a row

(10) **No two schwas in a row**
If two schwas occur one after the other on the surface, the latter is deleted.

Empty V-slots

- I assume that schwa can appear as an epenthetic vowel that fills empty V-slots to rescue prohibited clusters
- In Khanty, initial clusters are prohibited; schwa epenthesis results

(11) Rescuing illicit clusters in loanwords

a. *kinška* from Russian *knižka* ‘book’

b. *əškola* from Russian *škola* ‘school’

- Also, coda clusters must have decreasing sonority (Egorov & Tjutjunnikova 2023)

Empty V-slots

- -*s* ‘PST’ appears with a schwa on the left only in 3SG after (ə)C# bases (with an alternating schwa)
- -*λ* ‘NPST’ never occurs with a schwa

(12) a. *irətλ* ‘turn.NPST’

b. *irtəs* ‘turn.PST’

- /rts/ and /rtλ/ clusters are possible word-internally but not word-finally

(13) a. *irt-λ-ən* ‘turn-NPST-2SG’

b. *irt-s-ən* ‘turn-PST-2SG’

- Since we saw that the agreement suffix affects the base over the tense suffix, the schwa of -*ən* ‘2SG’ licenses the cluster

Deriving epenthetic schwas

(14) *irətλ* ‘turn.NPST’

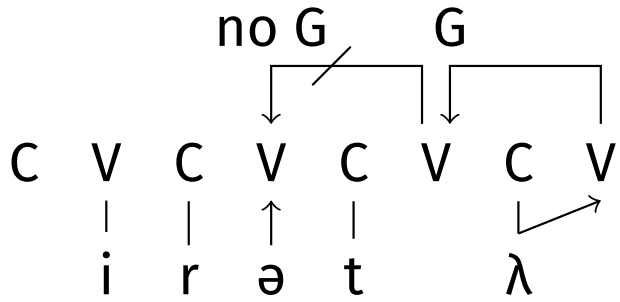
C	V	C	V	C	V	+	C	V
	|	|		|			|	
	i	r		t			λ	

(15) *irtəs* ‘turn.PST’

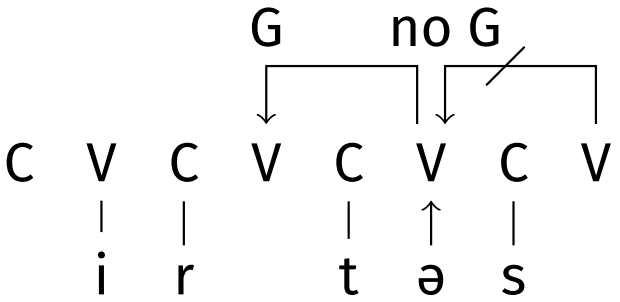
C	V	C	V	C	V	+	C	V
	|	|		|			|	
	i	r		t			s	

Deriving epenthetic schwas

(16) *irətλ* ‘turn.NPST’



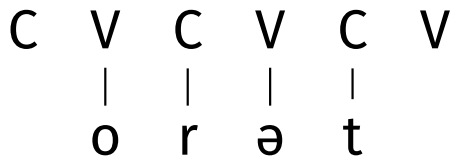
(17) *irtəs* ‘turn.PST’



Stable schwa

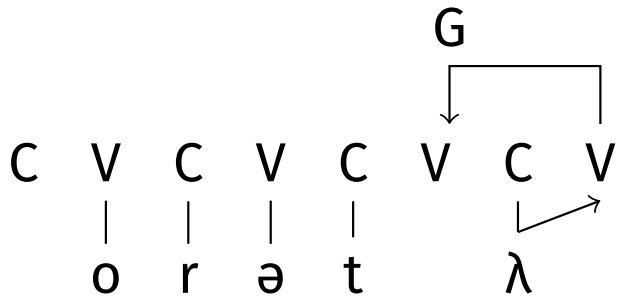
- Stable schwa is found in non-alternating verbal bases like *orət-* ‘drag’
- The vowel is associated in the lexical representation and therefore acts like other full vowels
- The schwa-deleting rule removes the second schwa that should appear in

(18) *orət-* ‘drag’

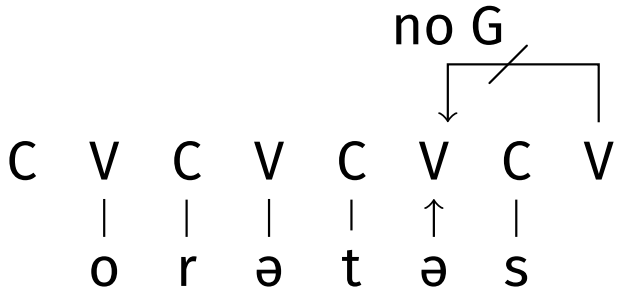


Deriving stable schwa

(19) *orətλ* ‘drag.NPST’



