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Examining the role of linguistic context in aspectual competition: a statistical study

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1. Introduction

1.1 Objectives

- Investigate the **interaction** between the **choice of aspect** and **linguistic context** in competing situations using:
 - a. corpus-based methods
 - b. statistical modelling
- Fill the gap in the lack of quantitative studies on this subject

1. Introduction

1.2 What is aspectual competition?

- Russian imperfective (ipf) can be used, instead of perfective (pf) to **denote complete events in the past**:

(1) *Он показывал_{ipf} мне ее фотографию.* (Padučeva, 1996: 10)

‘He showed me her picture.’

- *Obščefaktičeskoe resul'tativnoe značenie* (*general-factual meaning*, henceforth **ipf OR**)

1. Introduction

1.3 Main differences between pf and ipf in competing situations

→ Focus on the result (Padučeva 1996)

→ The result is relevant at the moment of speech (MoS) (Glovinskaja 1982, Padučeva 1996, Kreisberg 2007)

→ Single and specific action (Padučeva 1996)

→ Temporal definiteness (Padučeva 1996, Grønn 2004)

→ “Pragmatic contract” (Israeli 1996)

→ “Feeling is deliberately suppressed” (Forsyth 1970)

→ Focus on the action or on another element of the sentence

→ The result is either absent or irrelevant at the MoS

→ The action is potentially replicable

→ Temporal indefiniteness

→ ~~“pragmatic contract”~~

→ More emotional, conveying an implicit evaluative component

2. Methodology

- Single aspectual pair: *pokupat'*_{ipf} - *kupit'*_{pf}, 'to buy'.
- Russian National Corpus (spoken corpus) and RuTenTen2011
- 600 examples of *pokupat'*_{ipf} and *kupit'*_{pf}, in the past tense (300 for each form)
- Annotation for several factors → **one dependent variable (ASPECT: *IPF* or *PF*) and eight independent variables**
- Statistical tests run on the data (Classification And Regression Trees and random forests)
- Questionnaire to Russian native speakers → Logistic Regression with Mixed Effects

2. Methodology

Independent variables:

- Object (OBJ): singular (*sg*), plural (*pl*), a pronoun (*pron*) or absent (*no*)
- Object modifiers (OBJMOD): *yes, no*
 - (2) *Ее мужчина купил у кого-то туалетную воду компании Амвей*
- Object position in relation to the verb (OBJPOS): *before, after* or *NA*
- Time-measure complements (TIME):
 - definite (*def*) → *в 2008 году*
 - indefinite (*indef*) → *однажды*
 - absent (*no*)

2. Methodology

- Locative complement (LOC):
 - definite (*def*) → *в ЦУМе*
 - indefinite (*indef*) → *где-то*
 - or absent (*no*);
 - Other complements (OTHER):
 - E.g. a beneficiary in the dative case
- (3) *Я помню/ на 1-ом или 2-ом курсе/ на 1-ом курсе наверно/ маме покупала*
- Whether the sentence is a question or not (QUESTION): *yes, no*
 - Contiguous verb and its aspect (CONTVERB): *ipf, pf, no*
- (4) *Купил я электродрель на магазин.ру, а она сломалась у меня в тот же день*
- (5) ~~*Мне просто рассказывали, что на барахоловке где-то покупали*~~

