Extending the Verb Classifier Hypothesis: Aspectual Prefixes as Sortal Classifiers in Slavic and Procedural Prefixes as Mensural Classifiers in East Slavic and Bulgarian

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Overview

BACKGROUND
• Review Verb Classifier Hypothesis for Russian Natural Perfectives
  – Sortal Classifiers and Verb Classifiers

PART ONE
• Extension of Hypothesis to All Slavic Natural Perfectives and Specialized Perfectives as Sortal Classifiers

PART TWO
• Extension of Hypothesis to Procedural Perfectives as Mensural Classifiers

PART THREE
• Foregrounding and Definiteness Effects of Classifiers and Slavic Prefixes
BACKGROUND
Verb Classifier Hypothesis Version 1.0
(Janda 2012 & Janda et al. 2013)

• Limited to Natural Perfectives in Russian
• Main Idea:
  – so-called “empty” prefixes in Russian, e.g., написать, сварить are sortal classifiers on a par with sortal numeral classifiers in languages like Yucatec Maya
  – prefixes are not “empty”; they overlap in meaning with verbs and sort verbs into semantic groups
• Follows criteria for verb classifier systems established by McGregor 2002 and suggestions by Majsak 2005 and Plungjan 2011
Numeral Classifier Systems Worldwide

Verb Classifier Systems

• Linguists have only recently begun to describe verb classifier systems
• Verb classifiers have been identified in Chinese and in several Australian languages (McGregor 2002, Gerner 2009)
• McGregor (2002) on verb classification: “[d]oubtless it is not confined to the relatively few languages in which it has been hitherto described, though the extent of its distribution across the world’s languages remains to be charted.”
The function of sortal numeral classifiers

• Despite the name, numeral classifiers are actually a type of **noun classifiers**
• Numeral classifiers are “unitizers” that construe the referents of mass nouns as countable units, i.e., count nouns.
• **Sortal** numeral classifiers “sort” the nouns of the language into groups according to the units that the substances typically form, usually according to their shape, e.g.,
  – long objects
  – flat objects
  – etc.
Yucatec Maya examples of sortal numeral classifiers (Lucy 2000: 329)

<table>
<thead>
<tr>
<th>Numeral classifier</th>
<th>Description</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘un-tz’íit kib’</td>
<td>[one long-thin wax]</td>
<td>‘one candle’</td>
</tr>
<tr>
<td>‘un-tz’íit che’</td>
<td>[one long-thin wood]</td>
<td>‘one stick’</td>
</tr>
<tr>
<td>‘un-tz’íit nal</td>
<td>[one long-thin corn]</td>
<td>‘one ear of corn’</td>
</tr>
<tr>
<td>‘un-tz’íit há’as</td>
<td>[one long-thin banana]</td>
<td>‘one fruit of the banana’</td>
</tr>
<tr>
<td>‘un-wáal há’as</td>
<td>[one flat banana]</td>
<td>‘one banana leaf’</td>
</tr>
<tr>
<td>‘un-kúul há’as</td>
<td>[one planted banana]</td>
<td>‘one banana tree’</td>
</tr>
</tbody>
</table>

Numeral classifiers are obligatory in contexts where discrete units are referred to, as in constructions with numerals.
Why Prefixes in Russian Natural Perfectives are Sortal Verb Classifiers

- **Russian prefixes** are “unitizers” that designate discrete events
- **Russian prefixes** are associated with quantification by perfective aspect
- **Russian prefixes** “sort” the verbs of the language according to the parameters of actions; **classification by outcome**:
  - EXPANDING with раз- as in пухнуть > распухнуть
  - MOVEMENT AWAY with у- as in красть > укraсть
  - ATTACHMENT with при- as in липнуть > прилипнуть, etc.
- **Russian prefixes** fulfill all distributional criteria for classifiers
  - overlapping groups are characteristic of classifier systems
  - the classifiers also “show different behaviours” (McGregor 2002: 17)
How prefixes sort verbs in Russian:
- 1429 simplex verbs
- form 1981 Natural Perfectives
- using 16 prefixes
Evidence of “different behaviours” for Russian prefixes in Natural Perfectives (Janda et al. 2013)

