Using Dahl's Tense-Aspect questionnaire: Speaker variation in Bezhta

Diana Forker (forker@eva.mpg.de) — ***Michael Cysouw*** (cysouw@eva.mpg.de)
Max Planck Institute for Evolutionary Anthropology, Leipzig

INTRODUCTION. Bezhta is spoken in the northeastern Caucasus in the Republic of Daghestan. It belongs to the Tsezic group of the Nakh-Daghestanian language family. According to the 2002 census, the number of speakers is 6,461. Most of them live in the mountains in the villages Bežta, Tljadal' and Xašarxota, in some lowland districts and in the Daghestanian capital Maxačkala.

Bezhta has twelve indicative finite verb forms that are specified for various tense-aspect features. We used Dahl's (1985) Tense-Aspect questionnaire to investigate the meaning of these forms. Eight speakers were interviewed using the questionnaire. The speakers used only ten of the twelve verb forms, and three were used too infrequently to draw any conclusions. This selective usage indicates that Dahl's questionnaire is not ideal to characterize the meaning of all Bezhta tense-aspect meanings.

In total, we received almost 1.600 answers with extensive variation between the different Bezhta speakers. Our aim in interpreting this data was twofold: Find out the contexts that characterize the Bezhta tense-aspect verb forms and investigate the speaker variation.

Dahl, Östen. 1985. *Tense and Aspect systems*. Oxford: Blackwell.

PRS	Present	*yokči-š*	events or states that hold at the time of speaking, generic, habitual sentences
PRS.PROG	Present Progressive	*yokči-čaš gey*	situations that occur at the moment of speech
PST	Simple Past	*yokči-yo*	actions anterior to the moment of speech, implicates witnessed, recent past
PST.PROG	Past Progressive	*yokči-čaš zuq'oyo*	situations that held at a certain moment in the past
PSTi	Past Imperfective	*yokči-š zuq'oyo*	imperfective past time reference; repetition; reference to actions, not to results
PFT	Compound Past	*yokči-na (gey)*	actions and their results that are relevant at the moment of speech, evidentiality
PLUPFT	Pluperfect	*yokči-na zuq' oyo*	events that took place before a definite point in the past and other past events

Major tense-aspect forms in Bezhta, illustrated with the verb *yokčal* 'take'

METHOD. To investigate this variation we used the following approach:

- First, we computed how similar the encoding is for all pairs of questions in the questionnaire, e.g. if all speakers used the same form in their answer to two questions, these two questions are highly similar from the perspective of Bezhta tense-aspect encoding.

- On the basis of all pairwise similarities we investigated whether there are clusters of questions that are generally encoded with the same form by each speaker (though not necessarily the same form between speakers). Grouping all questions into 8 groups turned out to be the optimal clustering (as suggested by using the variant of *k-means* clustering we used, cf. graph).

- The usage of the tense-aspect forms in these clusters is shown in the table (bold numbers have a Pearson residual greater than 1). Cluster 1 is clearly used for Present. The real variation between the Bezhta speakers is found in the usage of the various preterite forms.

- The seven clusters with preterite forms were positioned in two dimensions by using multidimensional scaling (cf. the numbers in each of the graphs on the facing page of this poster). This layout gives us a base map on which to depict the variation between the speakers.

- For each speaker separately we indicated the usage of a form by lines around the clusters on the base map. To draw these lines, we interpreted the usage as height, e.g. when a speaker uses PST in only half of the questions of a particular cluster, then it has a PST-height of 50%.

- We then interpolate a curved surface through these heights (using a method called *kriging*) and draw a heightline (technically called *isohypse*) at about 50%.

