

On the Relationship between Morphological Aspectual Marks and Lexical Aspect in Russian Deverbal Nominalizations

Glòria de Valdivia Pujol

Mariona Taulé Delor

Joan Castellví Vives

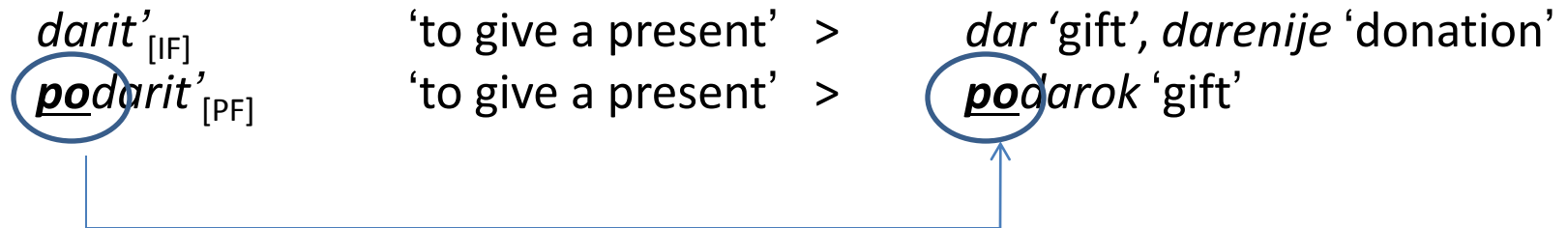
CLiC (Language and Computer Center)-University of Barcelona

Contents:

1. An introduction to the problem
2. Brief remarks on Russian aspect
3. Russian Deverbal Nominalization Typology
4. Relationship between morphological aspectual marks and lexical denotation
5. Conclusion and Further work

An introduction to the problem

- Deverbal nouns in Russian preserve the morphological aspectual marks of their base verb.



So...

Do these aspectual marks
determine the lexical
denotation of the deverbal
noun?

Apparently, yes!

- A deverbal noun derived from an **imperfective base verb** gives rise to an **event reading**:

<i>Igra</i> [Playing]	<i>-dejatel'nost', v</i> -activity in	<i>kotoroj</i> which	<i>proiskhodit'</i> takes-place	<i>"decentracija</i> decentralization
<i>lichnosti,</i> Individual,	<i>t.e.</i> that is	<i>izzhivanije</i> ← _{IF} elimination	<i>detskogo</i> childish	<i>egocentrizma"</i> egocentricity]

"Playing is an activity where the decentralization of the individual, that is, the **elimination** of childish egocentricity, takes place."

- A deverbal noun derived from a **perfective base verb** gives rise to an **result reading**:

<i>V</i> [In]	<i>literature</i> literature	<i>vstrechaetsja</i> is-found	<i>opisanije</i> ← _{PF} description	<i>nekotorogo</i> some	<i>neprodolzhitel'nogo</i> brief	<i>snizhenija</i> fall
<i>aktivnosti</i> activity	<i>komplementa v</i> complement in	<i>pervyje</i> first	<i>2-4 ch</i> 2-4 hour	<i>pri</i> during	<i>razlichnykh</i> different	
<i>patologicheskikh</i> pathologic		<i>sostojanijakh.</i> states.				

"In the literature a **description** of a brief fall of the complement's activity for the first 2-4 hours during different pathological states is found."

Appearances are deceiving!

- A deverbal noun derived from **an imperfective base verb** gives rise to **a result reading**:

<i>Ves' mirovoj</i>	<i>ekonomicheskij</i>	<i>rost</i>	<i>posle</i>	<i>Vtoroj</i>	<i>voiny</i>
[All worldwide	economic	growth	after	Second	war

opiralsja na postepennoje izzhivanije ←*IF* *etoi* *segmentaciji*
relies on gradual **elimination** this [segmentation]

“The entire economic growth after the Second War was due to a gradual **elimination** of this segmentation”.

- A deverbal noun derived from **a perfective base verb** gives rise to an **event reading**:

<i>Avtomaticheskij</i>	<i>sintez</i>	<i>strukturnogo</i>	<i>opisanija</i> ← <i>PF</i>
[Automatic	synthesis	structural	description

konstrukciji
construction]

“Automatic synthesis of the structural **description** of the construction”

Hypothesis:

Morphological aspectual marks do not determine the lexical denotation of the deverbal nominal.