- Each prefix is associated with a specific semantic group of verbs
  - radial category profiling
- Each prefix has a specific semantic profile
  - semantic profiling
- Prefixes behave differently with respect to the grammatical profiles they appear in
  - constructional profiling
- Prefixes can contrast even when they are associated with the same verbs
  - prefix variation
- Some prefixes are more likely to motivate the formation of secondary imperfectives than others
  - aspectual triplets

All data and analyses are available at: http://emptyprefixes.uit.no/book.htm
Comparison of Numeral Classifiers with Aspectual Prefixes

<table>
<thead>
<tr>
<th></th>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unitizer Type:</strong></td>
<td>Numeral Classifier</td>
<td>Aspectual Prefix</td>
</tr>
<tr>
<td><strong>Spatial Profile:</strong></td>
<td>Bounded/shaped region in space</td>
<td>Trajector-Landmark relation</td>
</tr>
<tr>
<td><strong>Etymological Source:</strong></td>
<td>Stem from nouns</td>
<td>Stem from prepositions/particles</td>
</tr>
</tbody>
</table>
Preview of Extension of Verb Classifier Hypothesis

Stephen Dickey: “That idea has legs!”

Verb Classifier Hypothesis is also relevant for:

• Specialized Perfectives in Russian
  – переписать, списать, записать, вписать...

• Natural Perfectives and Specialized Perfectives in other Slavic languages
  – Czech, Polish, BCS, Bulgarian, etc.

• Procedural Perfectives (most prominent in East Slavic and Bulgarian)
  – зачихать, почитать, чихнуть

Parallel to *sortal* numeral classifiers

Parallel to *mensural* numeral classifiers
PART ONE
Extension to All Slavic Natural and Specialized Perfectives

Further Comparison of Numeral Classifiers with Slavic Verbal Prefixes

1. Overlap Principle
2. Classifier Variation and Prefix Variation
3. General Classifiers and General Prefixes
4. Polysemy and Radial Category Structure for Classifiers and Prefixes

All Slavic Languages have both Natural and Specialized Perfectives. Difference between Natural and Specialized Perfectives is a matter of degree.
1. Overlap Principle: A given classifier can have different functions with different nouns

- If **HIGH** semantic overlap between classifier and noun => default classifier
- If **LOW** semantic overlap between classifier and noun => other classifier

Mandarin Chinese classifier *pian* expresses flatness (Zhang 2013: 42):

a. *san pian shuye* (individual/sortal classifier)
   three CL:slice leaf
   ‘three leaves’

b. *yi pian qiche* (collective/mensural classifier)
   one CL:slice car
   ‘one group of cars’

c. *san pian mutou* (individuating/mensural classifier)
   three CL:slice wood
   ‘three pieces of wood’

d. *she pian luobo* (partitive/mensural classifier)
   ten CL:slice carrot
   ‘ten slices of carrot’

Parallel: prefixes in **Natural Perfectives**

Parallel: prefixes in **Other Perfectives**
A given prefix can have different functions with different verbs: Natural Perfectives and Specialized Perfectives

<table>
<thead>
<tr>
<th>Natural Perfectives</th>
<th>Specialized Perfectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>пухнуть ‘swell’ &gt; распухнуть ‘swell’</td>
<td>дуть ‘blow’ &gt; раздуть ‘inflate’</td>
</tr>
<tr>
<td>красть ‘steal’ &gt; украсть ‘steal’</td>
<td>бежать ‘run’ &gt; убежать ‘run away’</td>
</tr>
<tr>
<td>липнуть ‘stick’ &gt; прилипнуть ‘stick’</td>
<td>вязать ‘tie’ &gt; привязать ‘tie onto’</td>
</tr>
<tr>
<td>ночевать ‘spend the night’ &gt; переночевать ‘spend the night’</td>
<td>ждать ‘wait’ &gt; переждать ‘wait through something’</td>
</tr>
</tbody>
</table>

**HIGH DEGREE OF OVERLAP:**
Natural Perfectives only change the aspect

**LOW DEGREE OF OVERLAP:**
Specialized Perfectives change the aspect and the meaning
Natural Perfectives ... Specialized Perfectives as a Continuum

