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Verb classifiers —
not so exotic after all?
The case of Russian

Collaborators



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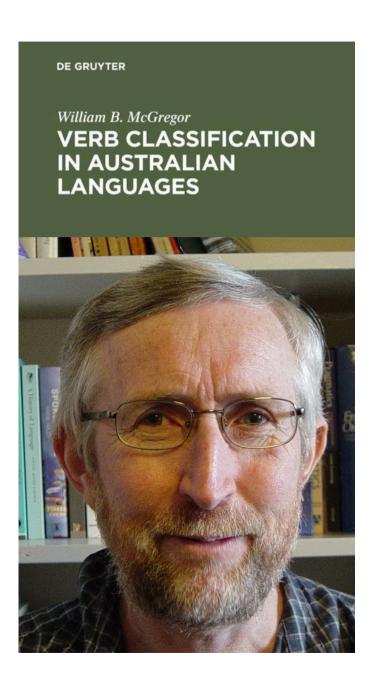


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Overview

- 1. How it all started
- 2. Russian verbal prefixes: a crash course
- 3. Why "numeral classifiers" are really noun classifiers
- 4. Why Russian prefixes are verb classifiers
- 5. Further typological parallels

1. How it all started



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."

2. Russian verbal prefixes: a crash course

Aspect in Russian

- All forms of all verbs express aspect
 - (residue of biaspectual verbs are syncretic)
- Perfective (marked)
- Imperfective (unmarked)

Major Patterns of Russian aspectual morphology

- Simplex verbs
 - nearly all Imperfective (delat' 'do')
- Prefixed verbs (prefix + simplex)
 - nearly all Perfective (s-delat' 'do', pere-delat' 'redo')
- Prefixed and suffixed verbs (prefix + simplex + suffix)
 - secondary Imperfectives (pere-del-yva-t' redo')

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Russian has 17 perfectivizing prefixes

Prefix	Prototypical path meaning	Related meanings
do-	REACH	EXCESS, ADD
iz-	OUT OF A CONTAINER	EMPTY A CONTAINER, EXHAUSTIVE RESULT, EXHAUST A SURFACE, NEGATIVE EXHAUSTION, MAKE OUT OF, DECLINE/DEVIATE, ACQUIRE
na-	SURFACE	ACCUMULATE
o(b)-	AROUND	PASS, OVERDO, MISTAKE, AFFECT MANY, AFFECT A SURFACE, ENVELOP, IMPOSE/ACQUIRE A NEW FEATURE
ot-	DEPART	BOUNCE, UNSTICK, REMOVE, MAKE NON-FUNCTIONAL, STOP AT THE ENDPOINT
pere-	TRANSFER	SUPERIORITY, OVERDO, REDO, DURATION/OVERCOME, BRIDGE, TURN OVER, MIX, DIVIDE, SERIATIM, THOROUGH
po-	SET OUT	RESULT, SOME, DISTRIBUTE
pod-	APPLY TO BOTTOM	HORIZONTAL APPROACH, ADJUST, INCREMENT, SECRETLY, MINIMAL
pri-	ARRIVE	ATTACH, ADD, ATTENUATE
pro-	THROUGH	THOROUGH, DURATION, DISTANCE, PASS
raz-	APART	CRUSH, SPREAD, SWELL, SOFTEN/DISSOLVE, EXCITEMENT, UN-
s-	DOWN	TOGETHER, ONCE
u-	MOVE AWAY	MOVE DOWNWARDS, CONTROL, REDUCE, HARM, PERCEIVE, PLACE/FIT, KEEP/SAVE, COVER COMPLETELY, DEPART FROM NORM
V-	INTO	
v(o)z-	MOVE UPWARD	AGITATE, RESIST, REBUILD
vy-	OUT OF A CONTAINER	EMPTY A CONTAINER, EXHAUSTIVE RESULT, EXHAUST A SURFACE, NEGATIVE EXHAUSTION, CREATE AN IMAGE ON A SURFACE, MAKE OUT OF, DECLINE/DEVIATE, ACQUIRE, ENDURE
za-	DEFLECT	EXCESS, BEGIN, EXCHANGE, ATTACHMENT, COVER, FILL, CHANGE TO A FIXED STATE