Optimal clustering with 8 groups of contexts
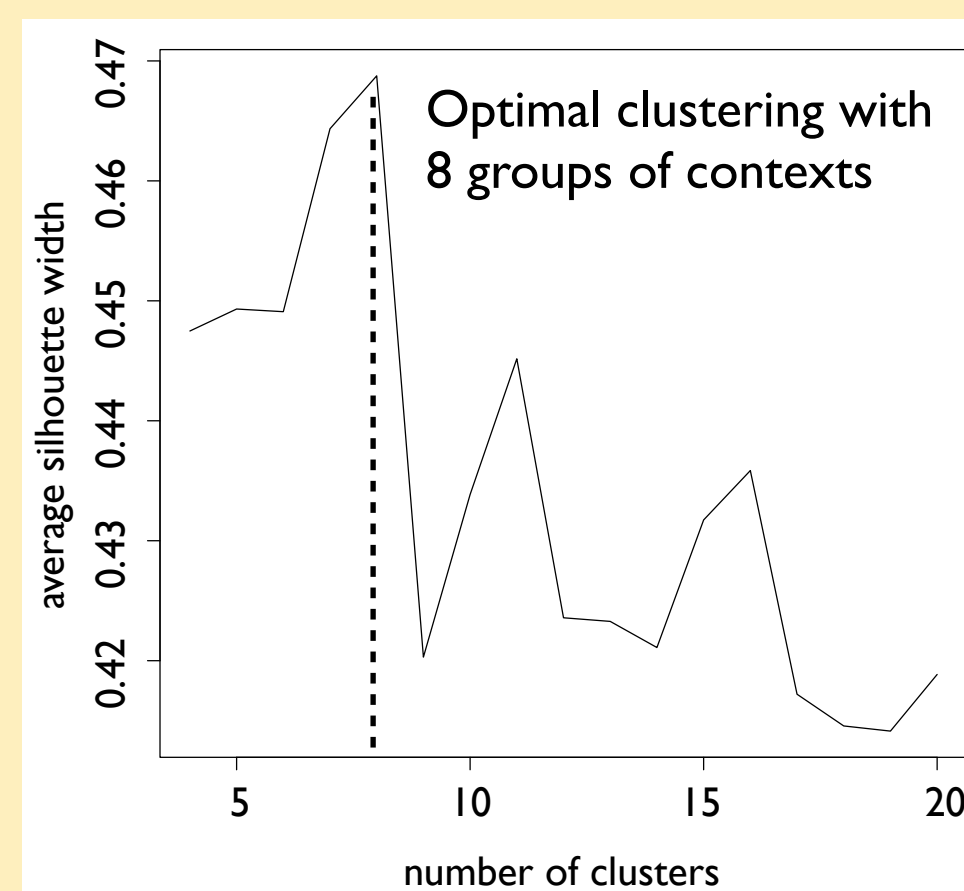
	1	2	3	4	5	6	7	8
PRS	**409**	8	6	3	0	13	0	0
PRS.PROG	**26**	4	0	0	0	**10**	0	0
PST	0	**74**	36	9	**46**	7	22	**42**
PST.PROG	1	1	**13**	0	0	0	0	0
PSTi	0	3	**44**	1	2	**24**	0	2
PFT	0	7	44	**127**	**143**	8	**59**	35
PLUPFT	0	4	8	10	8	**28**	55	5

CONCLUSION. The difference between speakers shows a strong impact of age, with older speakers using more PST, while younger speakers prefer PFT. Older speakers living in the city show an intermediate usage (cf. the vertical speaker-variation on the facing page). A second major cline of speaker-variation concerns the usage of PSTi (cf. the horizontal speaker-variation on the facing page). This variation seems to cross-sect major sociolinguistic variables.