- There is no crisp division between Natural Perfectives and Specialized Perfectives.
- Natural Perfectives are the perfectives for which the meaning of the base verb and the meaning of the prefix overlap most — the combinations that are the “best match.”
- Natural Perfectives are also the most frequent — on average 10x more frequent than Specialized Perfectives.
Natural Perfectives and Specialized Perfectives in Other Slavic Languages

Late Common Slavic:

*pьsati* ‘write’

> *na-pьsati* ‘write’
>> *вь-pьsati* ‘write in, insert’
>> *za-pьsati* ‘record, register’

Natural Perfective

Specialized Perfective

Polish:

*pисać*

> *napисać*
>> *wpисać*
>> *записаć*

Bulgarian:

*пиша*

> *напиша*
>> *впиша*
>> *запиша*
2. Classifier Variation and Prefix Variation

First: Classifier Variation

Some nouns can have several different classifiers

Burmese *myiʔ* ‘river’ (Goral 1978: 32):

a. *myiʔ tǝ* *myiʔ*
   river one  CL:river
   ‘a river [default case]’

b. *myiʔ tǝ* *yaʔ*
   river one  CL:place
   ‘a river as site [for a picnic, etc.]’

c. *myiʔ tǝ* *tan*
   river one  CL:line
   ‘a river [on a map]’

d. *myiʔ tǝ* *hmwa*
   river one  CL:section
   ‘a river section [for fishing, etc.]’

e. *myiʔ tǝ* *sin*
   river one  CL:distant arc
   ‘a river as path to the sea’

f. *myiʔ tǝ* *ʔwe*
   river one  CL:connection
   ‘a river as a connection
   [linking two villages, etc.]’
Compare: Prefix Variation
Example: грузить

Some base verbs can have several aspectual prefixes
Russian грузить ‘load’ has three different Natural Perfectives (Sokolova, Lyashevskaya and Janda 2012):

a. **нагрузить** ‘on-load’ focuses on accumulation of loaded objects, e.g., **нагрузить сумку арбатским породистым товаром** ‘load a bag with fine goods from the Arbat’

b. **погрузить** ‘PO-load’ most neutral, can also be used for things that don’t ordinarily get loaded, e.g., **погрузить раненых в фургон** ‘load the wounded into a van’.

c. **загрузить** ‘behind-load’ focuses on states resulting from loading, e.g. **загрузить пароход провизией** ‘load a steamship with provisions’; default in professional contexts.
3. General Classifiers and General Prefixes
First: General Classifiers

• There are usually some very general classifiers that can be applied in place of other classifiers in a numeral classifier system (Greenberg 1972, Lucy 1992, Gao & Malt 2009)

• Some examples of general classifiers:
  – **Yucatec Maya** -p’éel [3-dimensional] and -túul [animate]
  – **Mandarin Chinese** ge “used for any noun that does not fall into a more specialized category and can substitute for the more specialized classifiers ... and often does so in casual conversation”
  – **Persian** ta used as general classifier for both sortals and mensurals
Compare: Generalized “Purely Perfectivizing” Prefixes in Slavic Languages

**Russian**  
по- is most common prefix: 21% of Natural Perfectives, as in построить

**Russian**  
c- is expanding

- productive with loan verbs: сорганизовать, скомпрометировать
- used with many different predicate types
  - ordinary telic: сорганизовать, сконденсировать
  - factitives: сблизить
  - semelfactives: сглупить

replaces other prefixes colloquially:
  - спечь instead of испечь
  - сготовить instead of приготовить

**Bulgarian**  
из- is most common prefix: 9% of Natural Perfectives, as in изпия

and из- is expanding

- productive with loan verbs: изкоригирам
- used with many different predicate types
  - ordinary telic: изядам
  - inchoatives: избелеля
  - factitives: избеля
  - distributives: изкрада
  - semelfactives: изгрухтя

**Czech, Slovak, Slovene, Polish**  
s-/z- is generalized prefix and competes with other prefixes

- Czech zemřít instead of umřít
4. Polysemy and Radial Category Structure for Classifiers and Prefixes
First: Numeral Classifiers

Radial category structure for Thai Classifier *tua* (Deepadung 1997)