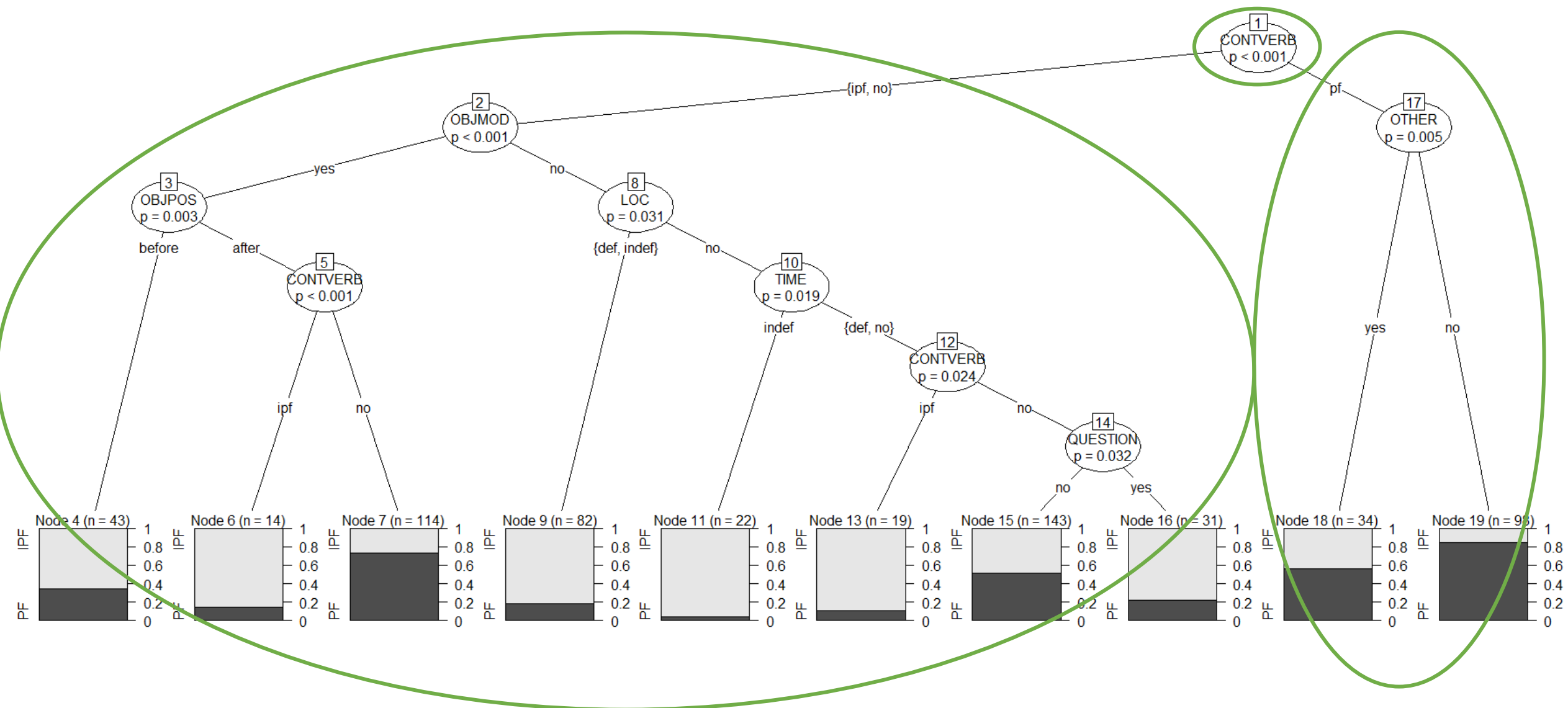
3. Statistical analysis

- Classification And Regression Trees – CART model:

