#### Catching variation during fieldwork on Nakh-Daghestanian languages

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- In this talk we explore variation in a small, homogeneous speaker population and the probability that an average researcher of Nakh-Daghestanian languages catches this variation.



## Data

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#### Created with lingtypology [Moroz 2017]

 and 23 researchers of Nakh-Daghestanian languages via an online questionary



# Zilo Data

## 44 Zilo speakers were asked to translate 16 stimuli:

- 1 'big butterfly'
- 2 'big butterflies'
- 3 'big grasshopper'
- 4 'big grasshoppers'
- 5 'the parents left'
- 6 'pour your father some water'
- 7 'pour your cow some water'
- 8 'third girl'
- 9 'the bride was beautiful at the wedding'
- 10 'heels'
- 11 'sons-in-law'
- 12 'they are eating'
- 13 'when he comes, we will eat'
- 14 'rainbow'
- 15 'north'
- 16 'thousand'

#### Stimuli: class attribution

number	m	f	an	inan 1	inan 2	inan 3	non-h
sg	w	j	b	b	r	-	-
pl	w	j	j	b	r	-	-
sg	w	j	b	b	r	-	-
pl	w	j	j	b	r	-	-
sg	w	j	b	b	r	b	-
pl	w	j	j	b	r	r	-
sg	w	j	b	b	r	-	-
pl	w	j	j	b	r	-	-
sg	w	j	-	-	-	-	b
pl	w	j	-	-	-	-	b
	sg pl sg pl sg pl sg pl sg pl sg	sg w pl w sg w	sg w j pl w j	sg w j b pl w j j sg w j b pl w j -	sg       w       j       b       b         pl       w       j       j       b         sg       w       j       b       b         pl       w       j       b       sg         w       j       j       b         sg       w       j       -         sg       w       j       -         sg       w       j       -	sg       w       j       b       r         pl       w       j       j       b       r         sg       w       j       b       r         pl       w       j       b       r         pl       w       j       b       r         sg       w       j       b       r         pl       w       j       b       r         pl       w       j       b       r         sg       w       j       b       r         sg       w       j       -       -	sg       w       j       b       r       -         pl       w       j       j       b       r       -         sg       w       j       b       b       r       -         pl       w       j       b       b       r       b         pl       w       j       j       b       r       r         sg       w       j       b       r       -         pl       w       j       j       b       r       -         sg       w       j       -       -       -       -

- *odoruk'a* 'butterfly' (1, 2) and *ʁats'a* 'grasshopper' (3, 4) belong to the rare inan 3 class in Rikvani [Suleymanov 1957]
- *odoruk'a* 'butterfly' (1) is one of the most variable words according to [Moroz and Verhees 2019]

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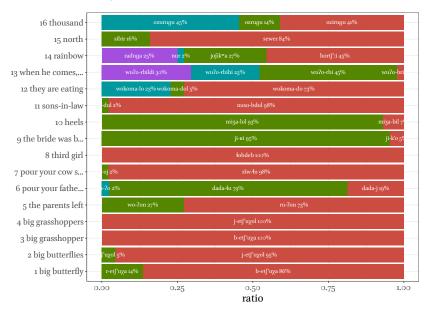
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- Optional plural suffix -l can be added to progressive verb forms in -rado/-mado (12)
- 'rainbow', 'north', and 'thousand' (14, 15, and 16) show variation in word choice (14, 15) and adaptation (16): ozrugu, ozirugu, ozurugu

## Zilo questionary (44 speakers): results





## More about 'butterfly':

• previosly we claimed:

lect	number	m	f	an	inan 1	inan 2	inan 3
Rikvani	sg	w	j	b	b	r	b
Rikvani	pl	$\mathbf{w}$	j	j	b	r	r
Zilo	sg	$\mathbf{w}$	j	b	b	r	-
Zilo	pl	W	j	j	b	r	-

- in [Moroz and Verhees 2019] we asked only the singular form of 'butterfly'
- in our new experiment):

sg	pl	n	class
b-etʃ'uχa	j-etʃ'uχol	38	an
r-et∫'uχa	j-et∫'uχol	4	$_{\mathbf{k}}\mathbf{O}_{\mathbf{p}}$
r-et∫'uχa	r-et∫'uχol	2	inan 2



