

Variation in two dictionaries of Botlikh

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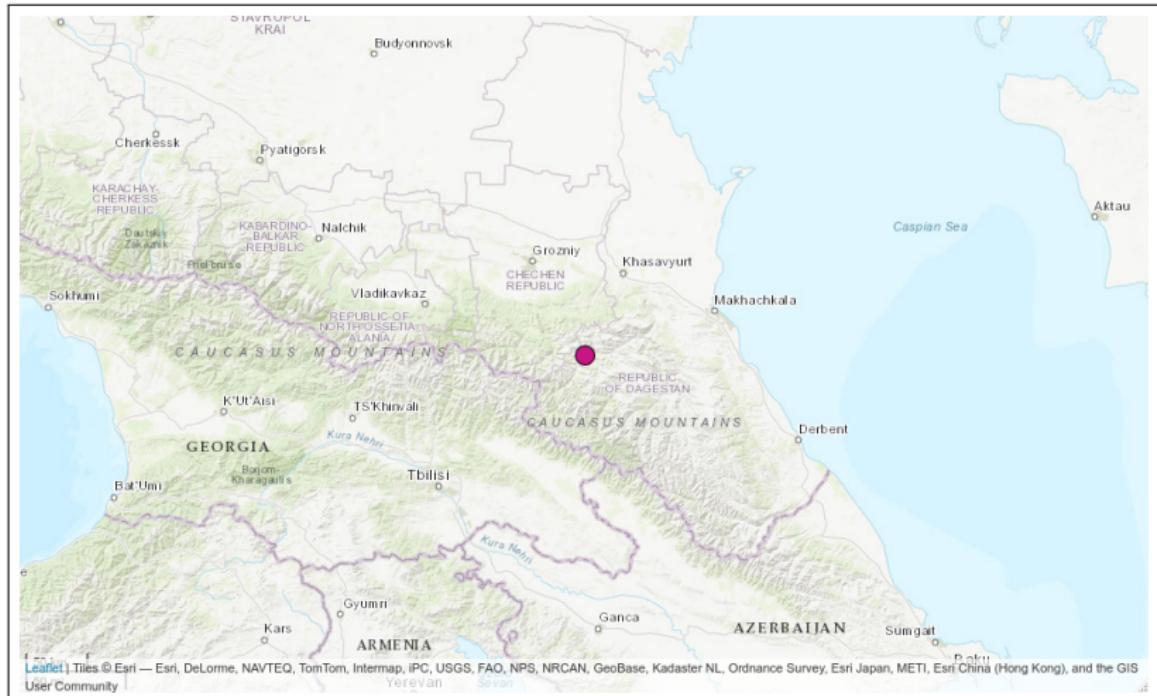
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- ▶ Botlikh < Andic group < East Caucasian language family
- ▶ Unwritten (can be written with extended Cyrillic script for Avar)
- ▶ ~5000-8000 speakers
- ▶ Mostly spoken in 3 villages in northwestern Daghestan (Russian Federation): Botlikh, Miarso, Ashino, (Ankho); minor dialectal differences
- ▶ Opinions vary on the language's vitality — it is still passed on to children and spoken at home, but some families are shifting to Russian

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- ▶ Opinions vary on the language's vitality — it is still passed on to children and spoken at home, but some families are shifting to Russian
- ▶ One full reference grammar in Georgian ([Gudava 1962](#))
- ▶ Two dictionaries:
[\(Saidova & Abusov 2012\)](#) and [\(Alekseev & Azaev 2019\)](#)

Botlikh



Two dictionaries

(Saidova & Abusov 2012)

- ▶ Compiled in the 2000s by a native speaker (M.G. Abusov) and an experienced linguist (P.A. Saidova)
- ▶ Mostly Botlikh with some notes on Miarso

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(Alekseev & Azaev 2019)

- ▶ Compiled in the 1960s / 1970s by a native speaker / philologist (X.G. Azaev) and later (in the 2000s) systematized by an experienced linguist (M.E. Alekseev)
- ▶ Subsequently edited by T.A. Maisak and scheduled for posthumous publication later this year
- ▶ Botlikh only

Two dictionaries

- ▶ Dictionaries were compiled *independently* of each other
- ▶ ~8,000 headwords ([Saidova & Abusov 2012](#)) vs. ~9,000 ‘words and expressions’ ([Alekseev & Azaev 2019](#))
- ▶ No metadata on the speakers consulted
- ▶ Data from ([Alekseev & Azaev 2019](#)) was collected several decades earlier, but M.G. Abusov also consulted elderly speakers with the aim of collecting archaic vocabulary (p.c.)