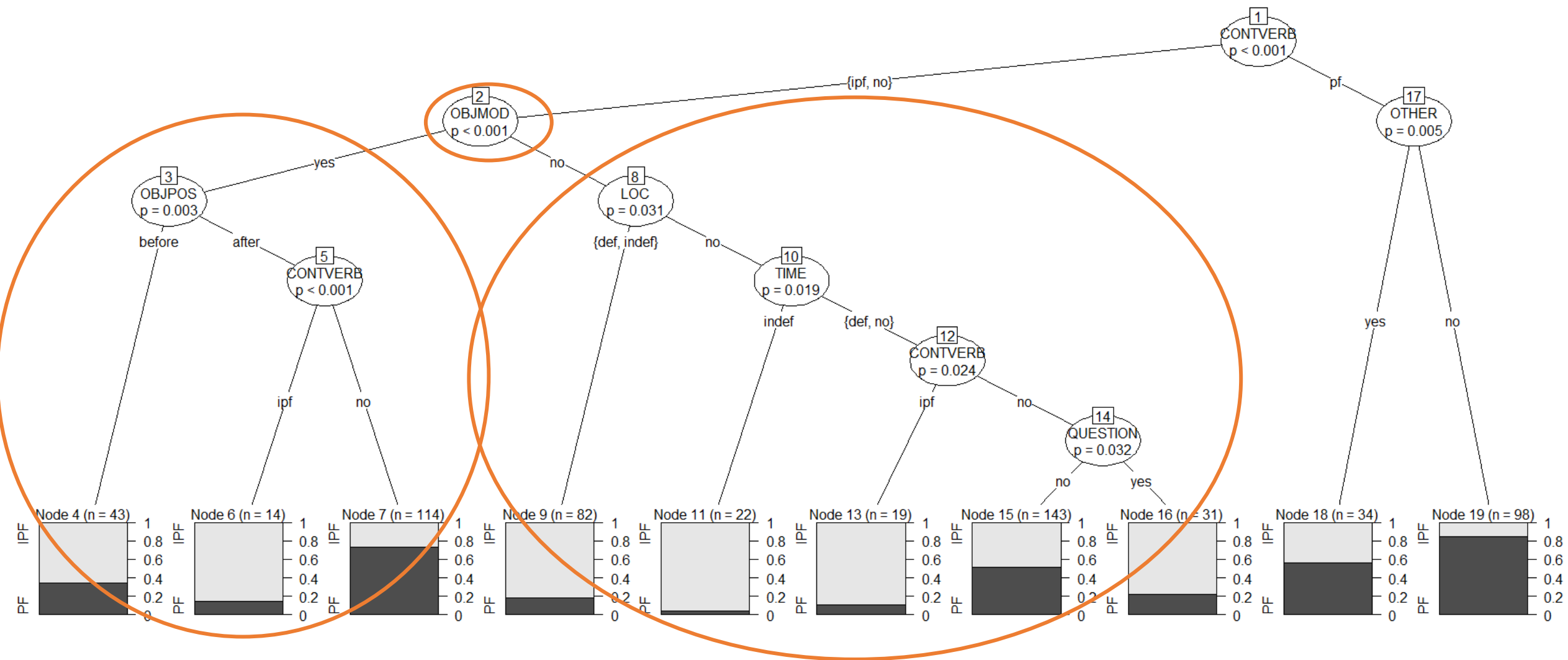
Dependent variable: ASPECT

Independent variables: OBJ, OBJMOD, OBJPOS, TIME, LOC, OTHER,