Prefixed verbs (prefix + simplex)

- Natural Perfectives: have the "same" meaning as the simplex Imperfective
 - delat' 'do' -> s-delat' 'do'
- Specialized Perfectives: change the meaning of the simplex Imperfective
 - delat' 'do' -> pere-delat' 'redo'
- Complex Act Perfectives: indicate a certain amount of an activity
 - čitat' 'read' -> po-čitat' 'read for a while'
- Single Act Perfectives:
 - glupit' 'act stupid' -> s-glupit' 'do one stupid thing'

Prefixed verbs

Prefixes on
Natural
Perfectives
termed "empty"

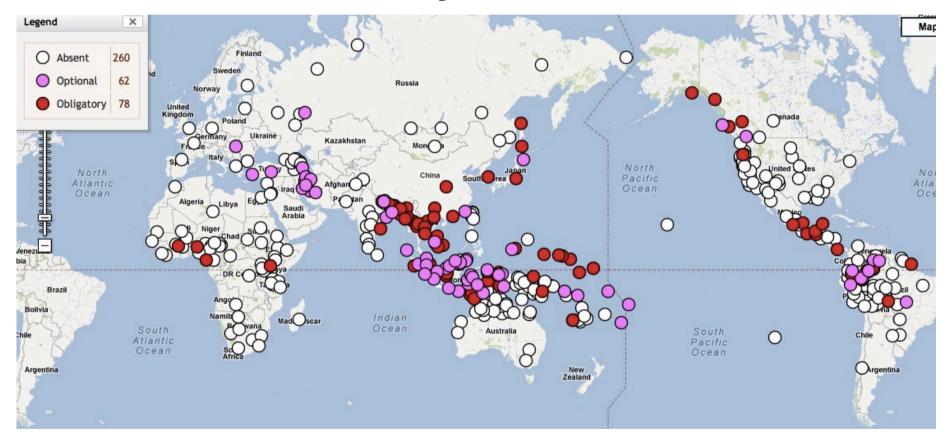
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 - čitať 'read' -> po-čitať 'read for a while'
- Single Act Perfectives:
 - glupit' 'act stupid' -> s-glupit' 'do one stupid thing'

Resultative uses are SORTAL classifiers

Procedural uses are
MENSURAL
classifiers

3. Why "numeral classifiers" are nominal classifiers

Numeral Classifier Systems Worldwide



Source: The World Atlas of Language Structures Online, wals.info

Functions of numeral classifiers

- Numeral classifiers are noun classifiers
- Numeral classifiers are "unitizers" that construe the referents of mass nouns as countable units, i.e., count nouns.
- **Sortal** classifiers "sort" the nouns of the language into groups according to the units that the substances typically form, often according to their shape: long objects, flat objects, round objects, etc.
- Mensural classifiers create non-inherent units of mass nouns by using measures: a bit, a cup, etc.

"Numeral" classifiers: obligatory in constructions with numerals, but used in other constructions too

- liang tiao she two CL snake 'two snakes'
- 2. zhe tiao she this CL snake 'this snake'
- 3. zhe tiao this CL 'this'



Example from Xueyi Yao

Yucatec Maya numeral classifiers

(Lucy 2000: 329)

'um**-p'íit** há'as

'un- tz'íit kib'	[one long-thin wax]	'one candle'
'un- tz'íit che'	[one long-thin wood]	'one stick'
ʻun- tz'íit nal	[one long-thin corn]	'one ear of corn'
'un- tz'íit há'as	[one long-thin banana]	'one fruit of the banana'
ʻun- wáal há'as	[one flat banana]	'one banana leaf'
ʻun -kúul há'as	[one planted banana]	'one banana tree'

[one **bit** banana]

SORTAL classifiers

MENSURAL classifier

'a little bit of banana'

