



# VERBAL ROOT STRUCTURE AND ASPECT IN DARGWA

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# OUTLINE

- ✓ information on Dargwa
  - genetic, areal and typological info
  - verbal root structure
  - aspect
  - diagnostic suffixes
- ✓ questions and problems
- ✓ database description
- ✓ results: groups of verbal roots
- ✓ hypothesis on the origin of the aspectual system of Dargwa

# DARGWA

- ✓ Nakh-Dagestanian (East Caucasian) family
- ✓ approximately 500,000 speakers
- ✓ Central and Eastern part of Daghestan (Russian Federation)
- ✓ well-known for dialectal divergences
- ✓ ergative, left-branching, free word order
- ✓ rich nominal and verbal morphology
- ✓ gender and person agreement

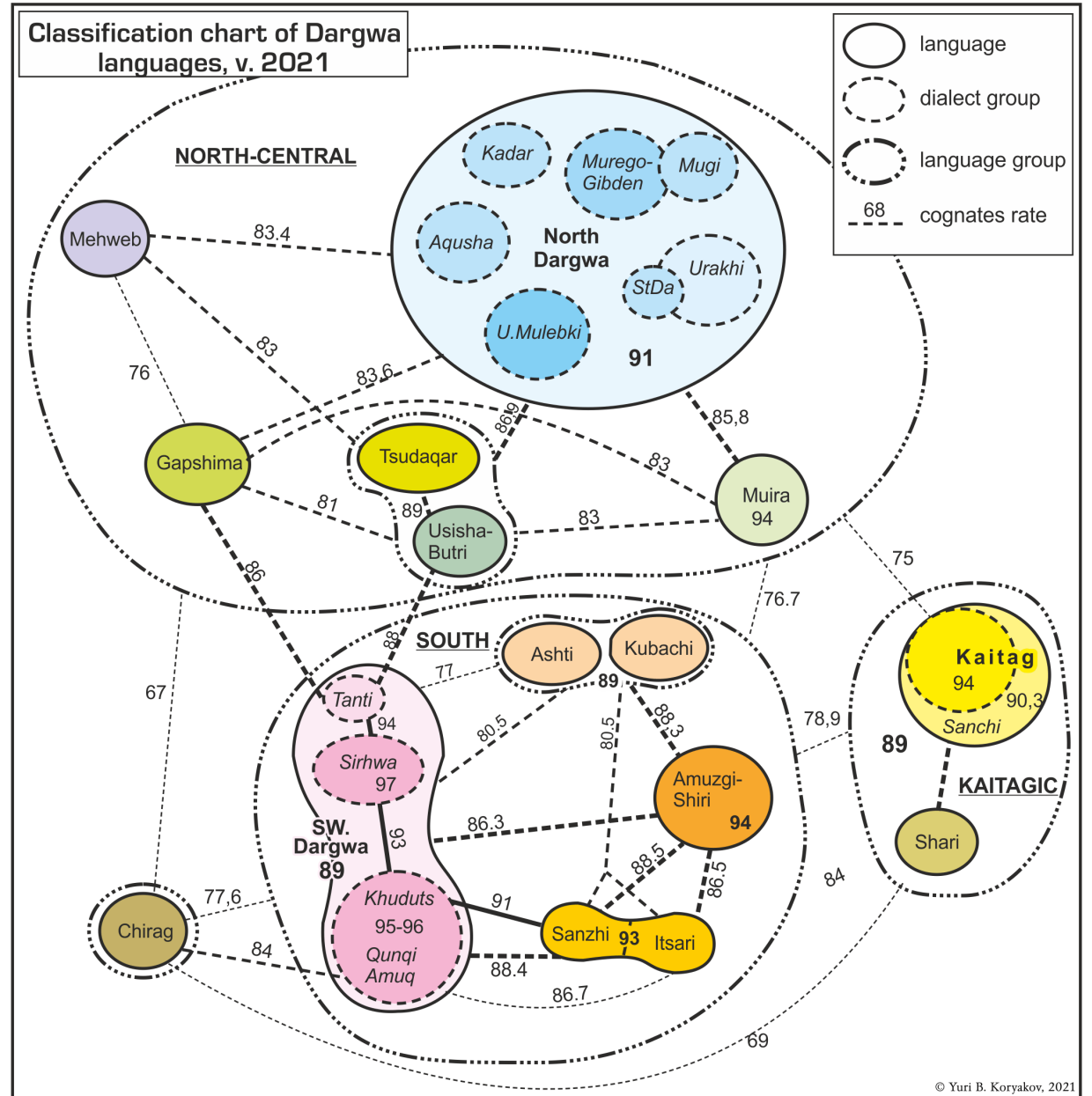
# DARGWA



# DARGWA: A LANGUAGE OR A LANGUAGE GROUP?

Koryakov 2021:  
15 languages and many dialects

I treat Dargwa as a language group  
and will discuss the Dargic languages.



# SIMPLE AND DERIVED VERBS

Root

CL-irč 'fall'

Simple verbs: (GENDER-)ROOT + inflectional affixes

CL-irč-iž 'fall'

Derived verbs:

+ causative suffix

CL-irč-aq-iž 'drop'

+ preverb(s)

gu-t:i-CL-irč-iž 'lose' (gu- 'under' + t:i- 'behind')

+ additional lexical stem ("coverb")

han-CL-irč-iž 'remember' (han is a root)

(examples from Tanti Dargwa)

# VERBAL ROOT STRUCTURE

possible root structures:

VC, CL-VC

VRC, CL-VRC

RVC

C – any consonant

V – any vowel

R – «sonorant»; {r, l, m, b, š}

# VERBAL ROOT STRUCTURE: EXAMPLES (MUIRI)

Meaning	Root: IPFV	Infinitive IPFV
'sew'	ip:	ip:-ara
'say'	CL-ik' <sup>w</sup>	b-ik' <sup>w</sup> -ara
'throw'	irh <sup>w</sup>	irh <sup>w</sup> -ara
'find'	CL-urk:	b-urk:-ara
'write'	luk'	luk'-ana