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- ▶ At first glance, the two resources seemed to display variation

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Compare the two resources, see to what extent they overlap and diverge,
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and *hopefully*, explain the kind of variation we found
(idiolectal, diachronic, etc.)

Data

Merge dictionaries (doc to xls table) through a painstaking process of unification (**George Moroz**).

A	B
АБАБЕКЕ бол; пудариян вадутоплатый бүсөрдийн; мэргэ; ганший	анамнибердийн иштэл булаа говорили о тохижвийнчид
АБАДАЛАН парс. 1) нюгэд; абадан гынгыны гүйч дэв биштийн никогда я к ними приду 2) ни за чо; абадан иженчин гүннүүд түүбүн ня за что не слешиж	АБАДАЛАН III (-тэй) весёлэст стюардесс; антарьерист; <i>раскрыте</i> человек (бүс имощийн в сердце весёлость человек) <i>анамниб</i> гүйч бүмүрү бэрхжилжин; <i>раскрыту</i> чалын неконкрементийн чалыж; <i>анамни</i> чынты веселиться; устроить веселые
АБАДИНАВ I (чүйб) абсолютен АБАДИНАН II (-чынтын) абсолютна АБАДИНАЛ I (чүйб) абсолют; абсолюталуб многийн	АБАДАЛ III (-аты, -ий) квартал; гыйб ийний авал ня энэ хэрэл; <i>ишиб</i> авыле миншия ичлийн в нашем квартале поселке; <i>ишиб</i> гүйч бүмүрүн; <i>ишиб</i> чалын куйнхий гүннүүд талын; <i>ишиб</i> энэ том оргут не было такого человека
АБАДУЧА (импр. 1) гыйб/Брэгий АБАДУЧЫ (импр. 1) гыйб/Брэгий АБАДУЧЫС (импр. 1) гыйб/Брэгий автобус; <i>абадузабалык</i> истанчи автомобилүүн; <i>абадузасылуу</i> тымын салын из инччын; <i>абадузасылык</i> түркүү автобусын прибыль	АБАДАЛ III (-аты, -ий) начало и конец; <i>авад-ахир</i> гүйч муху работа без начала и конца (о запущенном работе, о бесконечном деле, берегуулжин дөхөнчийн)
АБАДАМАТ III (-аты, -айбын) автогом (гурд автотехнического спирозомного организма); <i>абадаматынкуу базай</i> / абадаматин кынччынай стрелкин ит автогом	АБАДАС III (-аты) аванс; <i>аванс</i> арчи гынбагын чалыгын дэлжин в алан; аванс икни давалт аванс
АБАДАЧКА III (-аты, -айбын) авторучка; <i>абадачкалык</i> хэлвэр иштэл авторучкы; <i>абадачкахи</i> ярох икни плэтиж за авторучку; <i>абадачкалык</i> хэлвэр бөгэлж иштэлжүүлж кончынч чиринч	АБАРАГ I (-аты, -абадала) ред пророк; <i>абарагыны</i> шифри бичу жарыж; <i>абарагын</i> амур; <i>абараг</i> аваргынчалык чалыж хэдийн илээ по пути, указанному пророком;
