Evaluation and reading time of predicate agreement with conjuncts in Russian

Daria Belova

Lomonosov Moscow State University / Interdisciplinary Scientific and Educational School of MSU "Brain, Cognitive Systems, Artificial Intelligence"

dd.belova@yandex.ru

ExLing
18.10.2022

Abstract

- **Goal**: to investigate possible patterns of predicate person agreement with coordinated pronominal subjects in Russian;
- Two experiments examining the effect of two factors on acceptability and reading time of different verbal forms: the **order of conjuncts** exhibiting different grammatical features ('1sg – 2sg' or '2sg – 1sg') and the **order of subject and verb** (SVO or OVS);
- The results show the differences in the agreement patterns related to the word order as the respondents more often allowed the less frequently encountered closest adjunct agreement in OVS-stimuli than in SVO-ones;
- All three agreement strategies are possible but at different acceptability levels
- The self-paced reading task turned out to be methodologically unindicative;

Introduction

Three strategies of predicate agreement with coordinated subject:

- Resolution (i.e. **personal hierarchy** [Zwicky 1997])
  - Number is plural, person/gender/noun class is calculated based on what values the conjuncts have
- Partial agreement (PA, i.e. **Closest Conjunct Agreement**, CCA)
  - One of the conjuncts is ignored
  - Widely attested in VS-languages (Welsh, [Harbert & Bahloul 2002]) and in particular contexts in languages whose primare strategy is the resolution
- Default agreement
  - Last Resort option [Nevins & Weisser 2018]

Experimental researches find variability both between speakers and within one idiolect:

- **[Timmermans et al. 2004]**: speech production experiment on German and Dutch material, person agreement
  - Conjuncts «you and he» / «you and N»
  - 2pl / 3pl verb form
  - 3pl is even more frequent, no CCA observed
- **[Marušič et al 2015]**: speech production experiment on Slovenian, gender agreement
  - Three possible strategies: CCA, highest conjunct agreement, default
  - Very high variability

Russian data

- Russian prescriptive grammars: only the personal hierarchy
- Corpus-based evidence of the CCA in person and gender
  - [Corbett 1985]: literary and dialectal Russian corpus, the resolution strategy is preferred, but the PA is found in both text types and both word orders
  - [Pekelis 2013]: corpus research of double conjunction constructions, VS word order is included to the list of factors «facilitating the PA»
- No previous experimental research on the person agreement variability
- Russian (quasi-)free word order allows measuring the degree to which the VS favors other agreement strategies than the resolution (if so)
- The contexts with 1sg and 2sg conjuncts but 3pl verb form allow checking whether the default person is a thing in Russian

Experimental design

Two experiments sharing the same lexicalizations with different word orders: SVO / OVS

- Likert scale 1 (very bad) – 7 (very good), the stimuli are presented word-by-word
- The 4×2 AJ experimental design:
  - verb form: 1pl (resolution) / 1sg, 2sg (PA) / 3pl (default)
  - conjunct order: 1sg and 2sg (*ja i ty*) / 2sg and 1sg (*ty i ja*)
- Eight experimental lists
- 32 target stimuli + 16 grammatical fillers + 16 ungrammatical ones

(1) *[Ja i ty / ty i ja]* *[stroim / stroju / stroiš / strojat] krepost' iz sn'ega.*
I and you   you and I   build.1pl build.1sg build.2sg build.3pl   fortress   from snow

(2) *Krepost' iz sn'ega [stroim / stroju / stroiš / strojat] [ja i ty / ty i ja].*
fortress from snow   build.1pl build.1sg build.2sg build.3pl I and you   you and I