Prototype: 1. ANIMATE QUADRUPED buffalo, elephant

- 2. ANIMATE ghosts
- 3. QUADRUPED tables, chairs
- 4. FURNITURE dressers, beds
- 5. LIMBED trousers, shirts
- 6. CLOTHING skirts, underwear
- 7. ANIMATE-SHAPED mannequins, dolls; some letters and numbers
Compare: Slavic Prefixes in Natural and Specialized Perfectives

Example: Russian раз-

Natural and Specialized Perfectives share the same radial categories (Janda et al. 2013)

Prototype:
1. APART разбить ‘break apart’
2. CRUSH раздавать ‘crush’
3. SPREAD разветвиться ‘branch out’
4. SWELL раздувать ‘inflated’
5. DISSOLVE растаять ‘melt’
6. EXCITEMENT раскалить ‘make red-hot’
7. UN- разгрузить ‘unload’
Summary PART ONE

• Prefixes that form Natural and Specialized Perfectives in Slavic Languages behave like classifiers
  – High semantic overlap of prefix and verb => Natural Perfective
  – Less semantic overlap of prefix and verb => Specialized Perfective

• Parallels in terms of
  – Classifier variation => a given base can take multiple classifiers
  – Productivity of general classifiers
  – Radial category semantic structure
PART TWO
Extension to Procedural Perfectives as Mensural Classifiers

• Sortal vs. Mensural Classifiers
• Procedural Prefixes as Mensural Classifiers
  – Procedural Prefixes Primarily in East Slavic + Bulgarian
• Comparison of Types of Sortal and Mensural Classifiers with Slavic Prefixes
Sortal vs. Mensural Classifiers

The Numeral Classifier Construction in Mandarin Chinese

<table>
<thead>
<tr>
<th>Classifier Type</th>
<th>Numeral</th>
<th>Classifier</th>
<th>Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sortal</td>
<td>yi ‘one’</td>
<td>tiao</td>
<td>shengzi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cl: long-thin</td>
<td>rope</td>
</tr>
<tr>
<td>Mensural</td>
<td>yi ‘one’</td>
<td>bei</td>
<td>piju</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cl: glass</td>
<td>beer</td>
</tr>
</tbody>
</table>

(Gao & Malt 2009)

- Morpho-syntactic behavior is identical
- Both types signal units
  - **Sortal**: refer to inherent units
  - **Mensural**: create units, individuate in terms of quantity
- A single classifier can serve both sortal and mensural functions
- General classifiers often serve both functions
## Sortal vs. Mensural Classifiers for Nouns and Verbs

<table>
<thead>
<tr>
<th>Unitizer Type:</th>
<th>NOUNS</th>
<th>VERBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference to <strong>inherent</strong> boundaries:</td>
<td>Sortal Classifiers</td>
<td>Lexical + purely perfectivizing prefixes (Natural Perfectives and Specialized Perfectives)</td>
</tr>
<tr>
<td>Imposition of <strong>external</strong> boundaries:</td>
<td>Mensural Classifiers</td>
<td>Procedural prefixes, a.k.a. Superlexical, Aktionsart prefixes (Complex Act Perfectives and Single Act Perfectives)</td>
</tr>
</tbody>
</table>
Procedural Prefixes as Mensural Classifiers

(1) a. yi bei piju (Mandarin Chinese; Gao and Malt 2009: 1129)
    one cl:glass beer
    ‘a glass of beer’

(1) b. 'um-p’iit há’as (Yucatec Maya; Lucy 1992: 74)
    a cl:little-bit/some banana
    ‘a little bit of/some banana’

(2) a. по- сидеть (Russian)
    for-a-while- sit
    ‘sit for a while’

(2) b. по- седна (Bulgarian)
    for-a-while- sit
    ‘sit for a while’
Comparison of Types of Sortal and Mensural Classifiers with Slavic Prefixes (and suffix *-nǫ)