АБАРАХ III (-аты) притягатель; привлекатель; помеха; гыйб музун авара игийн энэхүү дэлхийн түүхийн тэйвийн аварынчалык гынгынай; гынгынай гы приимка, чтобы цинчийне притягийн	АВАРА III (-аты) притягатель; привлекатель; помеха; гыйб музун авара игийн энэхүү дэлхийн түүхийн тэйвийн аварынчалык гынгынай; гынгынай гы приимка, чтобы цинчийне притягийн
АБАРКА III (-аты, -айбын) иштэл абаркуулж дарбалаа гынгынай ташжүү поступили лекарства; <i>абаркельж</i> айсанчалык дарбуулж ийхи күнүйт лекарства из	АВАРИ III (-зын) аварий; аварий ишиг сөрөнчжүү аварий; аварий рукус
	АБАЙ иной, ср. обязательно, естественно, конечно; <i>абай</i> дин гынъю дуй санду конечно, я тожду с тобой
	абайдыла никон образом
	абайдыл-б вечный
	абауд-абад, ре.-иль усн. вечность
	абарона, ин.-й, ре.-иль оборона; <i>абарона</i> бикай оборонять; <i>абароналты</i> оборонительный
	абай, ин. айб, ре. иль айб прилечь, лечь немодно; полежать; <i>абай</i> бүкай приклонить, айду ильтыг приклонится
	абиалын, ин.-й, айбай, ре.-иль объявлен; <i>гээтийн</i> абиалын объявление в газете; гээтийн абиалын кийдэд объявление в газете; <i>абиалын</i> бүхий, <i>абиалын</i> аборт, ин.-й, айбай, ре.-иль айб айб; <i>аборт</i> ични сделать айб; Гыйб гынчийн азианы аборт ични Энэ жиншица сделала айб
	абиалынб просторный; <i>абиалынб</i> эй просторный сад; <i>абиалынб</i> рэйхэлс иедэг дуна
	абиалынб 1. простор; 2. широк
	авал-ахир конг салта; <i>авал-ахир</i> энэдээлэл кийли на том салте встретимся; <i>авал-ахир</i> гүйч бийм ячнынч
	авара, ин.-й, айбай, ре.-иль помеха, преграда
	авараг ин.-й, айбай, ре.-иль пророк; Муса авараг пророк Муса (Монсе); <i>авараг</i> речинчийн бүрд мөхий а) радиц б) Мечийн пүрт
	авари, ин.-й, айбай, ре.-иль аварий; <i>авари</i> иль совершил изирто
	аванчук, ин.-й, айбай, ре.-иль аванчукото; Ишкүр кынгыт аванчукчы бийт О я послал письмо аванчукото
	авалхай, ин.-й, айбай, ре.-иль белое место; <i>булыг</i> авалхайдаа рүүт скот ногнажи на пастбище; <i>бүтэг</i> авалхай равнин
	автобиография ин.-й, айбай, ре.-иль автобиография; Деб автобиографийнайылсан бэхж