CONTVERB, QUESTION

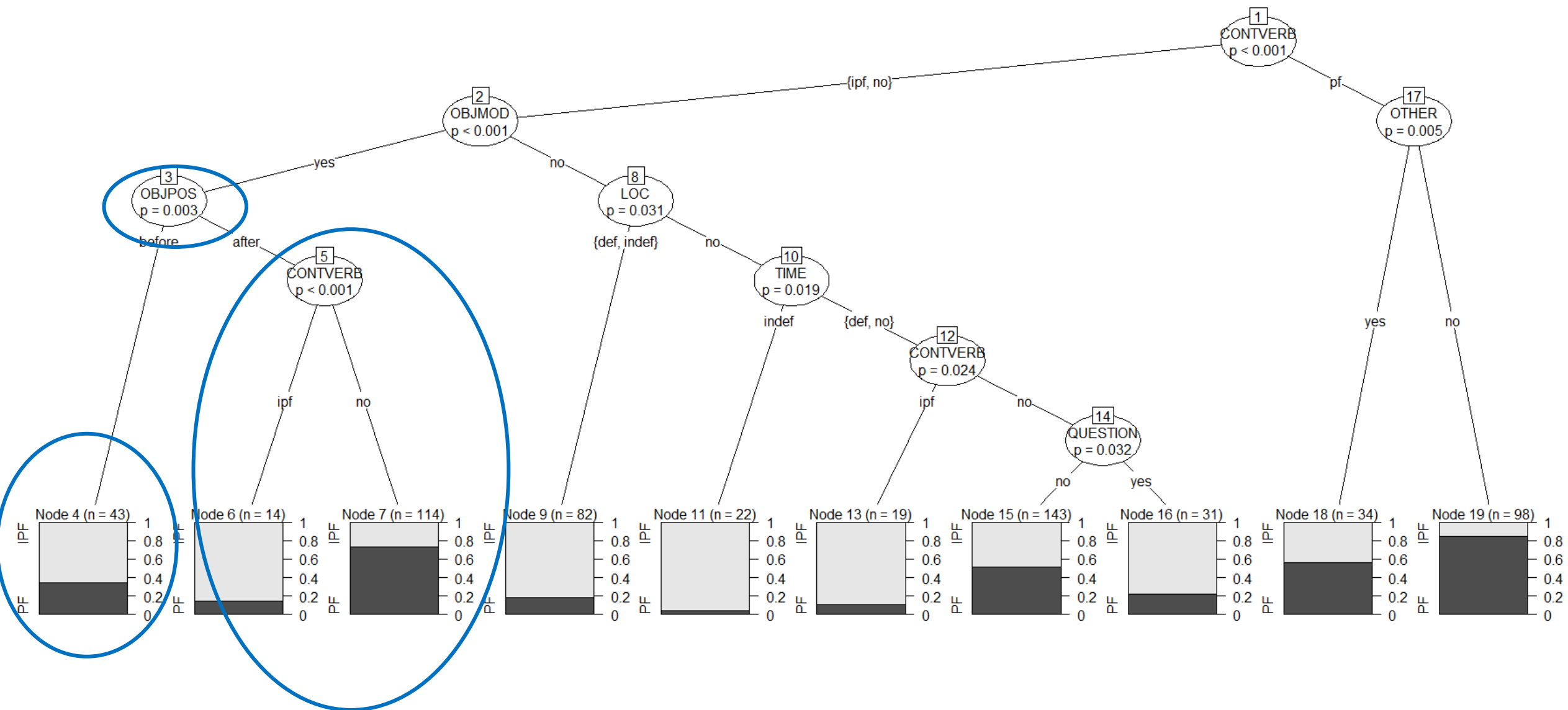
3. Statistical analysis



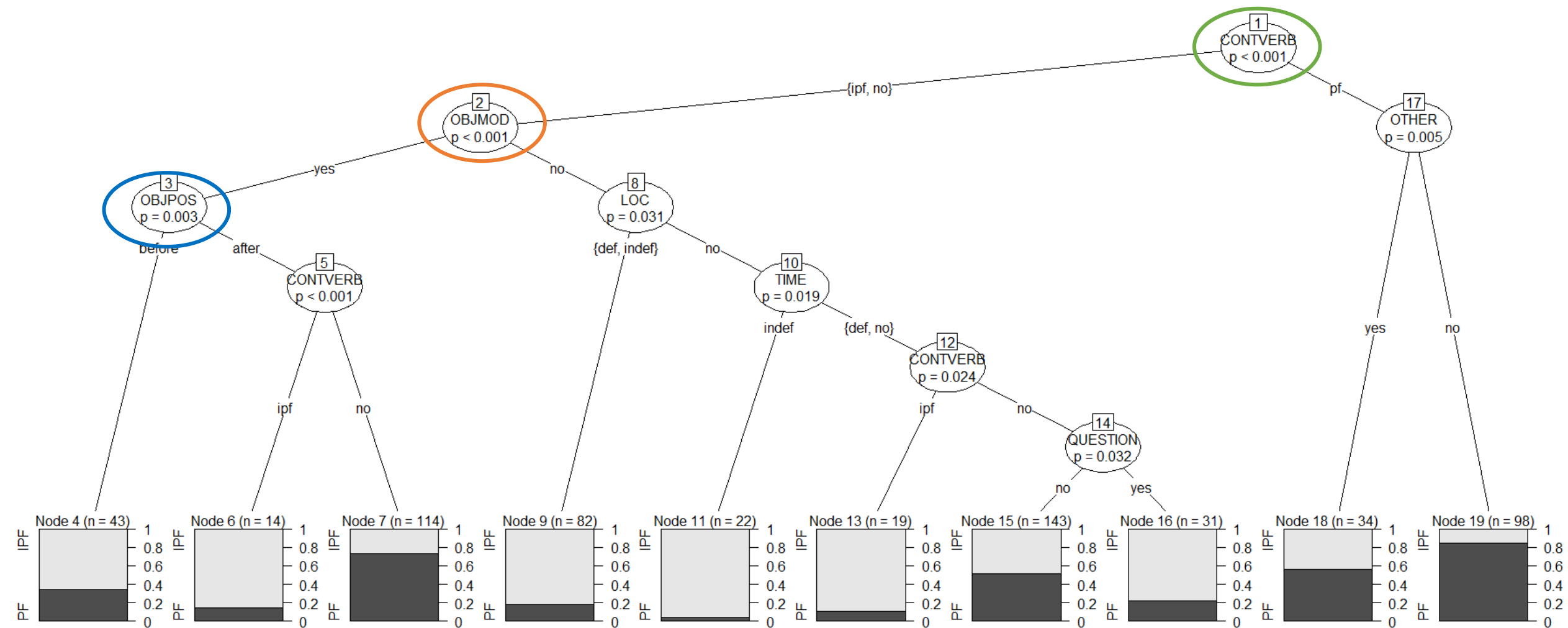