Individual variation of Bezhta speakers

**The placement of the speakers on this page reflects the similarity between their usage of the markers.**

We computed similarities for all pairs of speakers (i.e. how often do two speakers agree about using a particular marker in a context) and then positioned the graphs on this page according to the first two dimensions of a multidimensional scaling (MDS) of these similarities. An interpretation of these two dimensions of variation is given on the borders of this page.
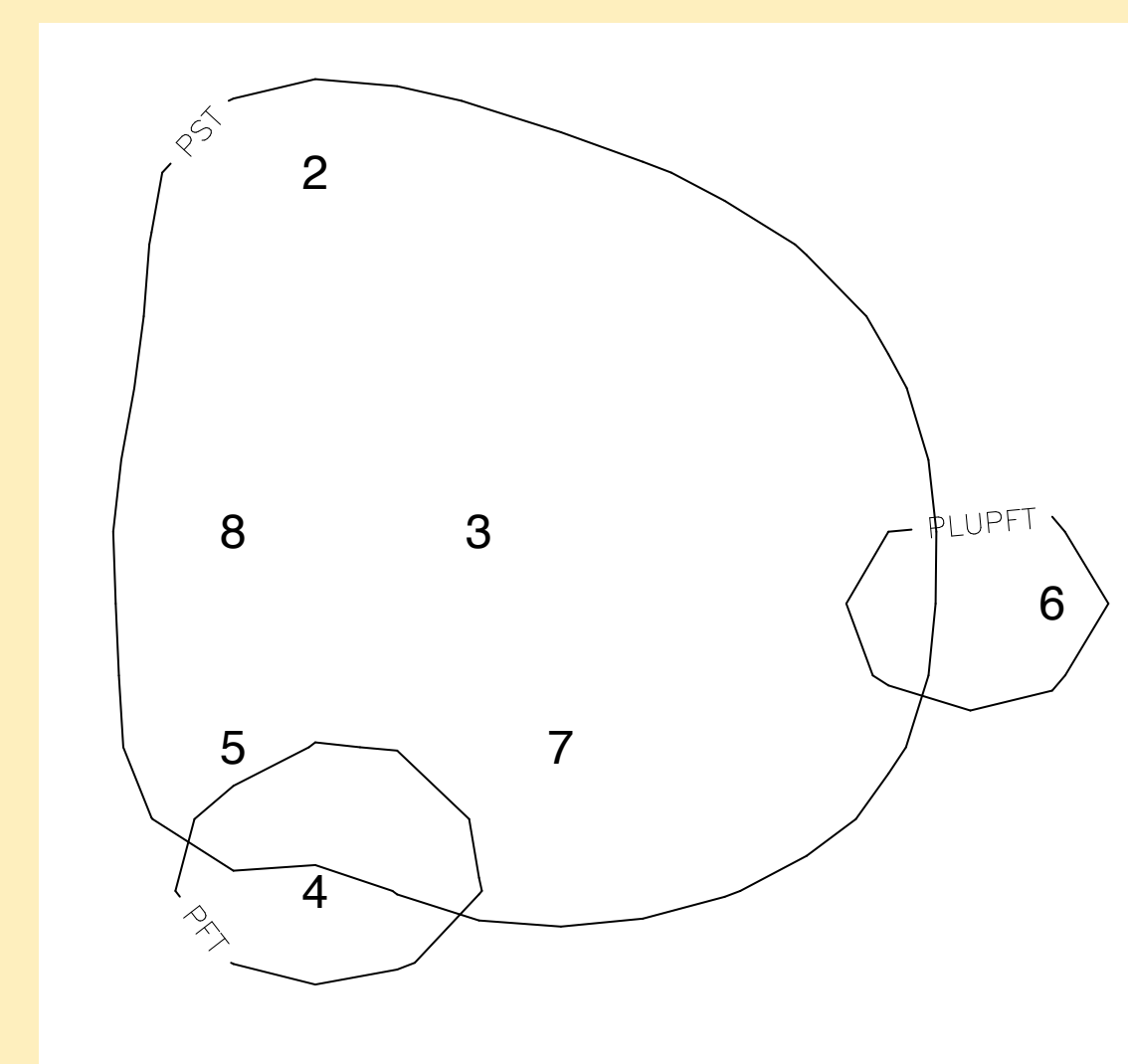
Speaker A: an older speaker who grew up in Bezhta, trained in linguistics. Extensive use of the Simple Past (PST).
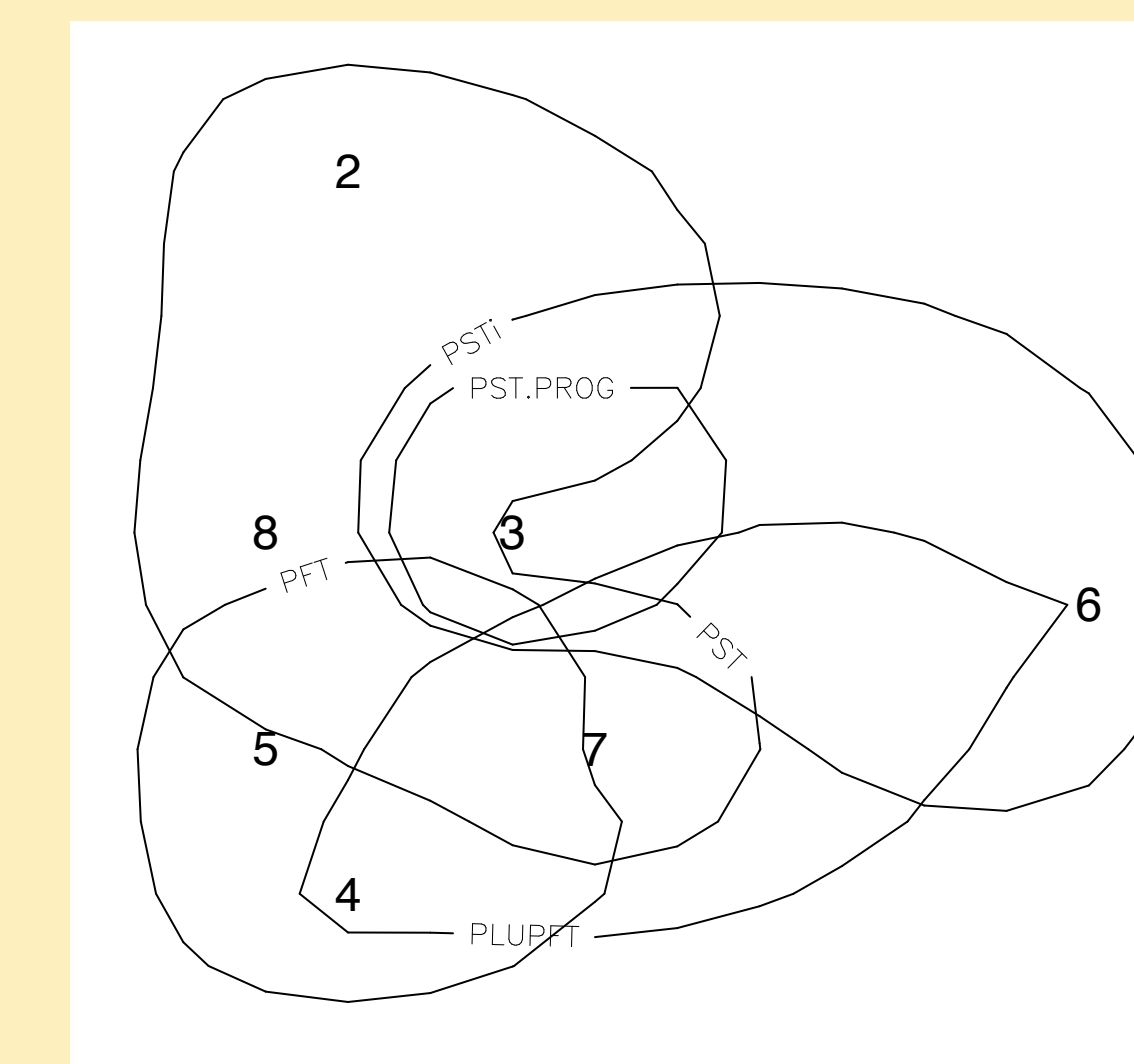