# ASPECT

Most verbal roots exist in two variants: perfective and imperfective.  
The opposition of these two variants expresses the category of **aspect**.  
This category characterizes verb forms, not whole lexemes.

✓ Muira Dargwa

- |     |    |                        |    |                            |
|-----|----|------------------------|----|----------------------------|
| (1) | a. | <b>b-aq'</b> -ib       | b. | <b>b-iq'</b> -u-li=sa<b>i  |
|     |    | N-hear.PFV-AOR         |    | N-hear.IPFV-PRS-CVB=COP<N> |
|     |    | '(he) heard (that)'    |    | '(he) hears (that)'        |
| (2) | a. | <b>b-aq'</b> -ab       | b. | <b>b-iq'</b> -ab           |
|     |    | N-hear.PFV-OPT         |    | N-hear.IPFV-OPT            |
|     |    | 'let (him) hear (PFV)' |    | 'let (him) hear (IPFV)'    |

# ASPECT

The two variants of a root show common phonological features but their relationship is highly irregular.

Meaning	Root: PFV	Root: IPFV	Infinitive PFV/IPFV
'find'	CL-ark:	CL-urk:	b-ark:-ara/b-urk:-ara
'write'	CL-elk'	luk'	b-elk'-ana/luk'-ana
'throw'	ih <sup>w</sup>	irh <sup>w</sup>	ih <sup>w</sup> -ara/irh <sup>w</sup> -ara
'fall'	CL-ik	CL-irk	ka-b-ik-ara/ka-b-irk-ara
'sew'	CL-ep:	ip:	b-ep:-ara/ip:-ara
'sow'	CL-aʔ	CL-alʔ	b-aʔ-ana/b-alʔ-ana
'measure'	umc	umc	umc-ara/umc-ara

# QUESTIONS TO BE DISCUSSED

- ✓ is the aspectual system the same in all Dargic languages and common for all of them?
- ✓ what are the possible formal types of aspectual oppositions?
- ✓ can we classify the verbal roots as to the type of aspectual opposition?
- ✓ can we figure out the direction of aspectual derivation at least for a part of verbal roots?  
is this direction the same for all verbs?

