

Against ATB-analysis of partial predicative agreement in Russian: an experimental study*

Predicative number agreement with coordinated subject in Russian

Two strategies are available:

- Full agreement (FA):

plural number marking on the predicate

(1) *Na stole lezhat ruchka i karandash.*
on table lie.PRS.PL pen.SG.NOM and pencil.SG.NOM
'Pen and pencil are lying on the table.'

- Partial agreement (PA, first conjunct agreement):

singular number marking on the predicate

(2) *Na stole lezhit ruchka i karandash.*
on table lie.PRS.SG pen.SG.NOM and pencil.SG.NOM
'Pen and pencil are lying on the table.'

Experimental design

Hypothesis #1: PA of symmetrical predicates is impossible

Hypothesis #2: PA is more acceptable, when the predicate precedes the subject

- Acceptability judgement task (Likert scale 1–7)

- Independent variables:

1. predicate symmetry (SYM / NONSYM)
2. predicate position (PRE / POST)
3. predicate number (SG / PL)

- Stimuli examples:

(4) [SYM, PRE, SG]

Na staroj fotografii slivaetsya lico i fon.
in old photo merge.PRS.REFL.SG face and background
'The face and the background merge in the old photo.'

(5) [NONSYM, POST, PL]

Lico i fon stiraetsya na staroj fotografii.
face and background erase.PRS.REFL.PL in old photo
'The face and the background are erased in the old photo.'

Realization

- Designed in PCIBEX Farm (<https://farm.pcibex.net/>)

- Distributed via Toloka (<https://toloka.ai/>)

- 75 respondents

⇒ gender: 27 F, 47 M, 1 NA

⇒ age: min 19, max 68, mean 37.93, SD 10.19

⇒ languages apart from Russian: English (4), Tatar (2), Ukrainian (1)

⇒ 4 with linguistic education

- Analysis by means of linear mixed effects models and Tukey's multiple pairwise comparisons