One noun may combine with various classifiers Burmese *myi*? 'river' (Becker 1975)

b. va? myi? myi? myi? a. tə river one cl:place river cl:river one 'a river as site [for a picnic, etc.]' 'a river [default case]' d. myi? tə hmwa c. myi? tə tan river cl:section one cl:line river one 'a river section [for fishing, etc.]' 'a river [on a map]' f. *vwe* myi? tə 'sin myi? e. tə river cl:connection one cl:distant arc river one 'a river as a connection [linking villages]' 'a river as path to the sea' h. khu' myi? tə myi? tə **'**pa g. cl:conceptual unit river one cl:sacred object river one 'a river [in a discussion of rivers in general]' 'a river [in mythology]'

One classifier may have various functions

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

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

- a. san pian shuye (sortal classifier)
 three cl:slice leaf
 'three leaves'
- b. yi pian qiche (mensural classifier)one cl:slice car'one group of cars'
- c. san pian mutou (mensural classifier) three cl:slice wood 'three pieces of wood'
- d. she pian luobo (mensural classifier)
 ten cl:slice carrot
 'ten slices of carrot'

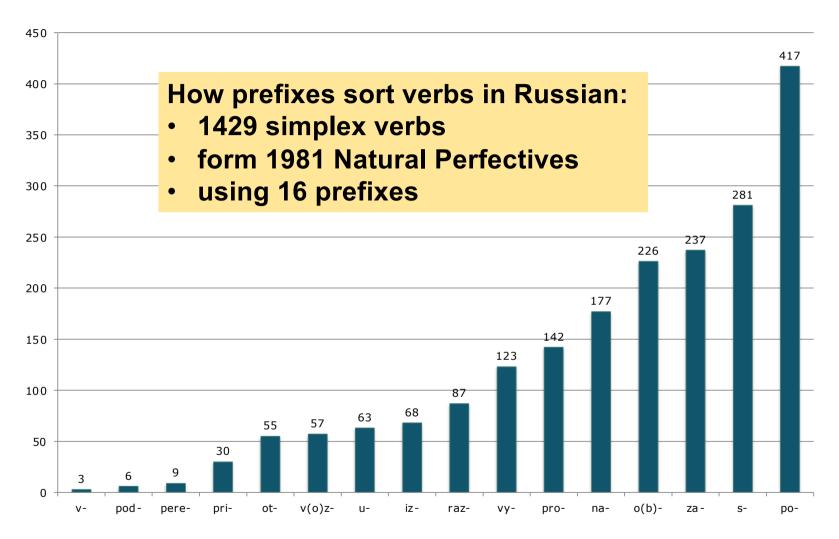
4. Why Russian prefixes are verb classifiers

Russian Prefixes are Verb Classifiers

- Russian prefixes -- "unitizers", designate discrete events
- Russian prefixes -- quantification by perfective aspect
- Resultative uses "sort" the verbs, classification by outcome:
 - SWELL with raz- as in puxnut' > ras-puxnut' 'swell'
 - MOVE AWAY with u- as in krast' > u-krast' 'steal'
 - ATTACH with pri- as in lipnut' > pri-lipnut' 'get stuck to'
- Procedural uses create non-inherent units:
 - SOME with po- as in sidet > po-sidet 'sit for a while'
 - THROUGH with pro- as in plakat' > pro-plakat' (vsju noč') 'cry all through the night'



MENSURAL classifiers



Distribution of prefixes in Russian Natural Perfectives

Noun Classifiers vs. Aspectual Prefixes

	Nouns	Verbs
Unitizer Type:	Numeral Classifier	Aspectual Prefix
Quantification:	Associated with numerals	Associated with Perfective Aspect
Spatial Profile:	Bounded/shaped region in space	Trajector-Landmark relation
Etymological Source:	Stem from nouns	Stem from prepositions/particles