A further task is to understand how the modern aspectual system appeared and developed in the Dargic languages.

# DATABASE: 9 LANGUAGES

- ✓ Standard Dargwa [based on Aqusha]: [Yusupov 2017], 40000 entries
- ✓ Kubachi: [Magomedov, Saidov-Akkutta 2017], appr. 7000 words
- ✓ Tanti: lexicon from [Sumbatova, Lander 2014] with additions; appr. 1400 entries, 450 verbs
- ✓ Itsari: lexicon from [Sumbatova, Mutalov 2003] + a lexicon collected by Rasul Mutalov (appr. 1100 entries, 320 verbs)
- ✓ Kadar: lexicon collected by Naida Vagizieva (unpublished), appr. 1800 entries, 666 verbs
- ✓ Chirag: verbs from [Kibrik, Kodzasov 1988], 220 lexical meaning
- ✓ Mehweb: [Musaev, Morozova, Daniel 2020], appr. 1100 entries, 290 verbs
- ✓ Muiri: fielddata (2018—2021); appr. 1400 entries, 390 verbs
- ✓ Kajtag: [Gasanova 2011], appr. 4300 words

# DATABASE

Kajtag			Kadar				Mehweb				Standard				Maira				Chirag				Tanti				Itsari				Kubachi								
lie	CL-is:	CL-ils:									lie	CL-is	CL-ils	un	lie	CL-is	CL-ils	un					lie	CL-is:	CL-ils:	un	lie	CL-is:	CL-ils:	un	lie	CL-is:	CL-ils:	un	lie	CL-is:	CL-ils:	un	
get tired	CL-arc:	CL-urc:	get tired	CL-ams	CL-ums	un					get tired	CL-ams	CL-ums	ur	get tired	CL-ams	CL-ums	ur	get tired	CL-arc	CL-urc	ur	get tired	CL-ams:	CL-ums:	ur	get tired	CL-arc:	CL-urc:	ur	get tired	CL-a:	CL-c:	uc:	get tired	CL-a:	CL-c:	uc:	ul
buy	as:	urs:	buy	as	is	ib	buy	as	is	ib	buy	as:	is:	ib	buy	as:	is:	ib	buy	as:	is:	ib	buy	as:	is:	ib	buy	as:	urs:	ib	buy	as:	is:						

# DATABASE

- ✓ all verbal roots found in the sources
- ✓ 172 comparative series (=series of cognate roots)

for each root, both aspects:

root structure, Vowel V, sonorant R, aorist marker

2237	+/+	AC/ARC	i/i	l	un	lie	CL-is:	CL-ils:	AC/ARC	+/+	*/l	i/i	CL-is	CL-ils	AC/ARC	+/+	*/l	i/i	un	CL-is	CL-ils	AC/ARC	+/+	*/l	i/i	un
2026	+/+	ARC/URC	a/u	m, r	ur	get tired	CL-arc:	urc:	ARC/URC	+/-	r/r	a/u	CL-ams	CL-ums	ARC/URC	+/+	m/m	a/u	ur	CL-ams	ums	ARC/ URC	+/-	m/m	a/u	ur
2101	+/-	ARC/UC	i/i	r	ib	shave	CL-irs:	is:	ARC/AC	+/-	r/*	i/i	CL-irs	irs	ARC/ARC	+/-	r/r	i/i	ib	CL-ers	CL-us:	ARC/UC	+/+	r/*	e/u	ib
2012	-/-	AC/UC	a/i		*ib	buy	as:	urs:	AC/URC	-/-	*/r	a/u	as	is	AC/UC	-/-	*/*	a/i	ib	as:	is:	AC/UC	-/-	*/*	a/i	ib

# AORIST MARKERS AND OTHER DIAGNOSTIC SUFFIXES

In most languages of the group, verbs fall into three inflectional classes. These classes are manifested in the choice of certain inflectional affixes, first of all the aorist markers.