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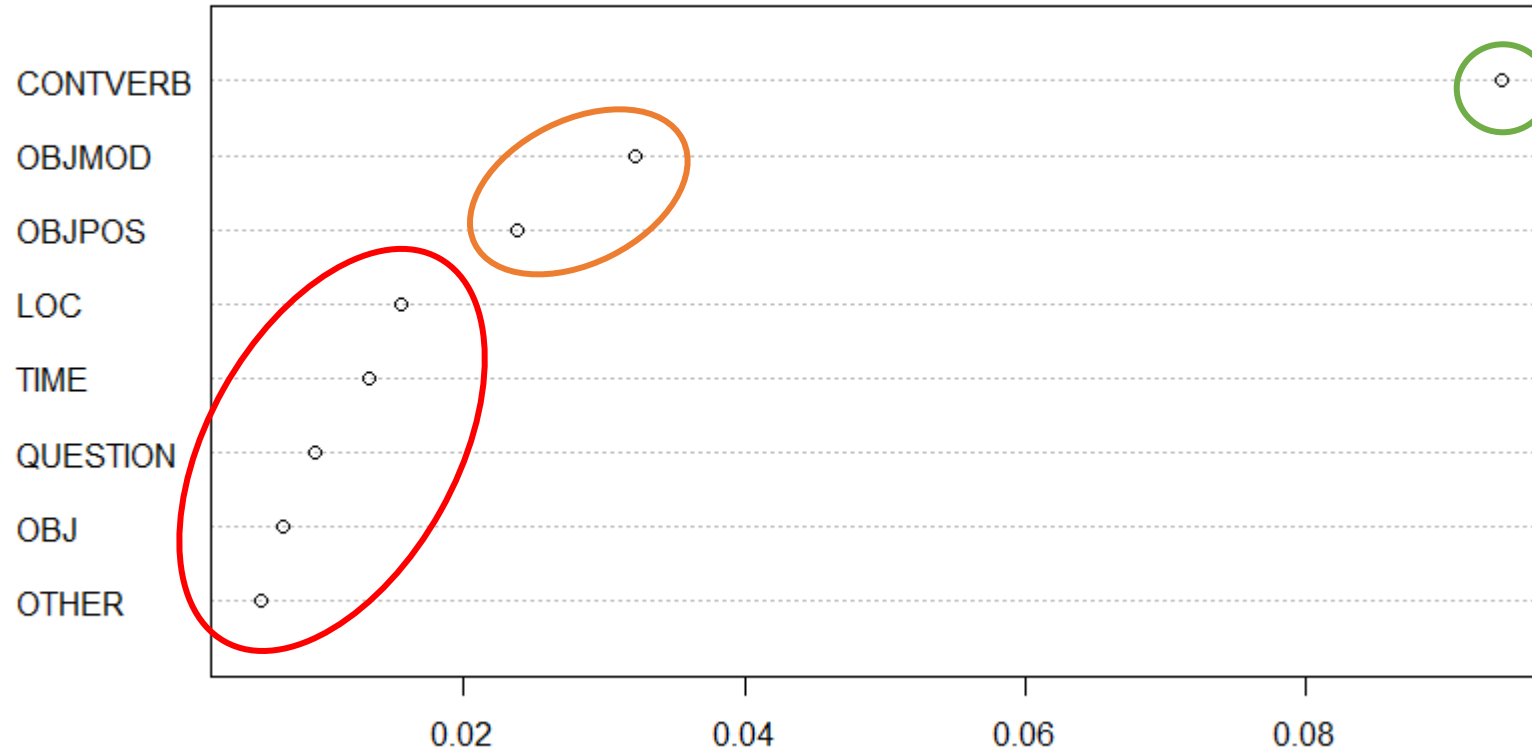
- Random forests model to calculate variable importance values:

Dependent variable: ASPECT

Independent variables: OBJ, OBJMOD, OBJPOS, TIME, LOC, OTHER,
CONTVERB, QUESTION

3. Statistical analysis

Importance of variables



Values of variable importance

CONTVERB	OBJMOD	OBJPOS	LOC	TIME	QUESTION	OBJ	OTHER
0.094	0.032	0.024	0.015	0.013	0.009	0.007	0.006

4. Questionnaire

4.1 Stimuli and procedure

- 28 examples from our dataset
- Participants were asked to choose the best option
- Facultative question: «explain your choice»
- 102 answers from Russian native speakers (>18, born and educated in the Russian Federation)

1.

Накануне утеплилась и _____ себе палантин, молочного цвета, прям под платье))) Постепенно стало возрастать волнение, причем больше от окружающих)) Меня причесали и накрасили (красила сестренка о чем я не пожалела ни капельки – макияж выстоял все торжество), приехал наш самый лучший на свете фотограф (...)*

Выберите один вариант

покупала купила

Почему?

Объясните ваш выбор

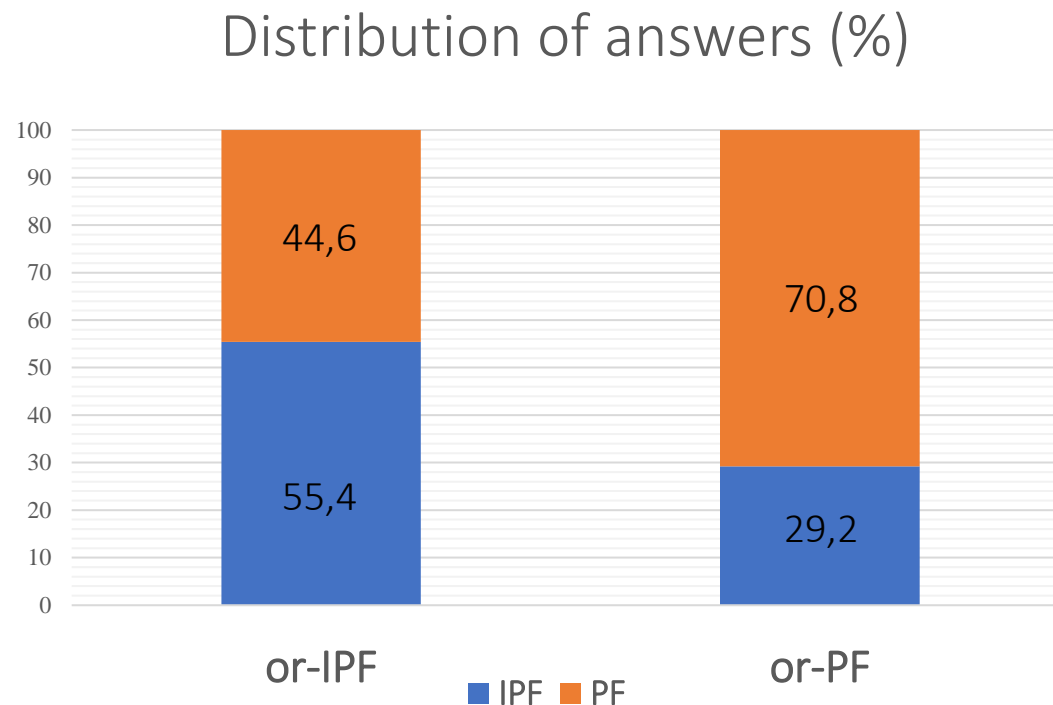
Введите одно или несколько слов...