(20) *orəts* ‘drag.PST’

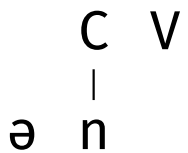


→ *orəts* (second schwa in a row deleted)

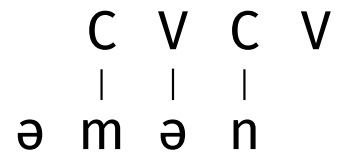
Floating schwas

- Floating schwas are found in agreement endings
- *-əmən* ‘1DU’ contains a second schwa because it can show up in some cases: *ji-s-mən* ‘become-PST-1DU’

(21) *-ən* ‘2SG’



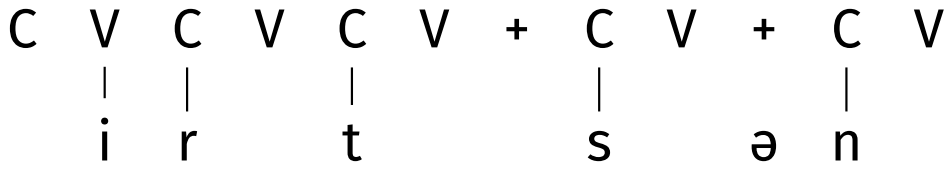
(22) *-əmən* ‘1DU’



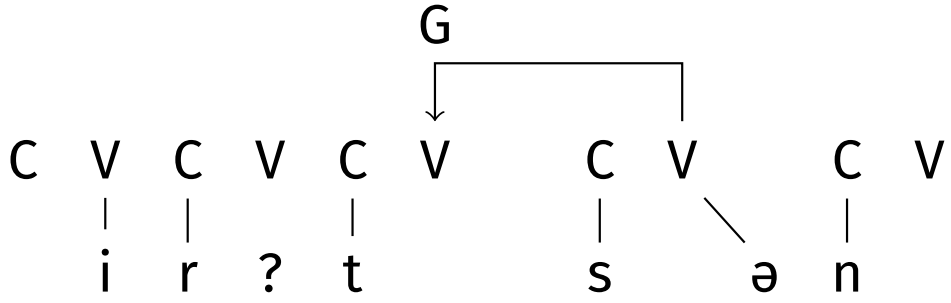
Deriving alternating schwas

- Why is the /rts/ cluster licit word-internally and broken up word-finally?
- I tentatively suggest that the agreement suffix is inserted prior to tense
- The empty nucleus is governed by the vowel of *-ən* ‘2SG’

(23) *irt-s-ən* ‘turn-PST-2SG’



(24) *irt-s-ən* ‘turn-PST-2SG’



Conclusions

- Two-tiered autosegmental phonology allows for three schwas with distinct patterns of behaviour
- No allomorphy or distinct phonemes for schwa postulated so far
- The rest of the verbal inflection, as well as the nominal inflection are yet to be explored

Credits for data and discussion

- ♥ Ilia Egorov
- ♥ Varvara Tjutjunnikova
- ♥ Anna Moskalëva
- ♥ Daniil Burov
- ♥ Kazym Khanty fieldwork project

References

- Egorov, Il’ja & Varvara Tjutjunnikova. 2023. /ə/ v kazymskom xantyjskom: meždu fonetikoj i morfonologiej [Schwa in Kazym Khanty: between phonetics and morphophonology]. Talk at Minor Languages in Big Linguistics.
- Kaye, Jonathan, Jean Lowenstamm & Jean-Roger Vergnaud. 1990. Constituent structure and government in phonology. *Phonology* 7(1). 193–231.
- Kozlov, Alexei. 2012. Nejtral’nyj glasnyj šva v teginskom xantyjskom: morfonologija+fonologija [The neutral vowel schwa in Tegi Khanty: morphophonology+phonology]. Handout for a fieldwork group seminar.
- McCarthy, John. 2010. An introduction to harmonic serialism. *Language and Linguistics Compass* 4(10). 1001–1018.
- Myler, Neil. 2017. Exceptions to the mirror principle and morphophonological “action at a distance”: The role of “word”-internal phrasal movement and spell out. In Heather Newell et al. (eds.), *The structure of words at the interfaces*, 100–125. Oxford: Oxford University Press.
- Scheer, Tobias. 2004. *A Lateral Theory of Phonology*. Berlin: De Gruyter Mouton.

Glossing abbreviations

1 first person
2 second person
3 third person
DU dual
GEN genitive
LOC locative
NOM nominative
NPST non-past
P possessive
PL plural
PST past
SG singular