Tanti Dargwa

- |   |   |  |
|---|---|--|
| a. b-arč: <b>-ib</b><br>N-find.PFV-AOR<br>'(he) found (it)'             | ha-b-iq' <b>-ur</b><br>UP-N-light.PFV-AOR<br>'(he) lit (it) up'                 | b-elč' <b>-un</b><br>N-read.PFV-AOR<br>'(he) read (it)'              |
| b. b-urč: <b>-u-le</b><br>N-find.IPFV-PRS-CVB<br>'(he) is finding (it)' | ha-b-ilq' <b>-u-le</b><br>UP-N-light.IPFV-PRS-CVB<br>'(he) is lighting (it) up' | b-uč' <b>-un-ne</b><br>N-read.IPFV-PRS-CVB<br>'(he) is reading (it)' |
| d. b-ark: <b>-ab</b><br>N-find.IPFV-PRS-CVB<br>'let (him) find'         | ha-b-iq' <b>-ab</b><br>UP-N-light.IPFV-PRS-CVB<br>'let (hin) light up'          | b-elč' <b>-ab</b><br>N-read.IPFV-PRS-CVB<br>'let (him) read (it)'    |

# AORIST MARKERS AS A TRACE OF “ROOT DETERMINERS”

The diagnostic suffixes show historical correlation with the root sonorants.

Sonora nt	Sonorant (PFV/IPFV)	Aorist marker	Root determiner
no	no	-Vb	0
r	r / r	-Vb (-ur)	0 (R)
	0 / r	-Vb	0
	r / 0	-Vb	
l	l / l	-un (-ur)	N (R)
	0 / l	-un (-ur)	
m	m/m	-ur	R
b	b/b	-Vb	0
š	š/š	(-Vb)	(0)



# ROOT CLASSES IN THE DATABASE

Root structure: PFV/IPFV	Number of roots	Gender	Vowels	Sonorants	Aorist markers
ARC/URC	41	+/, -/-	a/u, e/u, a/i	any	any
AC/UC	14	+/, -/-	a/i		-ib
ARC/RUC	10	+/-	e/u (a/u)	l	-un
AC/ARC	42	+/, -/-	(any)	l, r	any
URC/UC	13	+/-	i, u	r	-Vb
ARC/UC	13	+/+	e/u	r	-Vb
URC/URC	7	(any)	i, u	r, m, š	
AC	10	+	i, u		-Vb (-un, -ur)
ARC	5	+	u	any	different
UC/UC	3	+/, +/-	i		-Vb
inconsistent	6				

# ROOTS OF THE TYPE ARC/URC AND AC/UC

- a. 'find': Muiiri, Kajtag, Tantu, Itsari **CL-ark:/CL-urk:**; Kadar **CL-arg/CL-irg**; Standard Dargwa, Mehweb **CL-arg/CL-urg**; Chirag **CL-ujk:/CL-ujk:**
- b. 'smear': Standard Dargwa, Kadar, Mehweb, Muiiri, Tanti, Itsari, Kajtag, Kubachi **CL-ak/CL-ik** (Chirag CL-ik/CL-irk)

Vowels: **low vowel / high vowel** (ARC/URC: a/u, e/u, a/i; AC/UC: a/i)

Sonorants: any

Aorist markers: any

Gender agreement: +/+, -/-

# VOWEL ALTERNATION

PFV ~ IPFV

high vowel / low vowel

Direction of derivation (diachronically): in most cases, the vowel of the IPFV root is determined by the root structure; this is not true for the PFV vowels.