100

4. Questionnaire

4.2 Results and statistical analysis

- Participants mostly chose **pf** (58,6% of the answers)
- Considering the aspect of the original example:



4. Questionnaire

4.2 Results and statistical analysis

- Sometimes participants were triggered towards their choice by different elements:

(6) Он это покупал а потом *взял всё* и [пауза] не пропил/ да/ в казино не проиграл/ то есть за границу не увёз/ а оставил всё в России.

- "Завершенное действие: купил, взял, оставил"
- "По аналогии с другими глаголами в предложении"
- "Описание совершенного действия, остальные глаголы также это подтверждают"
- "Последовательность действий"

→ Pf: 77,5%

- "Долгий процесс покупки, накопления вещей, потому что потом «всё»"
- "Покупал все - то есть много раз покупал"
- "Это было не однократное действие, было много покупок"
- "Слово «все» указывает на одновременные покупки"

→ Ipf: 22,5%

4. Questionnaire

4.2 Results and statistical analysis

- Logistic Regression with Mixed Effects model:

Dependent variable: ANSWER (IPF vs. PF)

Independent variables: **CONTVARB, OBJMOD**

Random variable: PERSONID

→ Most significant factors
from the corpus study

4. Questionnaire

4.2 Results and statistical analysis

	Parametric coefficients	Estimate	Odds ratios	Std. Error	p-value
ANSWER – IPF CONTVERB – IPF OBJMOD - no	(Intercept)	0.25451		0.11714	0.0298 *
	CONTVERB-no	-0.59246	0.55296	0.11306	1.60e-07 ***
	CONTVERB-PF	0.58278	1.79101	0.14317	4.69e-05 ***
	OBJMOD=yes	0.94596	2.57528	0.08831	< 2e-16 ***
	Random effects	Variance		Std. Dev.	
	PERSONID (Intercept)	0.1814		0.4259	

4. Questionnaire

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5. Conclusions

- The linguistic context plays in most cases a marginal role in the choice of ipf OR → only two out of the eight factors considered proved to be statistically noteworthy:

1) CONTVERB (contiguous verb):

*kupit'*_{pf} → if the contiguous verb is **pf**

*pokupat'*_{ipf} → if there is **no contiguous verb** or if it is **ipf**

Cfr.: narrative progression

2) OBJMOD (object modifier):

When the object is not modified → *pokupat'*_{ipf}

Cfr.: distinction between type and token reference (Hedin 2000)

5. Conclusions

- From the questionnaire emerged an overall preference towards pf when denoting a completed action in the past
 - the perfective past tense is the preferred form to express telic actions (Gebert, 2014)
 - *pokupat'*_{ipf} is the marked choice in such contexts (Grønn, 2004)

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