Speakers B & F: older speaker who grew up in Bezhta; very good command of the language. Extensive use of Simple Past (PST), combined with a wide range of other verb forms.
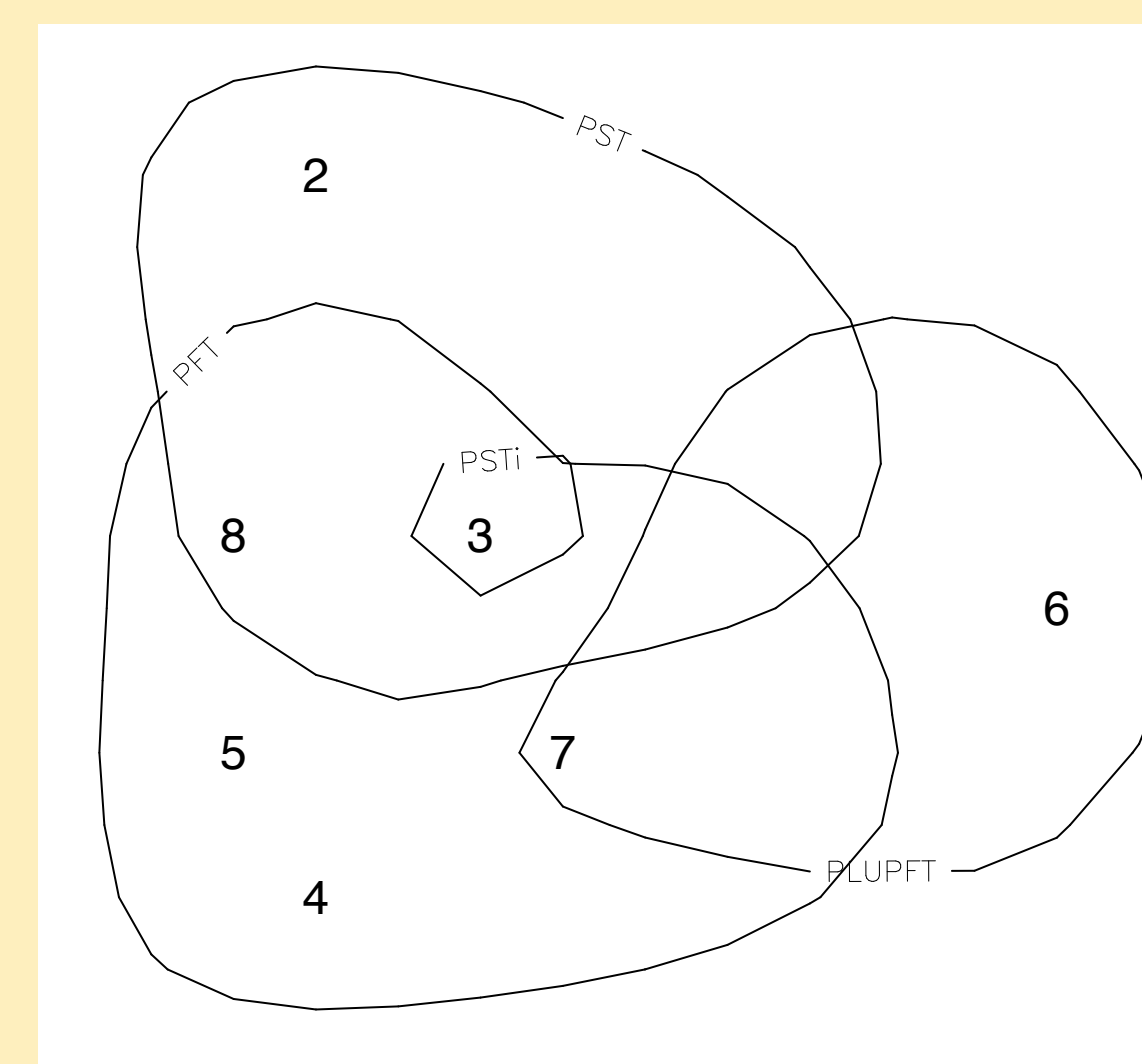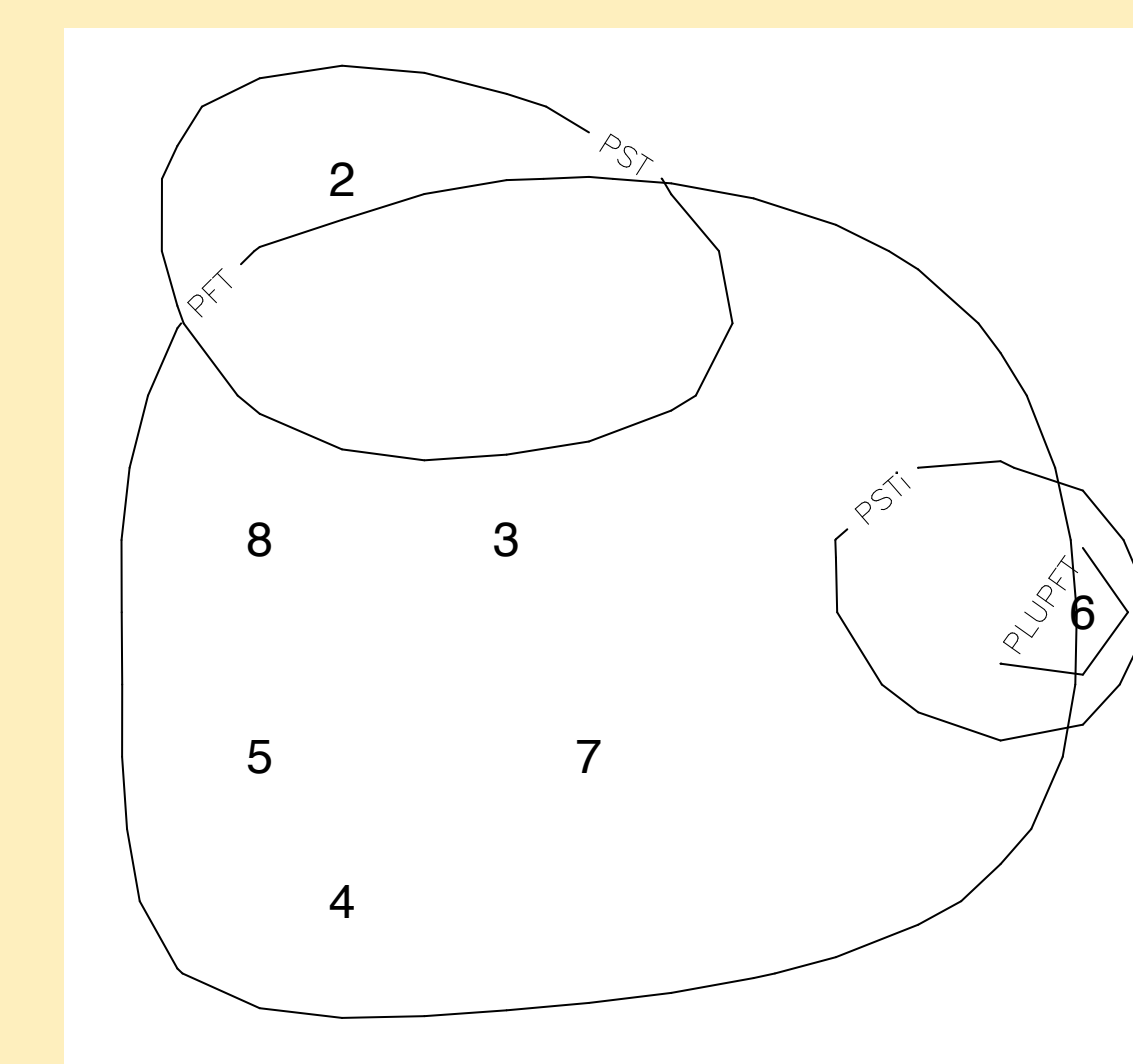
