

Linguistic Concepts as Prototype-Based Categories: Reexamining Allomorphy

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My problem

- In Janda 2007 I presented my “cluster model” of Russian aspect as an alternative to the traditional “pair model”.
- The cluster model claims that semelfactive verbs with the suffix *-nu* (like *čixnut'* ‘sneeze once’) and with the prefix *s-* (primarily formed from motion verbs, such as *sxodit'* ‘walk someplace and come back once’) form a single group of perfective verbs which I call “Single Act Perfectives”.



Čixnet

‘She’s going to
sneeze once’

But...

- This is a strange distribution between *-nu* and *s-*, and there isn't much in the scholarly works on Russian aspect about a relationship between these two morphemes



My solution

- Allomorphy hypothesis:
 - *-nu* and *s-* serve (approximately) as allomorphs in the formation of semelfactive verbs in Russian

Allomorphy

- Allomorphs are traditionally defined as a group of two (or more) morphemes that have the same meaning, yet are in complementary distribution (Bloomfield 1935: Chapters 10 & 13; Matthews 1974: Chapter V)
- (usually these are morphemes that are etymologically related but have undergone sound changes in complementary environments)

Examples of allomorphy

- allomorphs of the root *knig-* ‘book’ in the following forms which differ in their final consonants: *kniga* [kn'ig-] (Nsg), *knige* [kn'ig'-] (Lsg), *knig* [kn'ik-] (Gpl), *knižka* [kn'iš-] (dim Nsg), *knižek* [kn'iž-] (dim Gpl)
 - final segment of morpheme can be g, g', k, š or ž
- allomorphs of dative singular marker:
studentu [u] ‘student’, *studentke* [e] ‘student (fem)’, *dveri* [i] ‘door’
 - morpheme can be u, e or i

Examples of allomorphy

- allomorphs of past tense marker: *pisal* [l] , *pisala* [l] , *pisali* [l'] ‘he, she, they wrote’; *nes* [Ø] , *nesla* [l] , *nesli* [l'] ‘he, she, they carried’
 - morpheme can be l, l' or Ø
- allomorphs of the plural marker in English: *cat[s]*, *dog[z]*, *dress[əz]*, *sheep*, *deer*, *fish*
 - morpheme can be s, z, əz or Ø
- allomorphs of the indefinite article in English: *a cup*, *an idea*
 - but one also finds examples like *a elephant*

My desire to escape from that corner
and confirm the cluster model led
me to a larger theoretical question:

What is allomorphy?

...which led me to an even larger
question:

**How do we deal with *gradient*
realities when our linguistic
definitions are stated in *absolute*
terms?**

Reality is messy

- Though our textbooks and theories often give us clear definitions, if we look at the phenomena they are meant to describe in corpus data, we are often faced with fuzzy gradience.
- Does this mean that our definitions must dissolve into relativity?
- No, but we do need to establish standards that account for messy reality.

Overview

- Cluster model and Single Act Perfectives
- Database of Single Act Perfectives with *-nu* and *s-*
- Testing the allomorphy hypothesis
 - Are *-nu* and *s-* in complementary distribution?
 - Do *-nu* and *s-* have the same meaning?

The cluster model distinguishes four types of perfectives:

- Natural Perfectives
 - *pisat* 'write' > *napisat* 'write'
- Specialized Perfectives
 - *rabotat* 'work' > *pererabotat* 'rework, edit'
- Complex Act Perfectives
 - *stonat* 'moan' > *postonat* 'moan for a while'
- Single Act Perfectives
 - *dut* 'blow' > *dunut* 'blow once'



Dunul...
'He blew once...'

-nu database

- 296 imperfective verbs that form **-nu** semelfactives
 - collected by Anastasia Makarova
 - data from Švedova et al. 1980, Zaliznjak 1980 and “Exploring Emptiness” database at UiT
 - includes both **-nu** and **-anu** semelfactives like *pleskat'* ‘splash’ which forms *plesnut'* and *pleskanut'* ‘splash once’
 - includes both reflexive and non-reflexive verbs like *kačat'/kačnut'*, *kačat'sja/kačnut'sja* ‘rock/rock once’





Sxitrl?

'Did he just do
one sneaky thing?'

