# Comparing phonological systems and syllable structure of Botlikh and Zilo Andi: a data–driven analysis

#### G. Moroz

Linguistic Convergence Laboratory, NRU HSE, Moscow, Russia

25 February 2020, MPI-SHH, Jena

Presentation is available here: tinyurl.com/rvpqdaa



	Traditional analysis	Data-driven analysis
1.	Done by trained linguist	Evaluated by trained linguist
2.	Can be done from scratch	Previous description needed (or at least prior expectations)
3.	Doesn't care about amount of data	Care more about amount of data
4.	Less reproducible	More reproducible
5.	Can not be automated	Can be automated

	Traditional analysis	Data-driven analysis
1.	Done by trained	Evaluated by trained linguist
	linguist	
2.	Can be done from	Previous description needed (or at least
	scratch	prior expectations)
3.	Doesn't care about	Care more about amount of data
	amount of data	
4.	Less reproducible	More reproducible
5.	Can not be automated	Can be automated

Data-driven approach to phonological description and syllable structure analysis:

- was proposed in (Moroz 2018)
- was applied to syllable structure in (Moroz 2019) to Adyghe data
- was applied to syllable structure in (Romanova 2019) to Russian and Macedonian data

## The main steps:

- start with some language corpus (corpus, dictionary etc.)
- automatically extract phonological units (segments, features, syllable structure etc.)



### The main steps:

- start with some language corpus (corpus, dictionary etc.)
- automatically extract phonological units (segments, features, syllable structure etc.)

## Further steps:

 obtained frequencies and inventories could be compared with the same units from other languages



#### The main steps:

- start with some language corpus (corpus, dictionary etc.)
- automatically extract phonological units (segments, features, syllable structure etc.)

## Further steps:

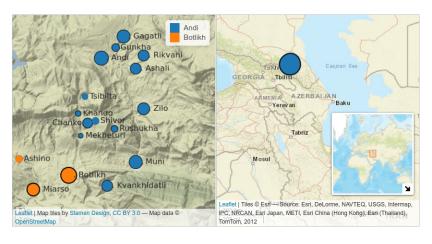
 obtained frequencies and inventories could be compared with the same units from other languages

#### Advantages:

- more reproducible
- could be updated with new data, see (Moroz 2019) slides from SLE on Bayesian typological research
- answers the question 'How often is X present in language(s)?' rather than 'Is X present in language(s)?'



## Andi and Botlikh villages



- Size of the dot corresponds with number of villages' inhabitants
- All villages except Botlikh are monoethnic
- Created with lingtypology package (Moroz 2017)



Botlikh < Andic group < EC	Andi < Andic group < EC
Unwritten (can be written with	Unwritten (can be written
extended Cyrillic script for Avar)	with extended Cyrillic script
	for Avar)
~5,000–8,000 speakers	~16,500 speakers
Mostly spoken in 3 villages in	About 14 villages; There are
northwestern Daghestan (Russian	two main dialect groups:
Federation): Botlikh, Miarso, Ashino,	Lower Andi (Muni,
(Ankho); minor dialectal differences	Kvankhidatli) and Upper Andi
	(the rest)
One full reference grammar in	Several reference grammars
Georgian (Gudava 1962)	(Suleymanov 1957) (Rikvani),
	(Salimov 1968) (Gagatli),
	(Tsertsvadze 1965) (Andi)
Two dictionaries: (Saidova and	No dictionary except (Kibrik
Abusov 2012), (Alekseev and Azaev 2019)	and Kodzasov 1988)



#### Ссылки

- Alekseev, M. and Azaev, X. (2019). *Botlixsko-russkij slovar'* [*Botlikh-Russian dictionary*]. Moscow: Academia.
- Gudava, Togo, E. (1962). *Botlixuri ena* [*The Botlikh language*]. Tbilisi: Mecniereba.
- Kibrik, A. E. and Kodzasov, S. V. (1988). Sopostavitelnoye izucheniye dagestanskikh yazykov [Comparative study of Daghestanian languages]. Moscow State University, Moscow.
- Moroz, G., A. (2018). lingphonology: automatic phonological description. R package draft.
- Moroz, G., A. (2019). Slogovaya struktura adygeyskogo yazika: ot dannyx k obosheniyam [Adyghe syllable structure: From empirical data to generalizations]. *Voprosy Jazykoznanija*, 2:82–95.
- Moroz, G. (2017). lingtypology: easy mapping for Linguistic Typology.

#### Ссылки

- Romanova, K., I. (2019). Automatic Syllable Structure Extracting From Dictionaries: Slavic Data. Term paper.
- Saidova, P. A. and Abusov, M. G. (2012). *Botlixsko-russkij slovar'* [*Botlikh-Russian dictionary*]. Makhachkala: IJaLI.
- Salimov, X. S. (2010 (1968)). *Gagatlinskij govor andijskogo jazyka* [*The Gagatli dialect of the Andi language*]. Makhachkala.
- Suleymanov, J. G. (1957). Grammatičeskij očerk andijskogo jazyka (po dannim govora s. Rikvani) [Grammar sketch of the Andi language (based on material from the dialect of the village Rikvani)]. PhD thesis, Institut Jazykoznania AN SSSR.
- Tsertsvadze, I. I. (1965). Andiuri Ena. Tbilisi: Metsniereba.