Vowel narrowing: PFV → IPFV

# ROOTS OF THE TYPE ARC/RUC

- ✓ many cases of variation: **ulC** in part of languages, **luC** in other languages
- ✓ aIC/luC, eIC/luC (16 roots)
  - a. 'write': Standard Dargwa, Kadar, Mehweb, Muiri, Tanti, Chirag, Itsari, Kajtag **CL-elk'/luk'**
  - b. 'cook': Standard Dargwa, Kadar, Muiri **CL-elx/lux**; Chirag, Tanti, Itsari **CL-elx:<sup>w</sup>/lux:**; Kajtag **CL-elx** (PFV); Mehweb **CL-erx/CL-urx**
  - c. 'arrange': Kajtag **CL-alg** (PFV); Standard Dargwa, Muiri, Chirag **CL-alg/CL-ulg**; Itsari, Kubachi **CL-alg/lug**

Vowels: e/u, a/u

Sonorant: **l**

Aorist marker: **-un**

Gender agreement: +/- (-/-)

# METATHESIS IN THE IPFV

Metathesis was a recent phonological process  $uIC \rightarrow luC$ , present in all languages, but with different conditions

- ✓ Itsari and Kadar: in all roots of the type  $aIC$ ,  $eIC$
- ✓ Tanti, Muiri: in all roots of the type  $eIC$ , but not in the roots  $aIC$
- ✓ Chirag: the same + no metathesis in two roots having no preverb and no gender agreement slot.
- ✓ Kubachi: metathesis in almost all roots (two exceptions)
- ✓ Standard Dargwa: most verbs, but the rule is not clear
- ✓ Mewheb and Kajtag: not enough data

The roots of the type  $ARC/RUC$  are a subclass of  $ARC/URC$ .

# ROOTS OF THE TYPE URC/UC AND ARC/UC

- a. 'milk': Standard Dargwa, Kadar, Mehweb **CL-irz/iz**; Kajtag, Chirag, Tanti, Itsari **CL-irc:/ic:** (Muiri **CL-erc:/ic:**)
- b. 'tear; mow': Standard Dargwa **CL-erd/ud**; Kajtag, Muiri, Chirag, Tanti, Itsari **CL-ert:/ut:**; Kubachi **CL-e:t:/CL-ut:**

## URC/UC

Vowels: i/i, u/u (high vowel)

Sonorant: **r**

Aorist marker: -Vb

Gender agreement: **+/-**

## ARC/UC

Vowels: **e/u**

Sonorant: **r**

Aorist marker: -Vb

Gender agreement: **+/+**

# INFIXATION IN PFV

Infixation:

IPFV → PFV

infix -r-

‘milk’: **ic:** → **CL-irc:** (PFV)

+ Analogy: leveling with the roots of the type ARC/URC

c. ‘shave’: Kajtag, Tanti **CL-irs:/is:**; BUT Muiiri, Itsari **CL-ers:/CL-us:**

# ROOTS OF THE TYPE AC/ARC

- a. 'fall': Standard Dargwa, Kadar, Mehweb, Muiri, Tanti, Itsari, Kajtag **CL-ik/CL-irk**
- b. 'move': Standard Dargwa, Kadar, Mehweb, Muiri, Tanti, Itsari, Kajtag, Chirag, Kubachi **CL-uq/CL-ulq**

Vowels: any

Sonorant: **l, r**

Aorist marker: any

Gender agreement: +/+ , -/-



# ROOTS OF THE TYPE AC/ARC

Infixation?

Sonorant loss?

Anything else?