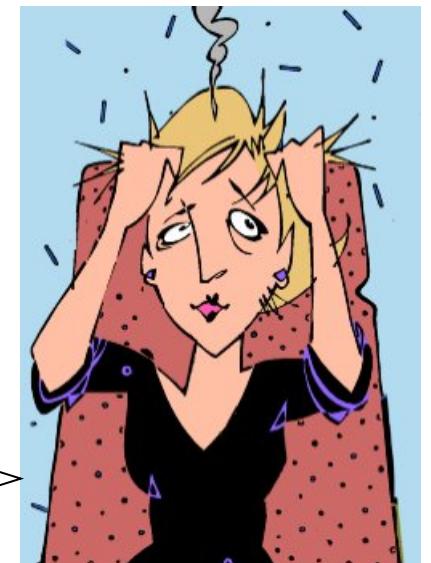
s- database

- 105 Imperfective verbs that form *s-* semelfactives
 - collected by Laura Janda with help from Anastasia Makarova
 - data from the 17-volume Academy Dictionary, Zaliznjak 1980 and Isačenko 1960
 - includes eleven motion verbs such as *xodit'/sxodit'* 'walk/ walk someplace and come back once'
 - includes both reflexive and non-reflexive verbs such as *lovčit'/slovčit'*, *lovčit'sja/slovčit'sja* 'be cunning/do something cunning'

Comparison of the databases

- 3 times more **-nu** than **s-** semelfactives
- **-nu** semelfactives tend to have higher frequency
- **s-** semelfactives dominated by 4 high frequency motion verbs: *sxodit'*, *s"ezdit'*, *sbegat'*, *sletat'* ‘walk, ride, run, fly someplace and come back once’
- It is almost impossible to analyze frequency because
 - some **-nu** and **s-** verbs can be resultative instead of semelfactive
 - most **s-** prefixed motion verbs have imperfective homonyms like *sxodit'* (*s uma*) ‘walk down (go crazy), *snosit'* ‘carry down, wear out, tear down’, *sbegat'* ‘run down’, *svodit'* ‘lead down, seduce’
- For this reason we will look at verb types rather than at corpus examples

Sxodit' s uma
‘Go crazy’