1. We analysed different types of Russian deverbal nominalizations to propose a typology.
2. We analysed each type of deverbal noun in examples from real data to establish the lexical denotation of the nominalization.



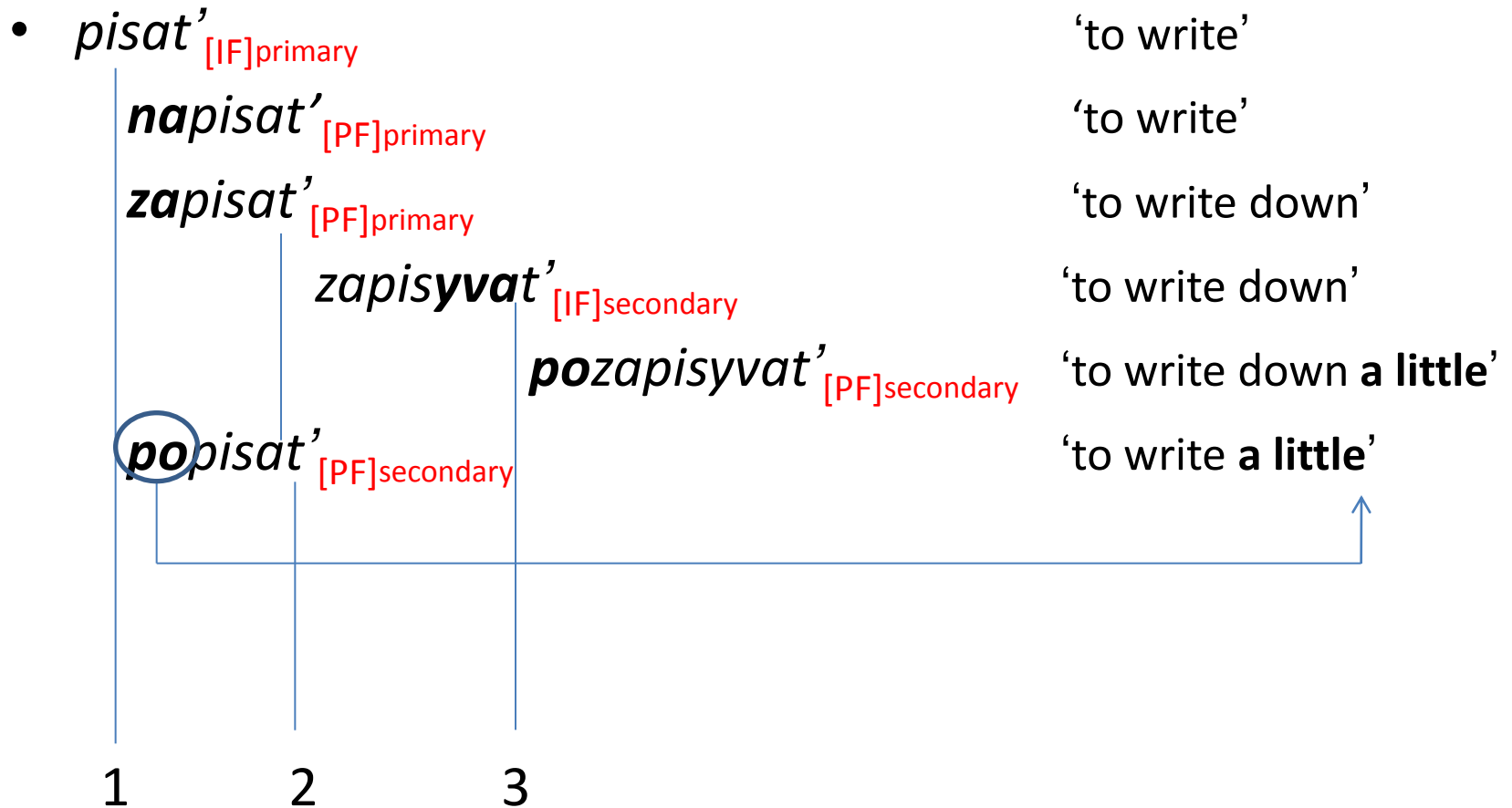
We determine the influence of the morphological aspect of the base verb on the lexical aspect of the nominalization.

Brief remarks on Russian aspect

Regarding morphological aspect:

- Aspectual paired verbs
- Biaspectual verbs
- Uniaspectual verbs

• ASPECTUAL PAIRED VERBS:



- Aspectual Paired verbs

IMPERFECTIVE VERB *pisat'* 'to write':

Andrej Stepanov pishet dissertaciju v finskom gorod

[Andrej Stepanov write_{pres.} thesis in Finnish city

Turku.