Data

Nouns (genitive, plural) and verbs (habitual and aorist)

lemma	pos	noun_gen	noun_pl	verb_prs	verb_pst	reference
арбаглзыв	noun	-лъи				Saidova, Abusov
арджан	noun	-алъи	-			Alekseev 2006
арёнда	noun	-лъи				Saidova, Abusov
аржаж/áй	verb			-аймалé	-ó	Saidova, Abusov
аржáй	verb			-é	-o	Alekseev 2006
арж/áй	verb			-аймале	-ó	Saidova, Abusov
аржар	noun	-лъи	-дé			Alekseev 2006
аржí	verb			-é	-a	Alekseev 2006
арж/и	verb			-e	-o	Saidova, Abusov

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From ~15,000-17,000 lexical entries, we automatically extracted 7,583 nouns and verbs, further manual correction

Parameters

- ▶ Phonology: word similarity, stress patterns
- ▶ Nominal morphology: formation of genitive case and plural forms
- ▶ Verbal morphology: formation of basic tenses

Phonology

For phonological analysis we used only those words which were found in both dictionaries (1,688).

- ▶ 1,309 words are the same
- ▶ 254 words have difference in stress: *ans:í* ‘warm up’ (A&A) vs. *áns:i* (S&A)
- ▶ and only 125 words have some segmental differences
 - ▶ Some differences could be typos (*kalχoznik* ‘kolkhoz member’ (A&A) vs. *kalχoznik* (S&A), *lah* (лагъ) ‘slave’ (A&A) 2006 vs. *laх* (лагъ) (S&A))
 - ▶ Multiple cases where there is a small difference that could be explained either as a typo or in terms phonological variation (*čuhí* ‘to run’ (A&A) vs. *čuhí* (S&A), *kusu* ‘cherry plum’ (A&A) vs. *kus:u* (S&A))
 - ▶ Multiple cases where Russian borrowings were adopted differently (*pojiz* ‘train’ (A&A) vs. *poezd* (S&A), *biton* ‘milk can’ (A&A) vs. *bitun* (S&A))

Nominal morphology

Formation of the plural

- ▶ A suffix is attached to the absolute stem: *na* ‘thing’ < *na-bałi* ‘things’
- ▶ With stems ending in a consonant the vowel *-a-* is often inserted before the suffix: *majmalak* ‘monkey’ < *majmalak-a-bałi* ‘monkeys’
- ▶ With stems ending in a vowel alternation can occur: *ruša* ‘tree’ < *ruši-bałi* ‘trees’, *salu* ‘tooth’ < *sala-bałi* ‘teeth’, *burałi* ‘pitcher’ < *burała-bałi* ‘pitchers’
- ▶ Among the most common suffixes are: *-bałi* (and variants, e.g. *-zabałi*, *-małi*, etc.), *-de*, *-(w)e*

Nominal morphology

Case declension (core cases)

- ▶ I type — the stem does not change when a suffix is attached (mostly stems ending in a vowel and masdars): *babu* ‘mom’ < *babu-ti* (genitive), *masir* ‘measurement’ < *masir-ti* (genitive)
- ▶ II type — case suffixes are attached to the oblique stem of the noun (mostly stems ending in a consonant, sometimes stems ending in a vowel): *askar* ‘army’ < *askar-a-ti* (genitive), *din* ‘religion’ < *din-i-ti* (genitive), *ima* ‘father’ < *imu-ti* (genitive)

Nominal morphology

- ▶ Both dictionaries report both the **genitive** and the **plural** suffix
- ▶ We used this information to study the productivity of such suffixes, and to see whether the two dictionaries display variation

Nominal morphology

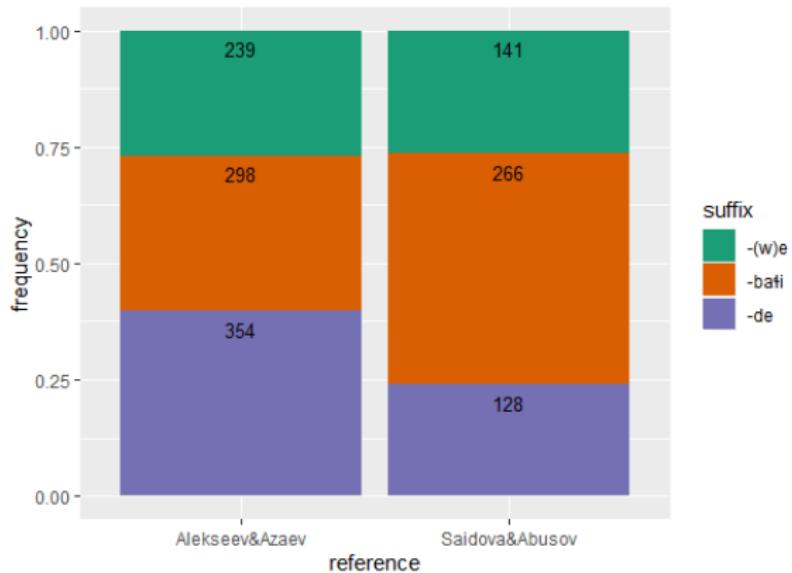
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- ▶ We retrieved 2,965 nouns for A&A, 2,952 for S&A
- ▶ 1,072 pairs were present in both dictionaries and had information about inflectional forms