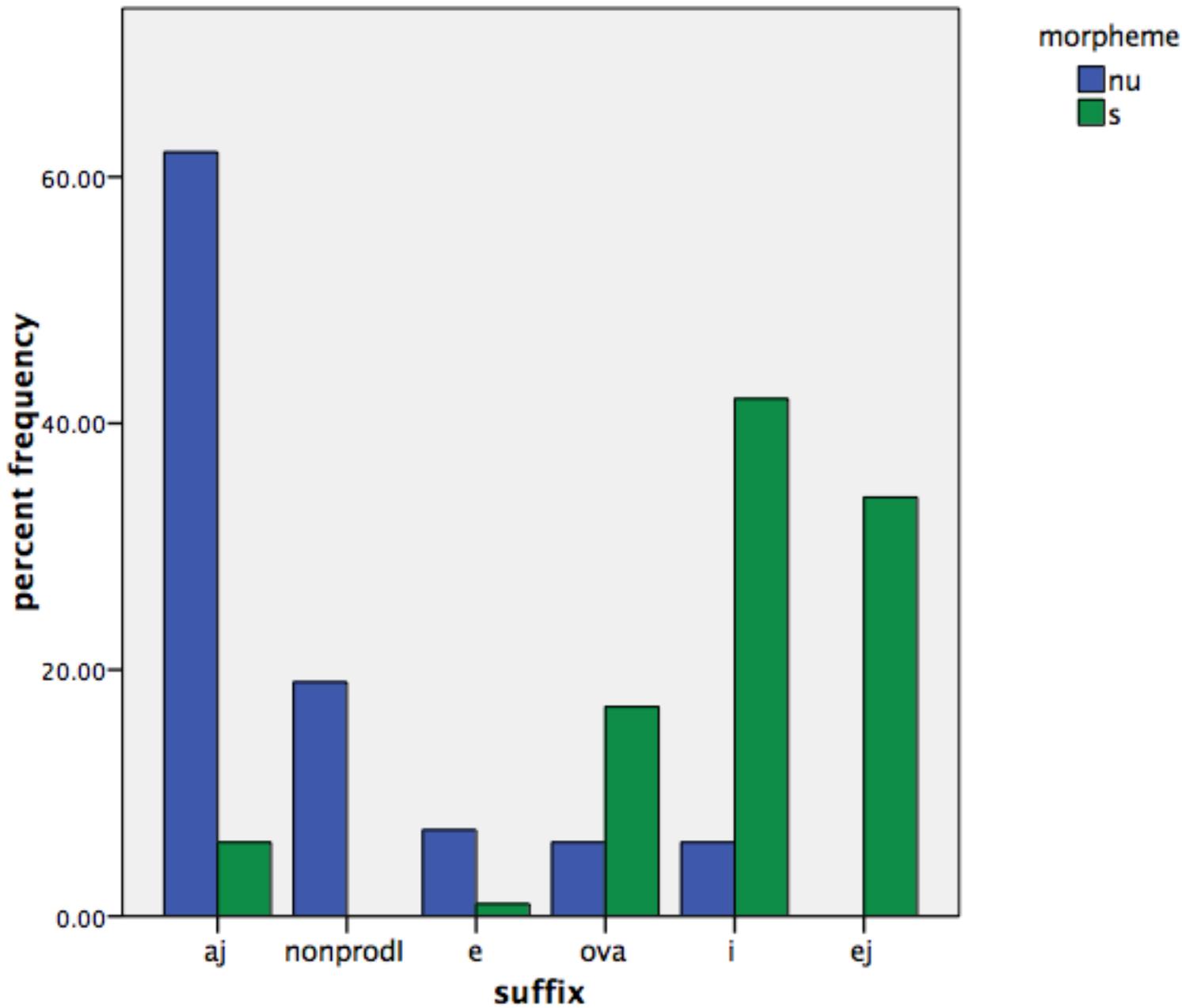


Are **-nu** and **s-** allomorphs?

- Are **-nu** and **s-** in complementary distribution?
 - Almost: verb classes largely determine the distribution of **-nu** and **s-**
- Do **-nu** and **s-** have the same meaning?
 - Almost: there are some verbs that use the two morphemes synonymously and Isačenko (1960) describes semelfactives formed with **-nu** and **s-** with the same term: *odnokratnye* ‘one-time’

Are *-nu* and *s-* in complementary distribution?

- See handout
- The distribution of verb classes of imperfectives that form semelfactives with *-nu* vs. *s-* was analyzed by means of a chi-square test, and the results are statistically significant:
 - the chi-square value is 257.3 with 5 df
 - the probability that this distribution is the result of mere chance is < 2.2e-16 (statistically = 0)
 - Cramer's V (effect size) = 0.8 (enormous)



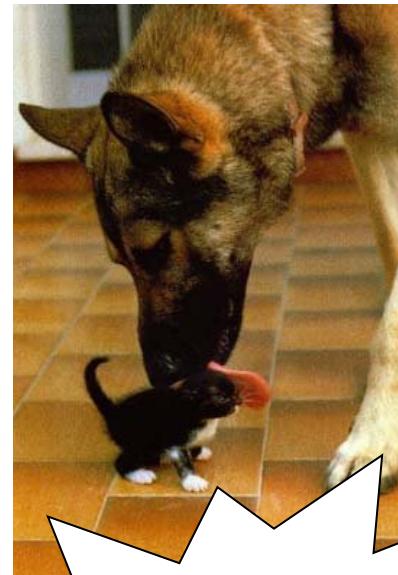
Verb classes that prefer *-nu*

-aj



Zevnul
'He yawned once'

non-prod
1. conj



Liznula
'She licked once'

*-*ě*



Svistnula
'She whistled once'

Verb classes that prefer *s-*

-ova



Smalodušestvoval
'He did one
cowardly thing'

-i



Sgrubil!
'He did one
rude thing!'

*-*ěj*



Srobela?
'Was she
shy once?'

Complementary distribution: summary

- The distribution is not perfect, but statistically it is pretty close
- For two classes there is a perfect distribution: verbs in the **non-productive 1. conjugation** use only **-nu**, and verbs with **-*ěj** use only **s-**
- For the other suffixes we see strong tendencies, but there is overlap, especially for verbs with the suffixes **-ova** and **-i**

Semantic classes in RNC:

Another measure of complementary distribution?