IPFV → PFV

loss of the sonorant

CL-irk → CL-ik

# SONORANT LOSS

Arguments in favor of this decision:

- ✓ different sonorants (l, r) and aorist markers (-Vb, -un, -ur)
- ✓ non-default aorist markers in the PFV roots, where there are no sonorants:

Muri

a. a-b-uq-un

UP-N-move.PFV-AOR

'(it) rose'

b. a-b-ulq-u-li

UP-N-move.IPFV-PRS-CBV

'rising'

- ✓ +some language-specific facts

# ROOTS OF THE TYPE URC/URC

- a. 'sweep': Kadar CL-išk<sup>w</sup>/išk<sup>w</sup>; Mehweb, Muiri, Tanti CL-ušk/ušk; Standard Dargwa CL-ušk/  
(CL-)ušk; Chirag CL-ušk:/ušk:
- b. 'beat': Kadar, Kubachi CL-it/CL-it; Standard Dargwa, Chirag, Tanti, Itsari CL-it/it

Reanalysis

URC → URC<sub>PFV</sub> / URC<sub>IPFV</sub>

# OTHER

## RURC

a. 'tremble, shiver': Kajtag, Muiri, Tanti, Itsari **rurč:** (IPFV); Kadar, Mehweb, Standard Dargwa **rurž**, Kubachi **juč:**

## AC/URC

b. 'hit': Kadar, Mehweb, Standard Dargwa, Tanti **CL-a<sup>ɣ</sup>q/CL-irq**; Itsari **CL-a<sup>ɣ</sup>q/CL-u<sup>ɣ</sup>rq**; Kajtag **CL-a<sup>ɣ</sup>q** (PFV); Muiri **CL-a<sup>ɣ</sup>q/CL-a<sup>ɣ</sup>rq**; Kubachi **CL-a<sup>ɣ</sup>q/ CL-u<sup>ɣ</sup>q**

## C

c. 'give': Kajtag **CL-ek:/luk:**, Kadar, Mehweb **g/lug**, Muiri, Itsari **CL-ik:/luk:**, **ilk:**, Chirag **CL-ik:/ik:**; Tanti **k:**, **CL-ik:/luk:**; Kubachi **CL-ik:/luk:**

d. 'say': Kadar, Mehweb, Standard Dargwa, Chirag, Tanti, Kubachi **?** (CB), Itsari **CL-i<sup>ɣ</sup>?/CL-ir(?)**

# HYPOTHESIS ON THE ORIGIN OF ASPECT IN DARGWA

Root	PFV		Initial stem		IPFV
A(R)C/U(R)C, ARC/RUC			A(R)C	>	U(R)C (+uIC > luC)
AC/ARC	AC	<	ARC		
URC/UC, ERC/UC	UrC (> erC)	<	UC		
U(R)C/U(R)C	U(R)C	<	<del>U(R)C</del>	>	U(R)C

# HYPOTHESIS ON THE ORIGIN OF ASPECT IN DARGWA

PFV	IPFV
A(R)C	U(R)C (luC)
AC	ARC
UrC (ArC)	UC
U(R)C	U(R)C

# ARGUMENTS *PRO*

- ✓ Almost all theoretically possible root structures allow both perfective and imperfective derivation.
- ✓ The imperfectivization rules are close to complementary distribution:
  - no sonorant: infixation ~ m, š, r: cleavage ~ l, r: sonorant loss
- ✓ Typological parallels
- ✓ The model explains most cases of variation between the Dargic languages.

# ARGUMENTS *PRO*

- ✓ The model explains most cases of variation between the Dargic languages. For example, the root 'hit' has different structures in different languages.

AC/URC: Kadar, Mehweb, Standard Dargwa, Tanti **CL-a<sup>ɸ</sup>q/CL-irq**; Itsari **CL-a<sup>ɸ</sup>q/CL-u<sup>ɸ</sup>rq**

AC/ARC: Muiri **CL-a<sup>ɸ</sup>q/CL-a<sup>ɸ</sup>rq**

AC/UC: Kubachi **CL-a<sup>ɸ</sup>q/CL-u<sup>ɸ</sup>q**

Different derivations for different languages:

Muiri: **ARC** > **AC** (CL-a<sup>ɸ</sup>rq > CL-a<sup>ɸ</sup>q; CB);

Kubachi: **ARC** > **AC** (PFV) and then AC > **UC** (IPFV)

Other languages: **ARC** > **AC** (PFV) and **ARC** > **URC** (IPFV)





Thank you!