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- ▶ The genitive suffix is almost always reported in both dictionaries: for all 1,072 words in S&A, for 1,066 words in A&A
- ▶ The plural is not reported for all words: for 571 words in S&A, for 879 words in A&A

Nominal morphology

Figure 1: Variation: plural suffixes



(χ^2 -squared = 47.118, df = 2, p-value = 5.869e-11)

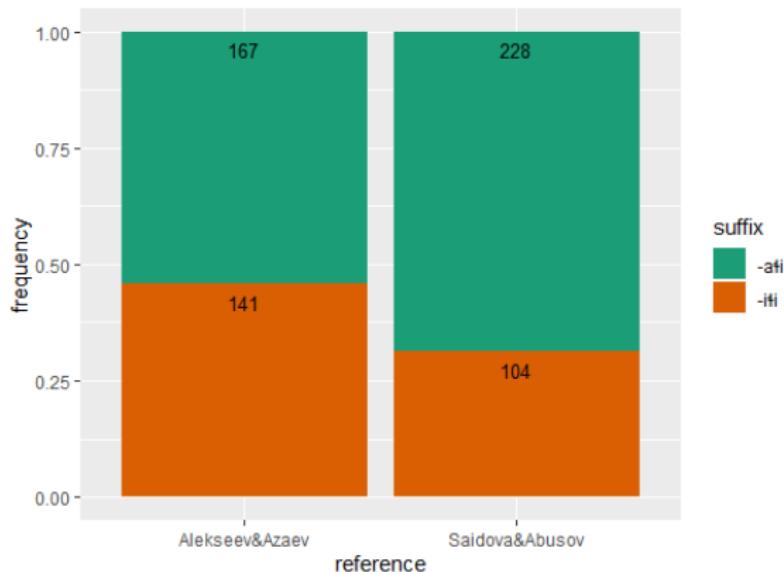
Nominal morphology

Table 1: Stem endings and genitive suffix

Suffix	-ti		-ati		-iti		-uti	
Stem	S&A	A&A	S&A	A&A	S&A	A&A	S&A	A&A
consonant	232	266	228	167	104	141	-	1
-a	182	167	-	-	3	13	15	14
-i	143	151	10	4	-	-	3	2
-u	81	78	1	-	-	3	-	-
-e	6	6	-	-	-	-	-	-
-o	7	7	-	-	-	-	-	-

Nominal morphology

Figure 2: Variation: genitive in *-ati* vs. *-iti* with stems ending in a consonant



($\chi^2 = 13.523$, df = 1, p-value = 0.0002357)

Nominal morphology

Variation: examples

- ▶ It seems that variation frequently involves loanwords:
 - ▶ *dakument* ‘document’ < *dakument-atī* (genitive, S&A) vs. *dakument-iṭi* (genitive, A&A)
 - ▶ *birgadir* ‘foreman’ < *birgadir-zabaṭi* (plural, S&A) vs. *birgadir-de* (plural, A&A)
 - ▶ *kassir* ‘cashier’ < *kassir-atī* (genitive, S&A), *kassir-zabaṭi* (plural, S&A) vs. *kassir-iṭi* (genitive, A&A), *kassir-de* (plural, A&A)

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 - ▶ *kassir* ‘cashier’ < *kassir-atı* (genitive, S&A), *kassir-zabați* (plural, S&A) vs. *kassir-ići* (genitive, A&A), *kassir-de* (plural, A&A)
- ▶ But not only:
 - ▶ *gač'a* ‘hoe’ < *gač'a-tı* (genitive, S&A), *gač'-ibatı* (plural, S&A) vs. *gač'-ići* (genitive, A&A), *gač'-e* (plural, A&A)

Verbal morphology

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- ▶ Only 554 pairs were present in both dictionaries and had information about inflectional forms

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- ▶ Infinitive and Aorist are indicative for conjugation:

Verbal morphology

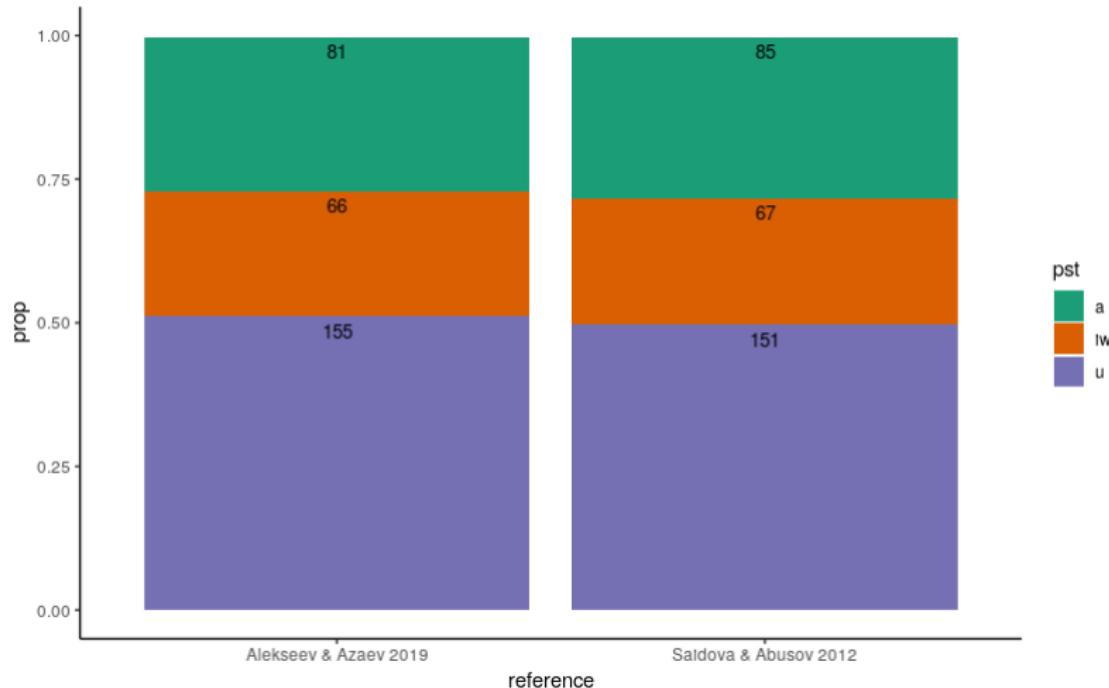
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Table 2: Basic verb inflection in Botlikh

	infinitive	present	past
Basic	-i	-e	-a / -u / -iw
Derived	-hi	b-ah-e	b-ah-u 'become'
Causative	-a-j	b-uk'-e mal-e / malih-e	b-uk'-a 'be' -o / malih-u

Verbal morphology

Figure 3: Past tense suffixes in the sample of common verbs



Verbal morphology

- There is more variation than the plot shows

Table 3: Past suffixes in both dictionaries

S&A / A&A	a	iw	u	other
a	72	6	3	4
iw	3	55	6	3
u	3	4	142	2
other	3	1	4	0

Verbal morphology

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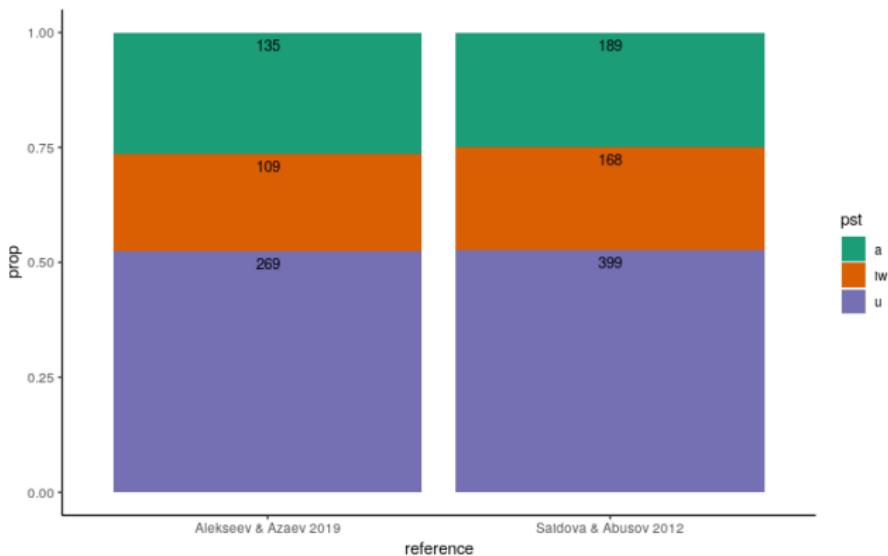
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- ▶ But still not a lot
- ▶ And no systematic correspondence