- Only 269 base verbs that form semelfactives with *-nu* and 37 with *s-* are tagged (see handout)
- We see clear tendencies, but lack enough *s-* data for a statistical analysis
- Morphological and semantic classes are not entirely independent factors

Morphological and Semantic Classes

- sound verbs often have the suffixes *-aj* (*kvakat'*/*kvaknut'* ‘croak/croak once’), *-a* (*lajat'*/*lajnut'* ‘bark/bark once’), or *-*ě* (*xrapet'*/*xrapnut'* ‘snore/snore once’)
- verbs that denote behaviors are often suffixed in *-i* (*glupit'*/*sglupit'* ‘be dumb/be dumb once’) or *-*ěj* (*licemerničat'*/*slicemerničat'* ‘be hypocritical/be hypocritical once’)

Do **-nu** and **s-** have the same meaning?

- Both can mean ‘do X once’
- One verb forms synonyms with both **-nu** and **s-**: *xvastat’/xvastnut’/sxvastat’* ‘boast/boast once’
- A couple of verbs can use both **-nu** and **s-** simultaneously: *metat’(sja)/smetnut’(sja)*, ‘leap sideways/leap sideways once’, *trusit’/struxnut’*, ‘be a coward/be a coward once’



-nu and **s-** are not identical in meaning

- With **-nu** we usually have one cycle from a series of repeated events: *čixat’/čixnut’* ‘sneeze/sneeze once’, *lizat’/liznut’* ‘lick/lick once’
- With **s-** we often have something that only happened once *malodušestvovat’/smalodušestvovat’* ‘act like a coward/act like a



Evaluation of the allomorphy hypothesis

- Are **-nu** and **s-** in complementary distribution?
 - Almost.
- Do **-nu** and **s-** have the same meaning?
 - Almost.
- Is the allomorphy hypothesis confirmed?
 - Pretty much.
- Is the cluster model confirmed?
 - Pretty much.

Back to the big questions...

- What constitutes allomorphy?
- Complementary distribution is traditionally considered an all-or-nothing criterion for allomorphy.
- But is this expectation realistic given that language phenomena often exhibit scalar characteristics?
- And is meaning ever entirely identical?

The traditional definition...

- was proposed long before the advent of electronic corpora and statistical software
- perhaps should be re-evaluated as a prototype rather than as an absolute criterion
- statistical methods make it possible to establish standards for evaluation of gradient phenomena
- similar considerations might be appropriate for other definitions, such as those of allophony, markedness, and neutralization

“Neat Theories, Messy Realities”