<table>
<thead>
<tr>
<th>Type of Mandarin Chinese Numeral classifier</th>
<th>Analogue Among Russian Perfectivizing Prefixes</th>
<th>Analogue Among Bulgarian Perfectivizing Prefixes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(1) INDIVIDUAL CLASSIFIERS</strong> (SORTAL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>i jy bii</em></td>
<td>NATURAL по-, с-, за-, etc.</td>
<td>NATURAL из-, на-, по-, etc.</td>
</tr>
<tr>
<td>‘a writing pen’</td>
<td>SPECIALIZED до-, с-, за-, etc.</td>
<td>SPECIALIZED до-, с-, за-, etc.</td>
</tr>
<tr>
<td><em>i-g jyutz</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘an orange’</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(2) COLLECTIVE CLASSIFIERS</strong> (MENSURAL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>yi qun mianyang</em></td>
<td>DISTRIBUTIVE пере-, по-</td>
<td>DISTRIBUTIVE из-</td>
</tr>
<tr>
<td>‘a flock of sheep’</td>
<td>CUMULATIVE на-</td>
<td>CUMULATIVE на-</td>
</tr>
<tr>
<td><strong>(3) INDIVIDUATING CLASSIFIERS</strong> (MENSURAL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>yi bei pijiu</em></td>
<td>DELIMITATIVE по-</td>
<td>DELIMITATIVE по-</td>
</tr>
<tr>
<td>‘a glass of beer’</td>
<td>PERDURATIVE про-</td>
<td>INGRESSIVE за-</td>
</tr>
<tr>
<td><strong>ATTENUATIVE при-, под-</strong></td>
<td>INTENSIVE от-</td>
<td>ATTENUATIVE по-, под-</td>
</tr>
<tr>
<td><strong>INFITIVE за-</strong></td>
<td>RESULTATIVE до-...-ся, за-...-ся, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>(4) PARTITIVE CLASSIFIERS</strong> (MENSURAL)</td>
<td>SEMELFACTIVE с-, -ну-</td>
<td>SEMELFACTIVE из-, про-, -на-</td>
</tr>
<tr>
<td><em>shi pian luobo</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘ten slices of carrot’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Russian Examples for the Types of Sortal and Mensural Classifiers

<table>
<thead>
<tr>
<th>Type of Classifier</th>
<th>Russian Perfectivizing Prefixes</th>
<th>Russian Examples</th>
</tr>
</thead>
</table>
| (1) **INDIVIDUAL CLASSIFIERS** (SORTAL) | **NATURAL** по-, с-, за-, etc.  
**SPECIALIZED** до-, с-, за-, etc. | построить, сварить, закрепить  
dописать, собрать, записать |
| (2) **COLLECTIVE CLASSIFIERS** (MENSURAL) | **DISTRIBUTIVE** пере-, по-  
**CUMULATIVE** на- | перебить  
nакупить |
| (3) **INDIVIDUATING CLASSIFIERS** (MENSURAL) | **DELIMITATIVE** по-  
**PERDURATIVE** про-  
**ATTENUATIVE** при-, под-  
**INGRESSIVE** за-  
**FINITIVE** от-  
**INTENSIVE-RESULTATIVE** до-…-ся, за-…-ся, etc. | посидеть  
проплакать  
притормозить, подкрасить  
zаговорить  
отсидеть  
dоплясаться, зачитаться |
| (4) **PARTITIVE CLASSIFIERS** (MENSURAL) | **SEMELFACTIVE** с-, -ну- | сглупить, чихнуть |
Summary PART TWO

- Procedural Prefixes in Russian (East Slavic) and Bulgarian serve as mensural verb classifiers
- Morpho-syntactic behavior of sortal and mensural classifiers is identical
- Both types signal units => events
  - Sortal: refer to inherent units => results of events
  - Mensural: create units, individuate in terms of quantity => phases of events and quantities of action
- A single classifier can serve both sortal and mensural functions
- General classifiers often serve both functions
PART THREE
Foregrounding and Definiteness Effects of Classifiers and Slavic Prefixes

- **Foregrounding Effects** of Numeral Classifiers and Slavic Aspectual Prefixes
- **Weak Definiteness Effects** of Numeral Classifiers and Slavic Aspectual Prefixes
Foregrounding Effects of Numeral Classifiers
Statistics from Mandarin Chinese (Sun 1988)

In narratives

– 80% of nouns referring to entities **thematic ally important** to narratives (subsequently mentioned) are **introduced with a numeral classifier**

– 18% of nouns referring to entities **not** thematically important to narratives (not subsequently mentioned) are **not** introduced with a numeral classifier