One verb may combine with various prefixes

```
Russian:
         pisat' 'write'
                           na-pisat' 'write'
                                                       Natural Perfective
                                                       Specialized Perfective
                           v-pisat' 'write in, insert'
                  >>
                           za-pisat' 'record, register'
                                                       Specialized Perfective
                  >>
Czech:
                                                      Polish:
         psát
                                                               pisać
                           na-psat
                  >
                                                                                  na-pisać
                  >>
                           ve-psat
                                                                                  w-pisać
                                                                         >>
                           za-psat
                  >>
                                                                                  za-pisać
                                                                         >>
BCS:
                                                      Bulgarian:
         pisati
                                                               piša
                           na-pisati
                                                                                  na-piša
                                                                         >
                           u-pisati
                  >>
                                                                                  v-piša
                                                                         >>
                           za-pisati
                  >>
                                                                                  za-piša
                                                                         >>
                        Late Common Slavic:
                                 рьsati
                                                    na-рьsati
                                           >
                                                    vъ-рьsati
                                           >>
                                                    za-рьsati
                                           >>
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Russian *gruzit'* 'load': 3 Natural Perfectives

- na-gruzit' 'SURFACE-load' focuses on accumulation of loaded objects, e.g., na-gruzit' sumku arbatskim porodistym tovarom 'load a bag with fine goods from the Arbat'
- **po-gruzit'** 'RESULT-load' most neutral, can be used for things that don't ordinarily get loaded, e.g., po-gruzit' ranennyx v furgon 'load the wounded into a van'.
- za-gruzit' 'FILL-load' focuses on states resulting from loading, e.g. za-gruzit' paroxod proviziej 'load a steamship with provisions'; default in professional contexts.

One prefix may have various functions

Natural Perfectives

puxnut' 'swell' > ras-puxnut' 'swell' dut' 'blow' >> raz-dut' 'inflate'

krast' 'steal' > **u-**krast' 'steal'

lipnut' 'stick' > pri-lipnut' 'stick'

nočevat' 'spend the night' > pere-nočevat' 'spend the night'

HIGH DEGREE OF OVERLAP:

Natural Perfectives only change the aspect

Specialized Perfectives

bežať 'run' >> **u-**bežať 'run away'

vjazat' 'tie' >> pri-vjazat' 'tie onto'

ždat' 'wait' >> **pere-***ždat'* 'wait through something'