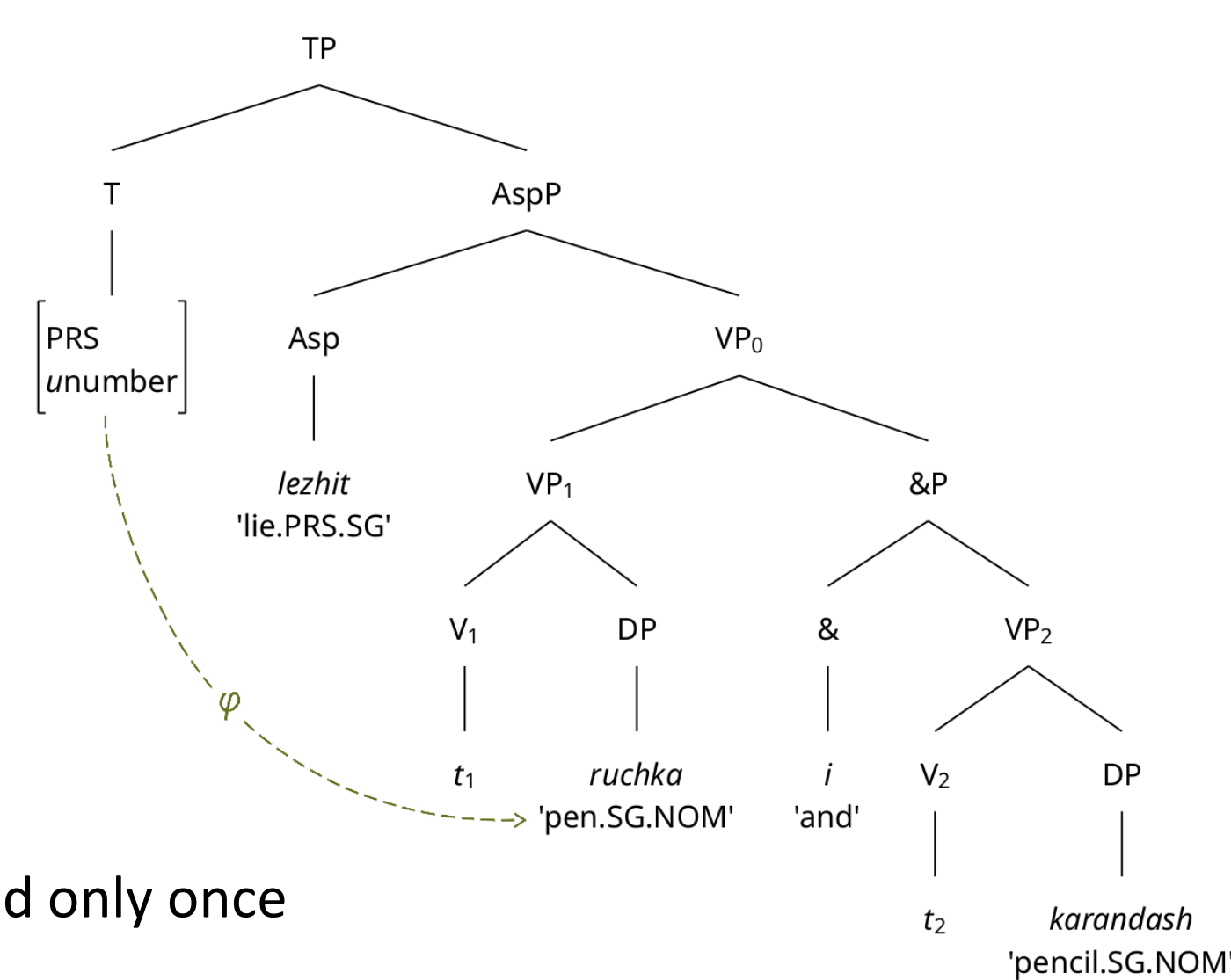
ATB-analysis of PA

[Krejci 2020]

- No coordinated subject in syntactic structure
- Coordination of VPs
- ATB-movement of identical V heads to Asp
- Agreement is controlled by DP that is structurally higher in VP₀

⇒ predicate is pronounced only once

⇒ PA-effect



Results

Hypothesis #1: PA of symmetrical predicates is impossible — **NO**

⇒ contrary to predictions of ATB-analysis [Krejci 2020]

Hypothesis #2: PA is more acceptable, when the predicate precedes the subject — **YES**

Significant effects

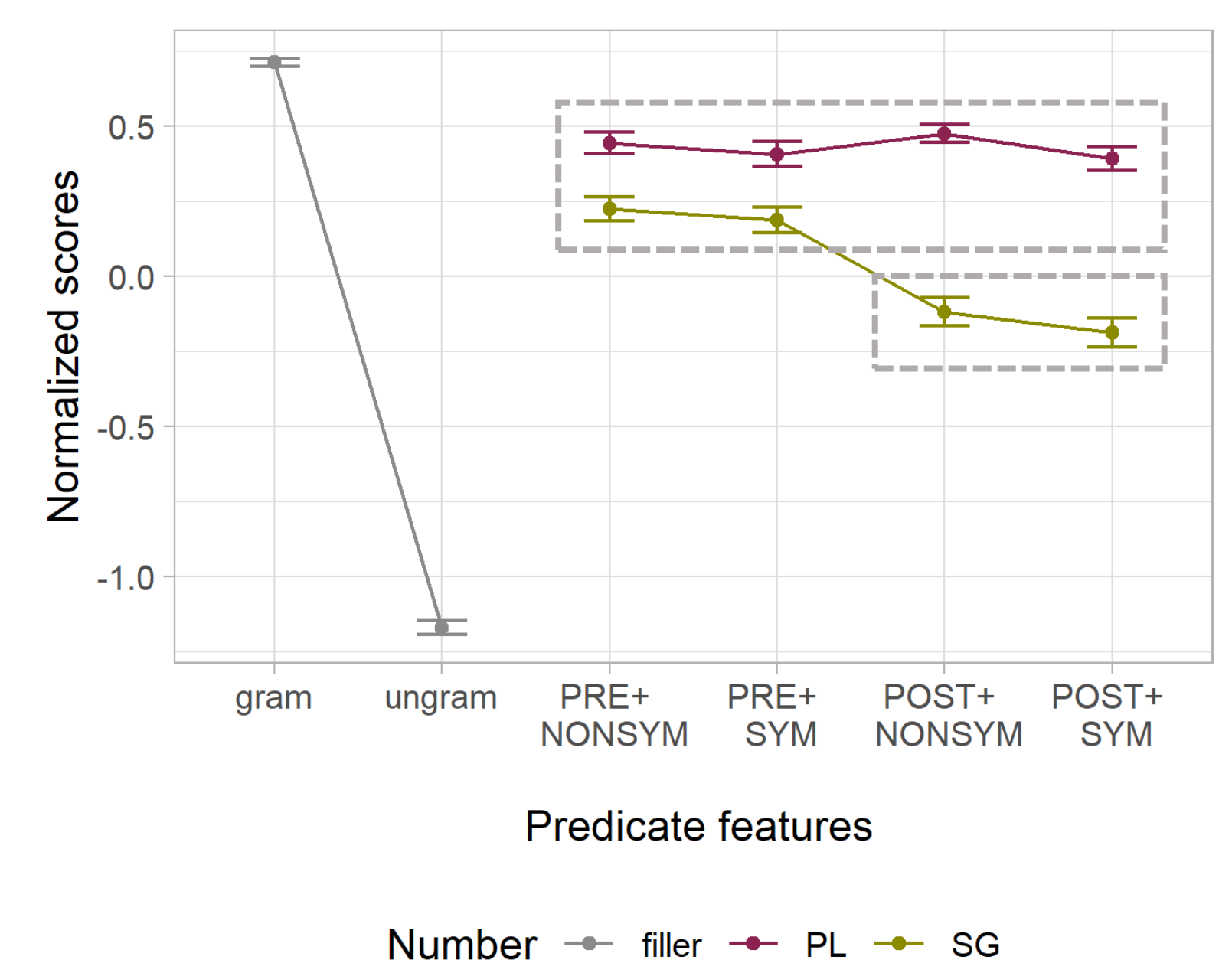
- 'number'
- 'number' : 'position'