Speaker C: a teacher in Bezhta who uses the language in everyday life. Past Imperfective (PSTi) is rarely used.
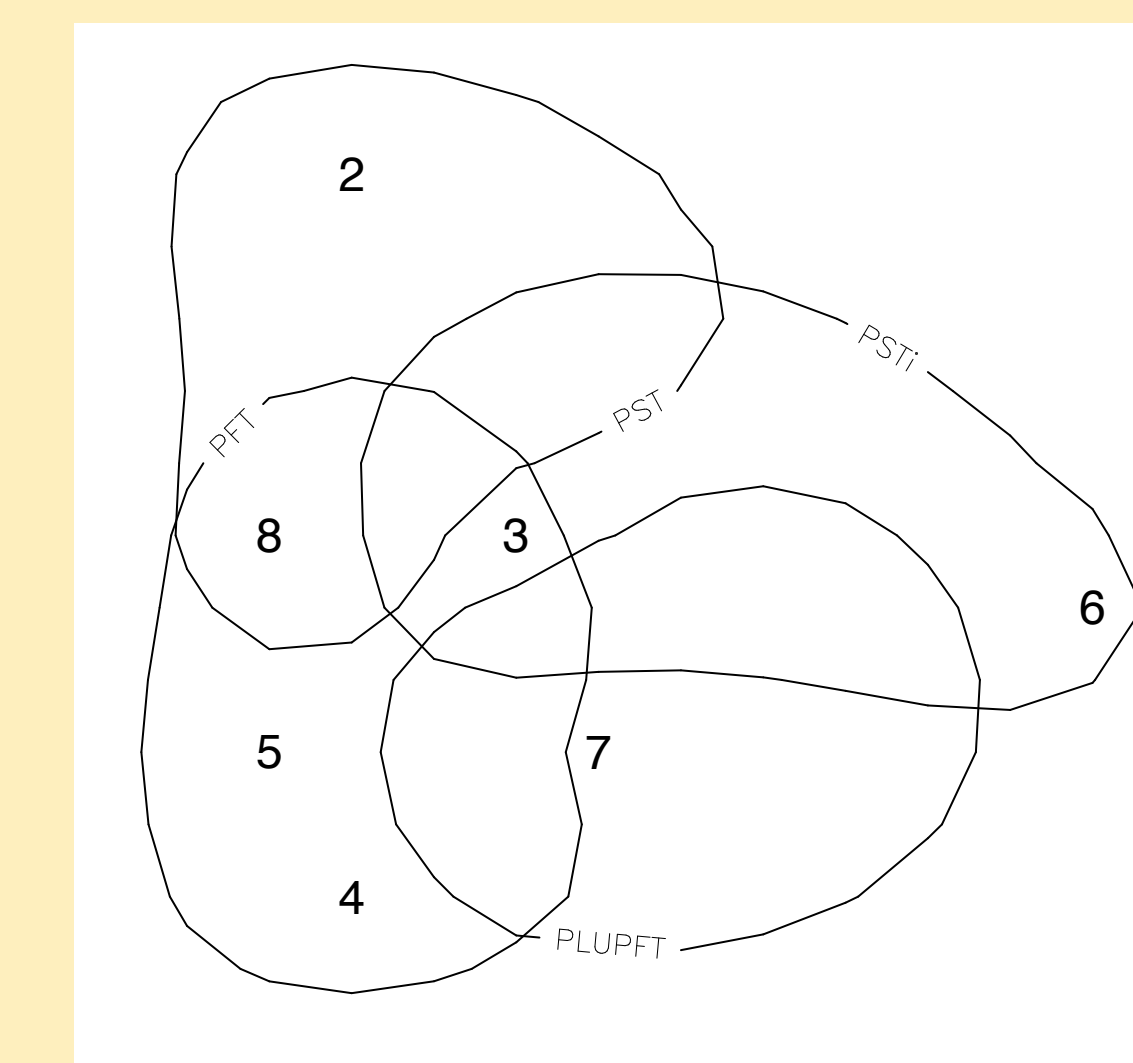
Speakers D & E: older speakers living in the city, who prefer to speak Russian. They use more often Compound Past (PFT) then the other older speakers.