LOW DEGREE OF OVERLAP:

Specialized Perfectives change the aspect and the meaning

Natural vs. Specialized Perfectives

- 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

raz-gryzt' 'gnaw'

raz-bit' 'break'

raz-rezat' 'slice'

ras-seč' 'cut in two'

ras-pilit' 'saw in two'

ras-kusit' 'bite in two'

ras-tolkat' 'push apart'

raz-metat' 'sweep apart,

scatter'

Sortal vs. Mensural Classifiers

The Numeral Classifier Construction in Mandarin Chinese

Classifier Type	Numeral	Classifier	Noun
Sortal	yi	tiao	shengzi
Cortai	'one'	cl: long-thin	rope
Mensural	yi	bei	pijiu
Mensural	'one'	cl: glass	beer



(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 & Mensural Classifiers for Nouns and Verbs

Unitizer Type:	NOUNS Numeral Classifier	VERBS Aspectual Prefix
Reference to inherent boundaries:	Sortal Classifiers	Lexical + purely perfectivizing prefixes (Natural Perfectives and Specialized Perfectives)
Imposition of external boundaries:	Mensural Classifiers	Procedural prefixes, a.k.a. Superlexical, Aktionsart prefixes (Complex Act Perfectives and Single Act Perfectives)

Procedural Prefixes as Mensural Classifiers

- (1) a. *yi* bei pijiu (Mandarin Chinese: Gao and Malt 2009: 1129) one cl:glass beer
 - 'a glass of beer'

'sit for a while'

- (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. po- sidet' (Russian) SOME sit



Russian Examples of Sortal and Mensural Classifiers

Type of Classifier	Russian Perfectivizing Prefixes	Russian Examples
(1) Individual Classifiers	Natural po-, s-, za-, etc.	po-stroit' 'build', s-varit' 'cook', za-krepit' 'fasten'
(Sortal)	Specialized do-, s-, za-, etc.	do-pisat' finish writing', so-brat' 'collect', za-pisat' 'register'
(2) Collective Classifiers (Mensural)	Distributive <i>pere-</i> , <i>po-</i> Cumulative <i>na-</i>	pere-probovat' 'try a series of things', po-brosat' 'throw a lot of things' na-grešit' 'commit a lot of sins'
(3) Individuating Classifiers (Mensural)	Delimitative po- Perdurative pro- Attenuative pri-, pod- Ingressive za- Finitive ot- Intensive-Resultative do sja, zasja, etc.	po-sidet' 'sit for a while' pro-plakat' 'cry all through a period of time' pri-tormozit' 'tap the brake', pod-soxnut' 'dry a little' za-govorit' 'start to talk' ot-služit' 'complete a tour of duty' do-pljasat'sja 'dance one's feet off', za-rabotat'sja 'get lost in one's work'
(4) Partitive Classifiers (Mensural)	Semelfactive s-, -nu-	s-glupit' 'do one stupid thing', čix-nut' 'sneeze once'

5. Further typological parallels

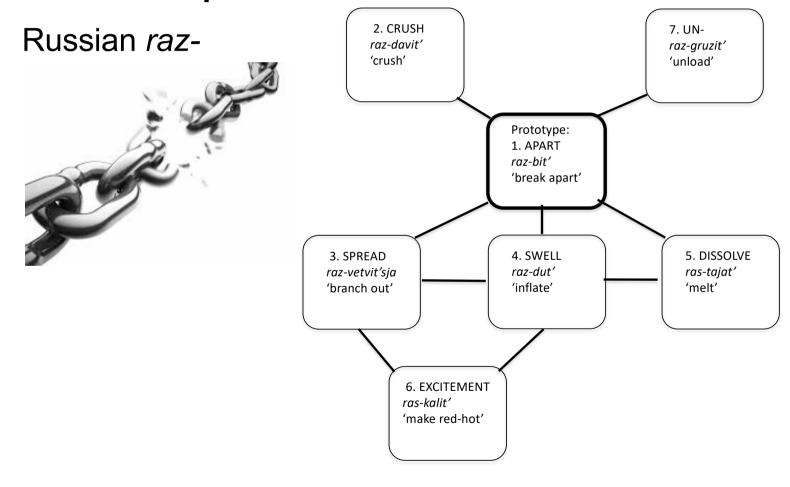
Further typological parallels between noun classifiers and Russian prefixes

- Structured polysemy
- Foregrounding
- Definiteness

Structured polysemy of numeral classifiers

7. ANIMATE-2. ANIMATE SHAPED ghosts mannequins, dolls; some letters and numbers Radial category structure for Prototype: Thai Classifier tua 1. ANIMATE QUADRUPED (Deepadung 1997) buffalo, elephant 3. OUADRUPED 5. LIMBED tables. trousers. shirts chairs 4. FURNITURE 6. CLOTHING dressers. skirts. beds underwear

Structured polysemy of Russian prefixes



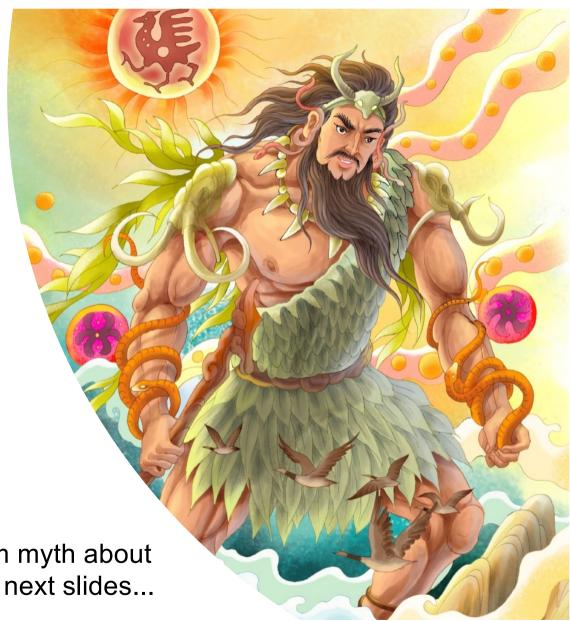
Foregrounding of numeral classifiers

Statistics from Mandarin Chinese (Sun 1988)

In narratives

- 80% of nouns referring to entities thematically 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 introduced with a numeral classifier

See examples from myth about the giant Kuafu on next slides...



The giant Kuafu

Example from Mandarin Chinese (Li 2000: 1121-1122)

Chuan	shuo	zai	hen	gu	de	shihou,	you	yi-ge	jiao	Youdu