Turku.]

“Andrei Stepanov is **writing** the thesis in the Finnish city Turku.”

PERFECTIVE VERB *napisat'* 'to write':

Vang napisal knigu “Uroki”

[Vang wrote_{past} book “Lessons”]

“Vang **wrote** a book named *Lessons*”

- Biaspectual verbs:

zhenit'sja _[IF&PF] 'to marry'

IMPERFECTIVE VERB:

On *zhenilsja* _[IF] *neskol'ko* *raz.*
[he **married** several times.]

“He got **married** several times.”

PERFECTIVE VERB:

Vchera *on* *nakonec* *zhenilsja* _[PF].
[yesterday he finally **married.**]

“Finally, he got **married** yesterday.”

- Uniaspectual verbs:

davit' [IF]

'to press'

sglazit' [PF]

'to put/give the evil eye'

IMPERFECTIVE VERB:

Vashington *i* *Brjussel'* *davit'* *na* *Putina* *ne* *budut.*
[Washington and Brussels press to Putin not will]

“Washington and Brussels will not **press** Putin.”

PERFECTIVE VERB:

Ljusja *stuchit'*, *chtob* *ne* *sglazit'*, *na* *skamejke.*
[liusja knock, in order not to_give_evil_eye, on bench]

“Liusja knocked on the bench in order not **to give the evil eye.**”

If deverbal nominalizations inherit aspectual morphological marks...

Do they have morphological aspect?

‘NO’, SAYS LITERATURE... BUT

Vinogradov (1964, 1972)

Schoorlemmer (1995)

Zimmermann (2002)

Pazelskaya and Tatevosov (2003)

Spencer and Zaretskaya (ms)

Do these morphological aspectual marks determine the lexical denotation of the nominal?

Deverbal Nominalization Typology

- This typology classifies nouns taking into account the verbal type and the morphological aspect of the corresponding base verb.
- This classification will be useful to study the relationship between morphological aspectual marks and the lexical aspect.

- **Sample of the analysis:** 296 deverbal nouns
 - Balanced representation of the most productive nominalizing suffixes:
 - -ij(e), -k(a), -stv(o), -⊗, -⊗(a)
- **Sample's source:** *The Essex Database of Russian Verbs and their Nominalizations* (Spencer & Zaretskaya, ms) (7000 verbs+5000 nouns)
 - **Information used from the source:** base verb, its aspectual pair, and the corresponding nominalizations

Deverbal Nominalization Typology

Verbal Type	Deverbal Noun Type
Aspectual paired verbs	Symmetric nominalizations
	Neutralized nominalizations
Biaspectual verbs	Biaspectual nominalizations
Uniaspectual verbs	Uniaspectual nominalizations

PAIRED VERBS:

- Symmetric nominalizations:

$$\begin{aligned} V_P : F_{IF} &> N_{S[1+]} \\ &: F_{PF} > N_{S[1+]} \end{aligned}$$

*darit'*_[IF] 'to give a present' >

*dar*_{←IF} 'gift'

*darenije*_{←IF} 'donation'

*podarit'*_[PF] 'to give a present' >

*podarok*_{←PF} 'gift'

PAIRED VERBS:

- Neutralized nominalizations:

$$\begin{array}{ll} V_P: F_{PF} > N_{N[1+]} & V_P: F_{PF} > \emptyset \\ : F_{IF} > \emptyset & : F_{IF} > N_{N[1+]} \end{array}$$

obzhivat' _[IF]

'make habitable by living'

> *obzhivanije*_{<--IF} 'action of the V'

obzhit' _[PF]

'make habitable by living'

> \emptyset

BIASPECTUAL VERBS:

- Biaspectual nominalizations:

$$V_B: F_{IF \& PF} > N_{B[1+]}$$

demoralizovat' _[IF & PF] 'demoralize' > *demoralizatsija* _{<--IF & PF} 'demoralization'

UNIASPECTUAL VERBS:

- Uniaspectual nominalizations:

$V_U: F_{IF \text{ or } PF} > N_{U[1+]}$

*davit'*_[IF] '(inanimate object) press' > *davlenije* 'pressure'