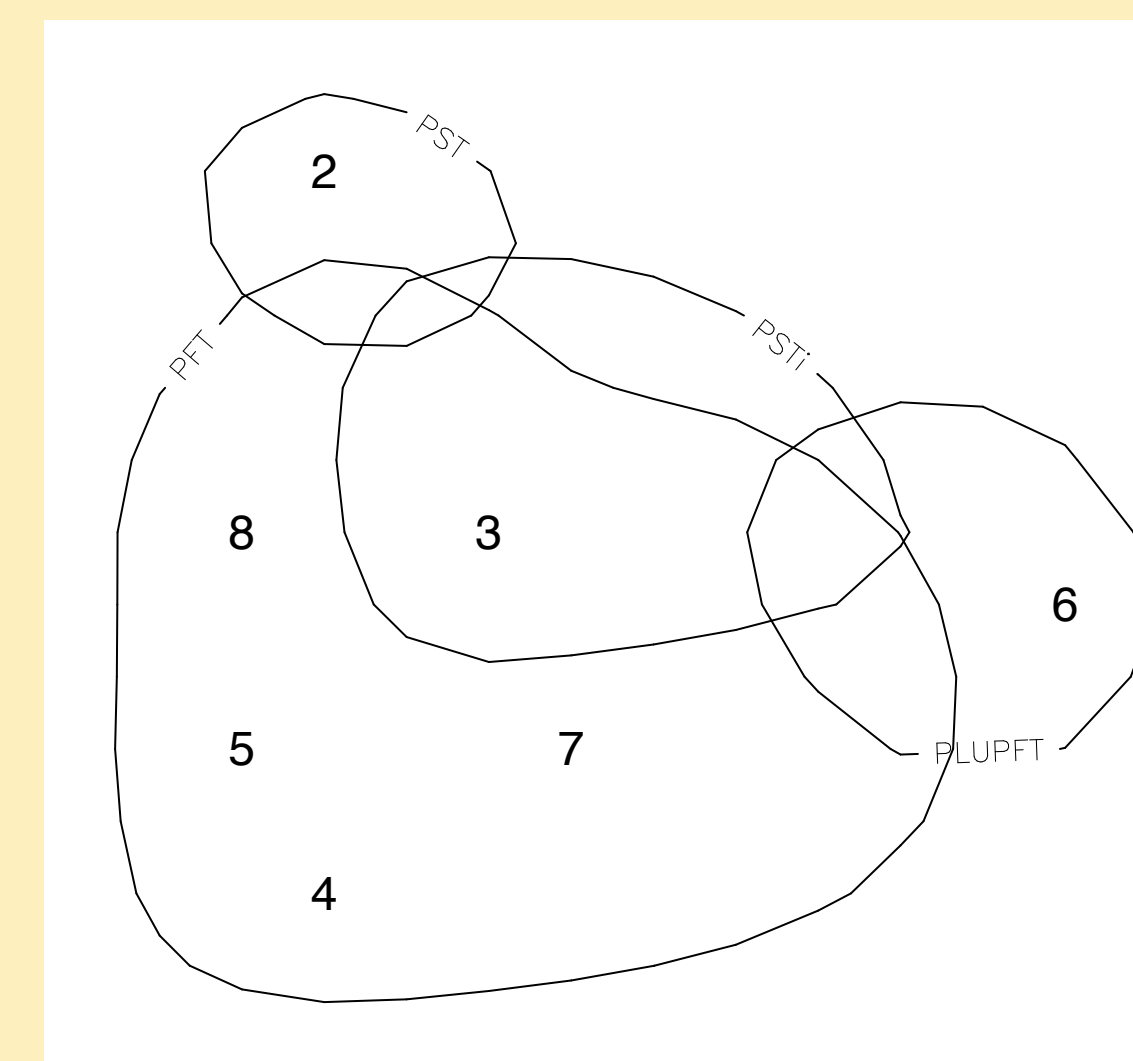
Speakers G & H: both very young speakers, grown up in the city. They speak Bezhta only at home, and prefer Russian. They use the Compound Past in the majority of contexts.