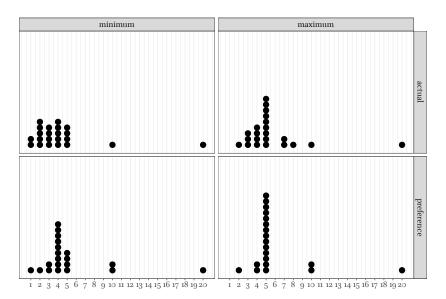
Nakh-Daghestanian Fieldwork Survey

## 23 ND researchers were asked about:

- level of education
- linguistic interest
- studying linguistics at university
- fieldwork participation as a student
- year in which they finished their degree
- place of study and work
- number of people who participated in their fieldtrips
- preferred number of participants in fieldtrips
- goals of fieldwork
- use of elicitation and corpora
- number of speakers a researcher *should* consult with
- number of speakers the researcher usually consults with
- how researchers need to deal with interspeaker variability
- how researchers need to deal with intraspeaker variability
- whether speakers under the age of 13 are reliable consultants
- whether speakers older than 70 are reliable consultants
- personal (dis)preferences about the choice of consultants

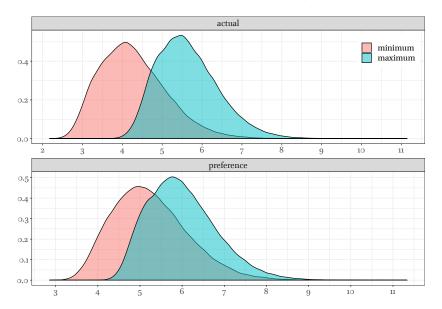


## Number of speakers





## Bootstrapped mean number of speakers (10<sup>5</sup> iterations)





What if  $10^5$  "average researchers" ...

come to Zilo?

## $10^5$ samples from experiment results

		. 1	. 1 .	C	· .	
2 1		actual minimum 48% 52%	actual maximum 58% 42%	preference minimum 55% 45%	preference maximum 61% 39%	1 big butterfly
oer of variants discovered by "researchers"	2	19%	24% 76%	23%	26%	2 big butterflies
	1	100%	100%	100%	100%	3 big grasshopper
	1	100%	100%	100%	100%	4 big grasshoppers
	2 1	74%	15%	18%	14%	5 the parents left
	3	5% 59% 36%	8% 25% 67%	7% 28% 65%	9% 68%	6 pour your fathe
	2	10%	13%	12%	14%	7 pour your cow s
	1	100%	100%	100%	100%	8 third girl
	2	19%	24%	22%	26%	9 the bride was b
	2	27%	34%	32%	36%	10 heels
		10%	13%	12%	14%	11 sons-in-law
	3:	26% 63%	15%	16%	19%	12 they are eating
	3	46%	7% 63% 1% 29% 63%	6% 34% 59%	8% 65%	13 when he comes,
2 1 32 1 32 1		3% 47% 5%	7% 64%	6% 33% 59%	8% 66%	14 rainbow
		53% 47%	36%	61% 39%	33%	15 north
		35% 59%	152% 46%	48% 49%	1% 56% 43%	16 thousand
		0 40 80 120	0 40 80 120	0 40 80 120	0 40 80 120	





### **Conclusions:**

- An "average researcher" might overlook a significant amount of the variation we observed due to the low number of speakers they usually consult with
- However, our experiment with 44 speakers also failed to show some of the variation we found in prior research on this dialect
- The observed variation should be explored in more detail using the collected sociolinguistic parameters
- The characteristics of the "average researcher" of Nakh-Daghestanian languages can be further eloborated using the parameters collected in the survey
- The observed variation remains a collection of isolated lexical, phonological and morphological facts...



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  - Could variational variables be interrelated?



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  - Is it possible to study variation in syntax in this manner?
  - Could variational variables be interrelated?
- And what do all these results contribute to linguistic theory?



#### References

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