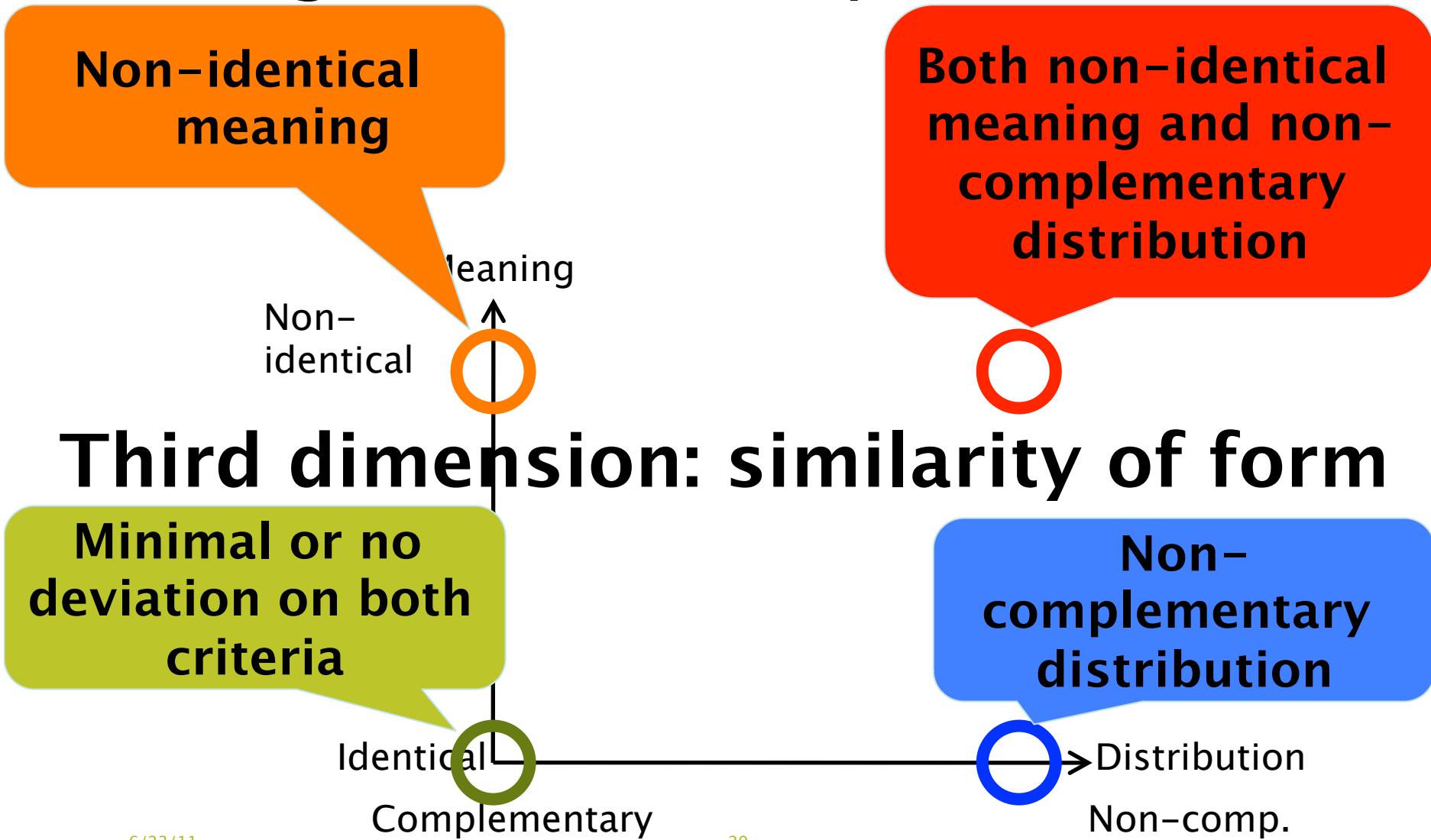
A project funded by the
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Proposal:

1. Investigate a range of form–meaning relationships and how they do/do not conform to the def. of allomorphy
2. Establish standards for recognizing and rejecting allomorphy, thus optimizing our understanding of the structure of languages

Range of conformity to criteria



Range of domains for complementary distribution

- Phonological
- Morphological
- Constructional
- Discourse functional
- Sociolectal

Neat Theories, Messy Realities

- Products:
 - Book: *All About Allomorphy*
 - Articles
 - Publicly Available Databases
 - Website with Interactive Pedagogical Materials
 - 2 PhD dissertations
 - Symposium “Allomorphy, discreteness, and continuity” 2014

Examples of case studies completed or underway so far

- s-/-nu semelfactives (SMD, LAJ)
- Dropping vs. non-dropping *-nu* (TN, AM)
- Russian “empty” prefixes
 - prefix variation (OL, LAJ)
 - constructional profiles of Locative Alternation verbs (SS)
 - radial construction profiles of “small” prefixes (CLEAR)
 - semantic profiles of “big” prefixes (OL, LAJ)
- Dutch diminutives and sociolectal variation (DG)

Examples of case studies completed or underway so far, dissertation by AB

- Russian verbal morphology
 - prototypical allomorphy: *ot/oto, raz/ras*
 - non-prototypical: *o/ob/obo, pere/pre, vz/voz, s/so, vy/iz*
 - factitive verbs (deadjectival) with prefixes *o, u, za, s, po*, etc.
 - imperfectivizing suffixes *a, va, iva*



Examples of case studies completed or underway so far, dissertation by AM

- Russian diminutives
 - Nouns: *iško/oško; raz/ras*
 - Adjectives: *en'kij; (ov)atyj*
 - Adverbs: *en'ko/ečko*
 - Verbs:
 - prefixes *pri, vz, s, pro, po, pere*
+ *-nu*
 - prefixes *po, pri, pod + iva*
 - *kušan'kat', spaten'kat', bain'kat'*