Deverbal Nominalization Typology

Verb	Nominalization	Aspectual mark
Paired (194)	Symmetric (83)	IF: 46 PF: 37
	Neutralized (102)	IF: 62 PF: 40
Biaspectual (29)	Biaspectual (32)	---
Uniaspectual (71)	Uniaspectual (79)	IF: 74 PF: 5
TOTAL: 294	TOTAL: 296	

Relationship between morphological aspectual marks and the lexical denotation

DATASET:

1. We selected a subsample of **109 nominalizations**

- Paired verbs → 57 nominalizations
- Biaspectual verbs → 29 nominalizations
- Uniaspectual verbs → 23 nominalizations

2. For each one of these 109 nominalizations we extracted 3 examples from *The Russian National Corpus* (Plungjan, 2004)



Dataset: **323 examples** → each example consists of

- previous sentence
- sentence including the N
- subsequent sentence

Experiment: Procedure

1. Four volunteer Russian native speakers with a background in Linguistics.
2. They had to assign to each nominal (put in a particular example) its lexical denotation: **event, result, state, unspecified**.

- No training process
- Brief instructions
- The task was carried out in parallel
- They were required to annotate individually

- **Event:** The action expressed by the corresponding verb.
- **Result:** The concrete/abstract product of the action.
- **State:** The non-dynamic situation named by the corresponding verb.
- **Unspecified:** This is the term used when the reading of the deverbal noun is not clear.

Inter-annotator agreement results:

Pairwise agreement								Total agreement
Annotator pairs	A-B	A-C	B-C	A-D	B-D	C-D	Average	A-B-C-D
Observed agreement	45,37%	50%	51,85%	52,63%	62,54%	57,28%	53,27%	26,62%
Fleiss' Kappa	22,20%	27,00%	24,90%	31,00%	41,70%	30,50%	29,56%	29,80%

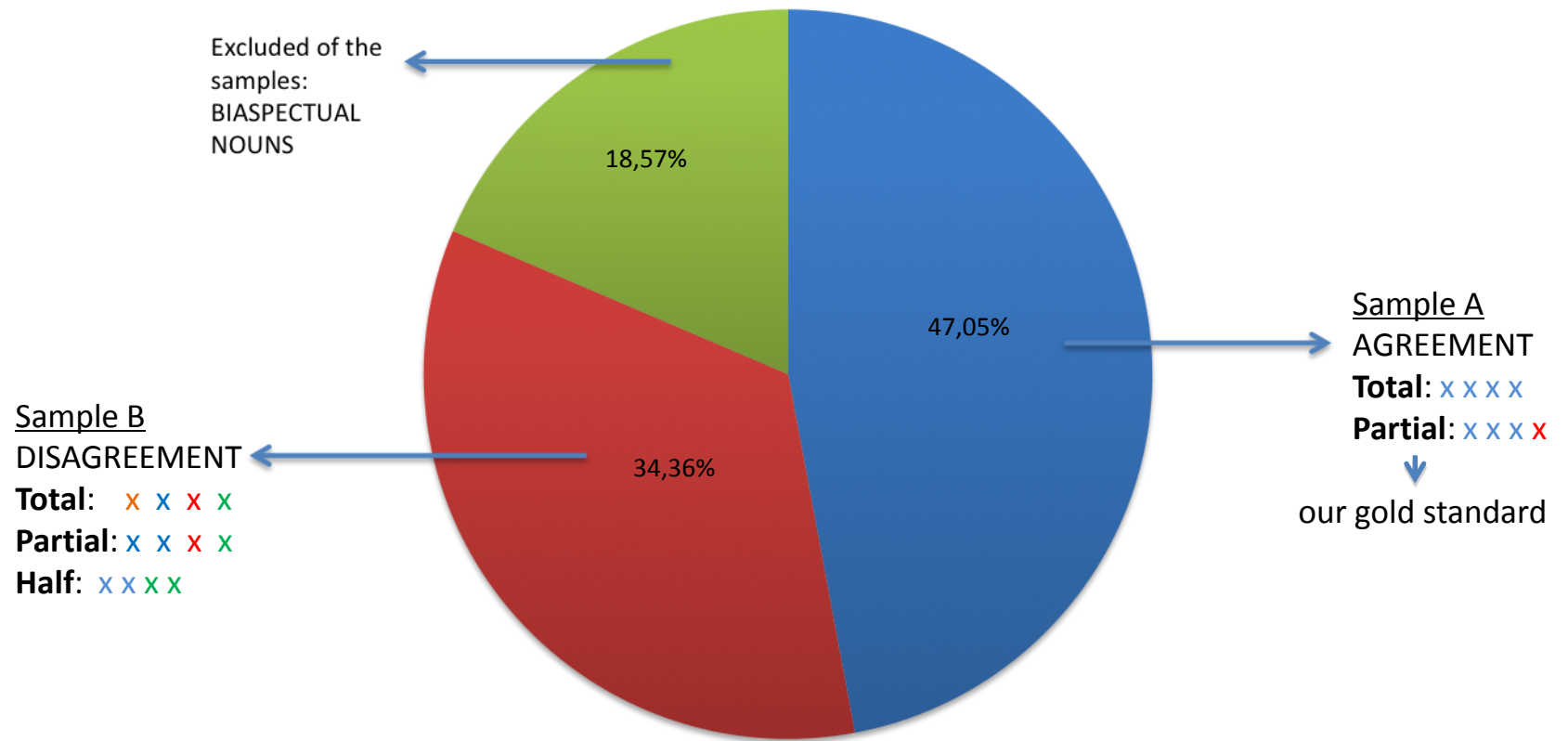
Fair agreement!
(Landis & Koch, 1977)