Verbal morphology

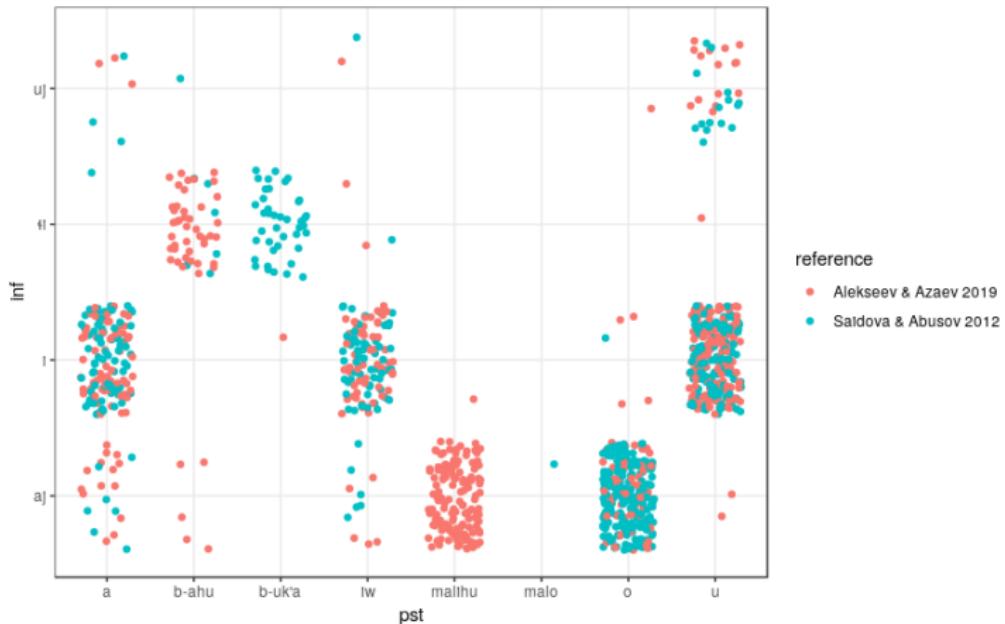
Figure 4: Past tenses in all dictionary data



(χ^2 -squared = 0.347, df = 2, p-value = 0.8407)

Verbal morphology

Figure 5: Infinitive vs. past tense



Verbal morphology

Table 4: Causative paradigms in Botlikh

	infinitive	present	past
A&A	-a-j	malih-e	malih-u
		-e	-o
S&A	-a-j	mal-e	-o
		-e	-o
		mal-e	mal-o (ix)