Legend	say	be	very	old	MOD	time,	there-be	one-cL	called	Youdu
de	defang	zhongnian	bu	jian	taiyang,	daochu	yipian	qihei.		
MOD	place	all year	not	see	sun,	everywhere	Э	all	pitch dark	
Zai	nar	you	yi-zuo	da	hei	shan,	shan	shang	zhu	
In	there	there-be	one- CL	big	dark	mountain	mountain	top	live	
zhe	xuduo	kepa	de	guaishou.	Neixie	guaishou	jingchang	xia		
PF	many	scary	MOD	monster.	Those	monsters	often	descend		
shan	weihai	renmen.	You	yi-ge	juren	jiao	Kuafu,	ta		
mountain	endanger	people	there-be	one-CL	giant	named	Kuafu,	he		
yong	guaizhang	he	guaishou	bodou	le	jiu	tian	jiu	yie	zhongyu
use	cane	with	monster	fight	PF	9	day	9	night	finally
ba	ta		da	si	le.					
ВА	them	beat	dead	PF '	Once upo	n a time, i	n a place	called Yo	oudu , peo	ple lived

'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 vs. backgrounding More Examples from Mandarin Chinese (Li 2000: 1122)

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

b. tade zhiti bian shan Pangu hou. cheng le die after his change PF Pangu body into 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 of Russian 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
- Kogda **na-čalas'** pervaja mirovaja vojna, vsja sem'ja **u-exala** v derevnju Pominovo v Tverskoj oblasti, na rodinu babuški. Dom, gde oni žili, stoit, kstati, do six por. Tam že, v Pominove, otec **po-znakomilsja** s moej mamoj. Oni **po-ženilis'**, kogda im bylo po 17 let.
- 'When WWI began, the whole family went to the village of Pominovo in the Tver' region, where my grandmother comes from. The house where they lived is still standing, by the way. It was there in Pominovo where my father met my mother. They got married when they were 17 years old.'

Definiteness 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.	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

^{&#}x27;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)

Thư viện	vừa	có	thêm	một	kế toán		và	một	luật sư.
library	just	have	add	one	accountar	nt	and	one	lawyer
Ngời	kế toán		rất	chăm chỉ,	nhưng	ngời	luật sư	rất	lười.
cl	accountar	nt	very	diligent	but	cl	lawyer	very	lazy.

^{&#}x27;The library has a new accountant and a new lawyer. The accountant is hard-working, but the lawyer is quite lazy.'

Definiteness of Russian prefixes

(Leinonen 1982, Dickey 2000)

a. Kto pro-čital Vojnu i mir? (Perfective, presumes an expectation)

b. Kto čital Vojnu i mir? (Imperfective)

'Who read War and Peace?'

a. Ty pro-čital moju knigu? (Perfective)

b. Ty čital moju knigu? (Imperfective, follow up: Ty ne videl tam zapisku?)

'Did you read my book? (You didn't see a note there?)'

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

Conclusions Verb Classifier Hypothesis

- 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
 - One noun/verb may combine with various classifiers
 - One classifier may have various functions combined with various nouns/verbs
 - Structured polysemy of classifiers
 - Foregrounding of classifiers
 - Definiteness of classifiers
- Recognition of Slavic aspectual prefixes as verb classifiers facilitates typological comparison

For references, see:

- Dickey, Stephen M., Laura A. Janda. 2015. "Slavic Aspectual Prefixes and Numeral Classifiers: Two Kinds of Lexico-Grammatical Unitizers". *Lingua* 168, 57-84. DOI: 10.1016/j.lingua.2015.09.005
- Janda, Laura A., Anna Endresen, Julia Kuznetsova, Olga Lyashevskaya, Anastasia Makarova, Tore Nesset, Svetlana Sokolova. 2013. Why Russian aspectual prefixes aren't empty: prefixes as verb classifiers. Bloomington, IN: Slavica Publishers

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