R-PROJECT: <http://www.r-project.org/>

Inter-annotator agreement result for each denotation type:

Pairwise agreement								Total agreement
Annotator pair	A-B	A-C	B-C	A-D	B-D	C-D	Average	A-B-C-D
Event	40,90%	37,80%	36,10%	38,80%	57,90%	37,40%	41,48%	41,70%
Result	7,60%	25,60%	14,50%	28,70%	40,40%	27,10%	23,98%	24,40%
State	27,60%	23,60%	43,90%	28,30%	44,50%	30,60%	33,08%	32,10%
Unspecified	6,20%	5,90%	-1,70%	21,20%	2,30%	9,10%	7,16%	8,90%

The relationship between morphological aspectual marks and the lexical denotation



The relationship between morphological aspectual marks and the lexical denotation

Morph. aspect	event	result	state	unspecified	Total
IF	76	10	18	4	108
PF	10	33	0	1	44
Total	86	43	18	5	152

IF: 71,05%

PF: 28,94%

FROM AN IMPERFECTIVE BASE FORM → EVENT READING:

<i>Kazhdyj</i> [each	<i>posledujushchij</i> posterior	<i>etap</i> period	<i>stroitsja</i> build-itself	<i>na</i> on	<i>obolganiji,</i> slandering,
<i>oglupleniji</i> distortion	<i>i</i> and	<i>obescenivaniji</i> ←IF devaluation	<i>perioda</i> period	<i>predydushchego.</i> previous]	

“Each following period is built on the slandering, distortion and devaluation of the previous period.”

FROM AN IMPERFECTIVE BASE FORM → RESULT READING:

<i>Polnaja</i> [Full	<i>dostupnost'</i> availability	<i>informacii,</i> information,	<i>v</i> in	<i>osobennosti</i> special	<i>rasprostranennaja</i> extended	<i>na</i> on
<i>proizvedenija</i> Creation	<i>iskustva,</i> art,	<i>neset</i> bring	<i>v</i> in	<i>sebe</i> itself	<i>opasnost'</i> danger	<i>ikh</i> their
<i>obescenivanija</i> ←IF devaluation]						

‘A complete availability of the information, especially common in works of art, carries a risk of devaluation.’

Conclusions

- More deverbal nouns derived from an imperfective form denote an event, whereas more deverbal nouns derived from a perfective denote a result.
- However, this fact is not systematic since there are deverbal nouns derived from an imperfective with a result reading and nouns derived from a perfective with an event reading.
- Between nominals derived from primary imperfective and nominals derived from secondary imperfective, there is not any specialization neither.
- Nominalizing suffixes are not specialized neither.
- Checking the information codified in *The Essex Database* and the information annotated in the experiment, we found the highest rate of coincidence in the event reading, whereas we found 'the least' coincidence in the state reading.

Further work

- An analysis of agreement and disagreement focusing on the kind of context that surrounds the deverbal noun.
- An experiment consisting of giving to some translators some Spanish sentences with nominalizations which have a symmetric nominalization pair in Russian to see which is the one chosen by translators.

eliminación 'elimination' {
 izzhivanije_{←IF}
 izzhitije_{←PF}

*'Muchos se preguntan si es posible la **eliminación** del mal a través del bien.'*

'Many people asked themselves whether the **elimination** of Evil by means of Good is possible.'

Thank you very much for your
attention!