Verbal morphology

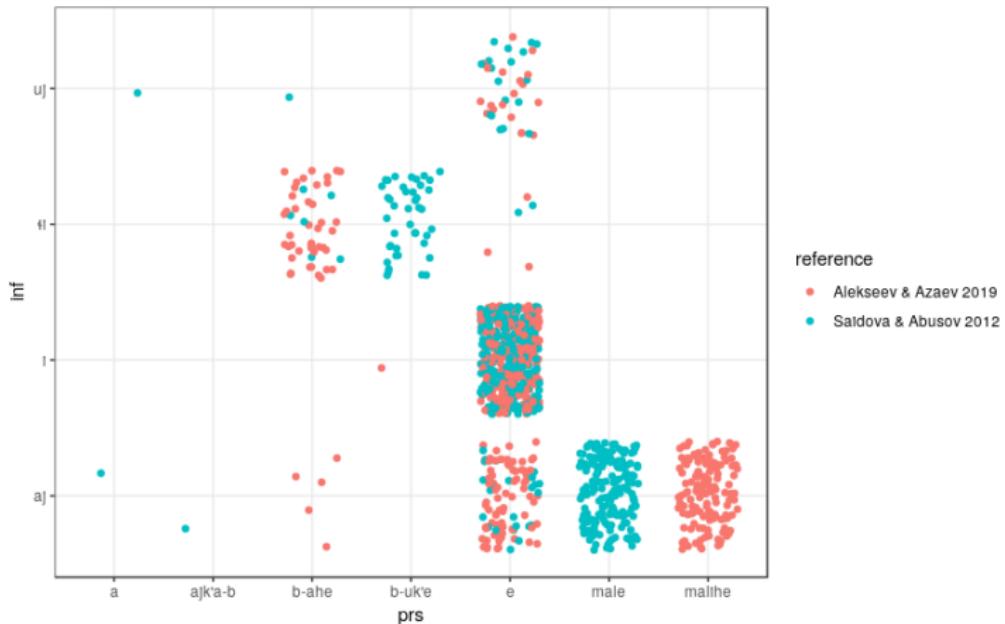
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- ▶ The bulk of material in A&A was collected several decades earlier with respect to S&A
- ▶ It seems that in contemporary Botlikh, the present form *malih-e* has been reduced to *mal-e* and the past form *malih-u* has been replaced by *-o*, formerly reconstructed as <^{*}-a-u [-CAUS-PST]

Verbal morphology

Figure 6: Infinitive vs. present tense



Verbal morphology

Correspondence between infinitive and present tense form

- ▶ Illustrates the division in causative forms (cf. Table 4): full form *malihe* in A&A, shorter form *male* in S&A

Verbal morphology

Correspondence between infinitive and present tense form

- ▶ Illustrates the division in causative forms (cf. Table 4): full form *malihe* in A&A, shorter form *male* in S&A
- ▶ Preference for a specific auxiliary to inflect derived verbs: *b-ahe* 'become' in A&A, *b-uk'a* 'be' in S&A
- ▶ This is also the case in the past

Verbal morphology

ENTRY ‘BLEAT’ **baʃada/tí**, *prs.* **bahé**, *pst.* **báhu** ([Alekseev & Azaev 2019](#))

- (1) ha-b λ'et'ír **baʃáda** b-uk'-é
DEM-N lamb bleat n-be-HAB
'That lamb often bleats.'

Verbal morphology

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'That lamb often bleats.'

ENTRY ‘ROAR’ **bu:da/ʃí**, *prs.* **buké**, *pst.* **búk'a** ([Saidova & Abusov 2012](#))

- (2) únsa **bu:da b-áh-u**
ox roar N-become-AOR
'The ox started to roar'

Summary

- ▶ Little phonological variation besides different stress patterns in 254 words from a 1,688 word sample
- ▶ Nouns show some variation both in the genitive and in the plural
 - ▶ A general preference for *-bałi* over *-de* in the plural and for *-ałi* over *-ili* in the genitive in S&A
 - ▶ The opposite trends in A&A
 - ▶ Variation frequently involves loanwords
 - ▶ In some cases the dictionaries report more than one variant for both the genitive and the plural, so we might conclude that idiosyncratic variation is at play

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 - ▶ But more research is needed!

Summary

- ▶ Verbs show diachronic and idiosyncratic variation
 - ▶ The auxiliary used to derive the present tense of causatives has undergone morphologization: *malihe* — *male*
 - ▶ Some causatives (can) have a regular suffix *-e*
 - ▶ The past tense of the causative is formed with a suffix *-o*, which replaced an auxiliary *malihu*
 - ▶ It remains unclear how *-o* emerged

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 - ▶ This is a matter of personal taste: examples in the entries of these verbs show that both are possible
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 - ▶ Limited variation in other parts of the verbal domain

Спасибо



Abbreviations

AOR aorist 39, 40

DEM demonstrative 39, 40

HAB habitual 39, 40

N neuter 39, 40

References

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