See examples from myth about the giant Kuafu on next slides...
Once upon a time, in a place called Youdu, people lived in darkness all year round. There was a big black mountain where many terrible beasts lived. The beasts often went out to harm people. There was a giant called Kuafu. He fought with the beasts with a stick for nine days and nine nights. Finally, he killed them all..."
Foregrounding Effects of Numeral Classifiers
More Examples from Mandarin Chinese (Li 2000: 1122)

a. Kuafu si le. Tade guanzhang dunshi bian cheng le
Kuafu die PF His walking stick immediately change into PF
yi-ke xianhua shenghai de da taoshu.
one-CL flowers blooming MOD big peach tree
‘Kuafu died. His walking stick immediately changed into a [CL] large peach tree with blooming flowers.’

b. Pangu si hou, tade zhití bian cheng le shan.
Pangu die after his body change into PF mountain
‘After Pangu died, his body changed into a [Ø] mountain.’

Li: Mandarin Chinese numeral classifiers are employed to mark noun phrases as salient for the purpose of “vivifying or intensifying the description without [an] implication of significance in the thematic development of the narrative.” Example (a) with a numeral classifier presents a relatively vivid image; example (b) presents a rather flat image.
Foregrounding Effects of Slavic Aspectual Prefixes

• Foregrounding is understood in terms of narrative sequencing via main plotline events
• Prefixes are associated with perfective aspect, which tends to mark sequenced plotline events

Когда начилась первая мировая война, вся семья уехала в деревню Поминово в Тверской области, на родину бабушки. Дом, где они жили, стоит, кстати, до сих пор. Там же, в Поминове, отец познакомился с моей мамой. Они поженились, когда им было по 17 лет.
Weak Definiteness Effects of Numeral Classifiers

- Bare classifier constructions (lacking numerals) signal specific or definite reference

Hmong example (Li & Bisang 2012: 353)

\[ Thaum\ ub\ muaj\ ob\ tug\ niam\ txiv.\quad Tus\ txiv\ tuag\ lawm.\]
Long ago there are two CL wife husband CL husband die PF

\[ Tus\ niam\ quaj\ quaj\ nrhiav\ nrhiav\ tsis\ tau\ tus\ txiv.\]
CL wife cry cry look for look for NEG get CL husband

‘Long ago there was a wife and a husband. The husband died. The wife kept crying but no matter how she looked, she couldn’t find the/her husband.’

Vietnamese example (Simpson et al. 2011: 185-186)

\[ Thu\ vien\ vua\ co\ them\ mot\ ke\ toan\ va\ mot\ luat\ su.\]
library just have add one accountant and one lawyer

\[ Ngoi\ ke\ toan\ rat\ cham\ chi,\ nhung\ ngoi\ luat\ su\ rat\ luoi.\]
CL accountant very diligent but CL lawyer very lazy.

‘The library has a new accountant and a new lawyer. The accountant is hard-working, but the lawyer is quite lazy.’
Definiteness Effects of Slavic Prefixes are Strongest in Russian (Leinonen 1982, Dickey 2000)

a. Кто прочитал Войну и мир?
b. Кто читал Войну и мир?

а. Ты прочитал мою книгу?
b. Ты читал мою книгу? Ты не видел там записку?

Perfective sentences reflect shared information, focus on specific event. Imperfective sentences lack this implication.
Summary PART THREE

• Numeral Classifiers and Slavic Aspectual Prefixes show some parallel effects in terms of Narrative Foregrounding and Definiteness
Conclusions
Verb Classifier Hypothesis Version 2.0

- Prefixes that form Natural and Specialized Perfectives in Slavic languages parallel sortal numeral classifiers
- Prefixes that form Procedural Perfectives in Slavic languages (mainly East Slavic and Bulgarian) parallel mensural numeral classifiers
- Shared traits of numeral classifiers and Slavic aspectual prefixes
  - Overlap produces default classifiers
  - Variation produces choices among multiple classifiers
  - Generalized productive classifiers
  - Radial category structure
  - Foregrounding, discourse prominence in narrative
  - Weak definiteness effects
- Recognition of Slavic aspectual prefixes as verb classifiers facilitates typological comparison