Linear mixed effects model summary

fixed effects	β	p-value
intercept	0.47	<0.0001
symmetry (SYM \downarrow NONSYM)	-0.06	0.131
position (PRE \downarrow POST)	-0.01	0.895
number (SG \downarrow PL)	-0.58	<0.0001
number (SG \downarrow PL): position (PRE \downarrow POST)	0.36	<0.0001

Tukey's multiple pairwise comparisons results

	estimate	p-value
1. PL > SG	0.40	<0.0001
2. POST + SG < PRE + SG	-0.35	<0.0001
3. POST + PL = PRE + PL	0.01	0.999
4. POST + PL > POST + SG	0.58	<0.0001
5. PRE + PL = PRE + SG	0.22	0.012



⇒ PA in preposition is rated significantly higher, as expected

- 'number' : 'symmetry' is **not significant**

⇒ PA of symmetrical predicates is just as acceptable, as PA of non-symmetrical predicates

(6) *Na staroj fotografii slivaetsya = stiraetsya lico i fon.*
in old photo merge.REFL.SG = erase.REFL.SG face and background

'The face and the background merge / are erased in the old photo.'

⇒ **Our study proposes an argument against ATB-analysis of partial agreement in Russian.**

Expected effects of predicate symmetry

- Symmetrical predicates have at least two arguments bearing the same thematic role.
- Many researchers claim PA of symmetrical predicates to be impossible.
- ATB-analysis predicts ungrammaticality as well:
 - ⇒ There is only one argument in each of the conjoined symmetrical VPs
 - ⇒ Locality of Selection requirement is violated
 - ⇒ *

Predicate examples

1. *protivopostavlyat'sya* 'be contrasted'
2. *sravnivat'sya* 'be compared'
3. *sochetat'sya* 'match'
4. *slivat'sya* 'merge'
5. *peresekat'sya* 'intersect'

- Claims about ungrammaticality in the literature are based on introspection only and contradict corpus data:

(3) *v Pushkine soedinyaetsya genij i prosveshhenie* [RNC]
in Pushkin unite.PRS.REFL.SG genius and enlightenment
'Genius and enlightenment unite in Pushkin.'

Expected effects of predicate position

- PA in cases, when the predicate precedes the coordinated subject, is argued to be more acceptable.
- This is compatible with ATB-analysis:
 - (I) ATB-movement is a case of A'-movement.
 - ⇒ A'-movement in Russian occurs leftwards only.
 - ⇒ Derivation of PA in preposition is more straightforward.
 - (II) Structurally, there is no coordinated subject.
 - ⇒ Two DPs cannot move to preverbal position simultaneously.

References

- Krejci, B. (2020). *Syntactic and semantic perspectives on first conjunct agreement in Russian*. PhD thesis, Stanford University.
- Pekelis, O.E. (2013). *Sochinenie. Materialy dlya proekta korpusnogo opisaniya russkoj grammatiki* (<http://rusgram.ru/>) [Coordination. Materials for the project of corpus description of Russian grammar (<http://rusgram.ru/>)]. As a manuscript.
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