'You and I are building a snow fort',

Hypotheses: (i) in the SVO-experiment the verb forms differing from the basic 1pl would be read slower; (ii) in the OVS-experiment the first conjunct mismatching the verb person feature would be read slower than the matching one; (iii) only the OVS-experiment would show signs of non-resolutional agreement strategies
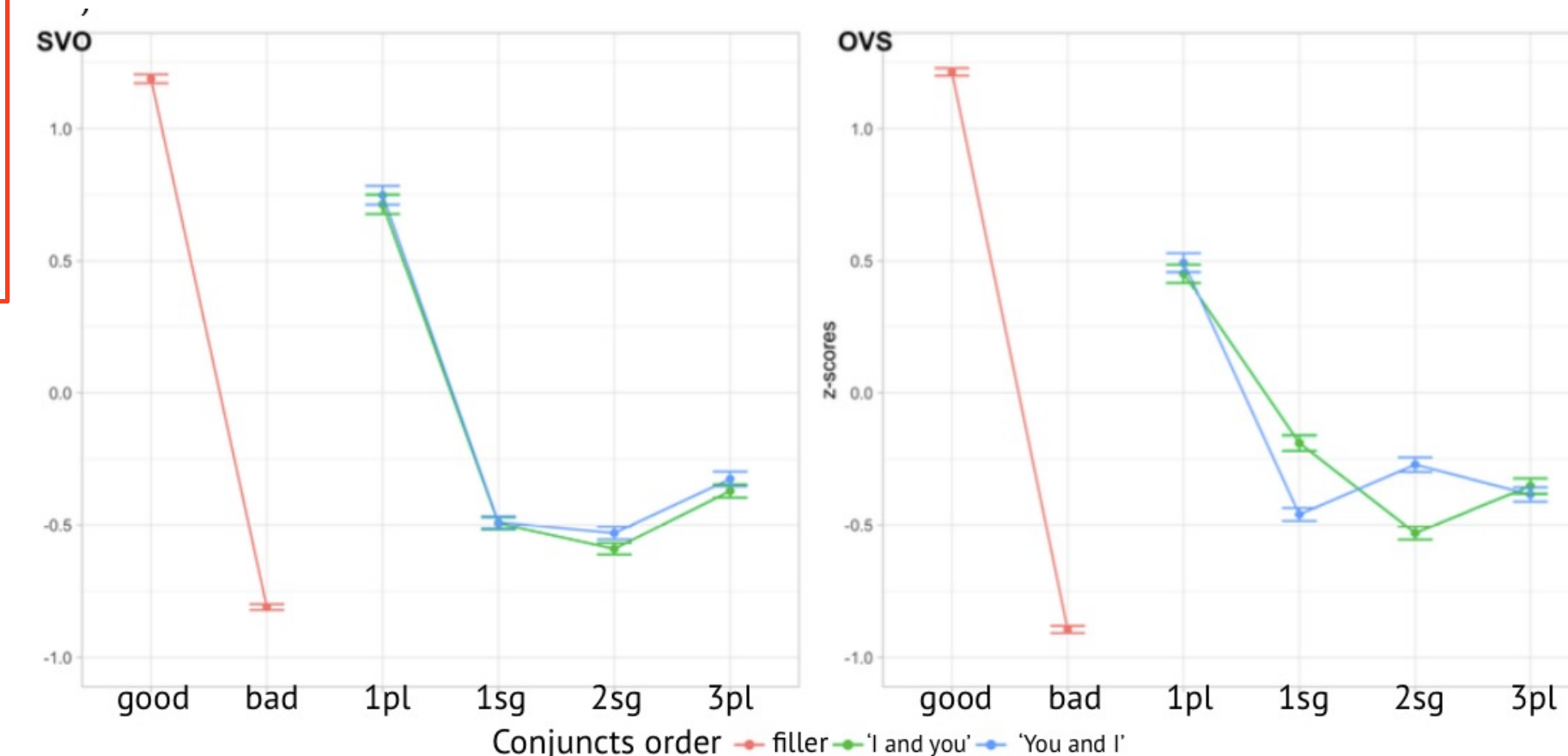
- The SVO-experiment was completed by 107 native Russian speakers (19– 72 years old, mean = 38.59, sd = 11.77).
- The OVS-experiment was completed by 126 respondents (17–76 years old, mean = 34.54, sd = 11.5)
- The ratings were z-transformed and processed with the use of the linear mixed modeling (respondent ID and sentence ID were used as random slopes) and Tukey's HSD pairwise comparisons

Ratings

- **SVO**: only the verb form is statistically significant
  - LMM formula: : z-scores ~ 1 + verb_form
  - The pairwise comparisons show the significant difference between all four verb forms: 1pl > 3pl > 1sg > 2sg.
  - There is no difference between two conjunct orders within each verb form
- **VSO**: the verb form is significant; the conjunct order is significant for the forms corresponding to the PA
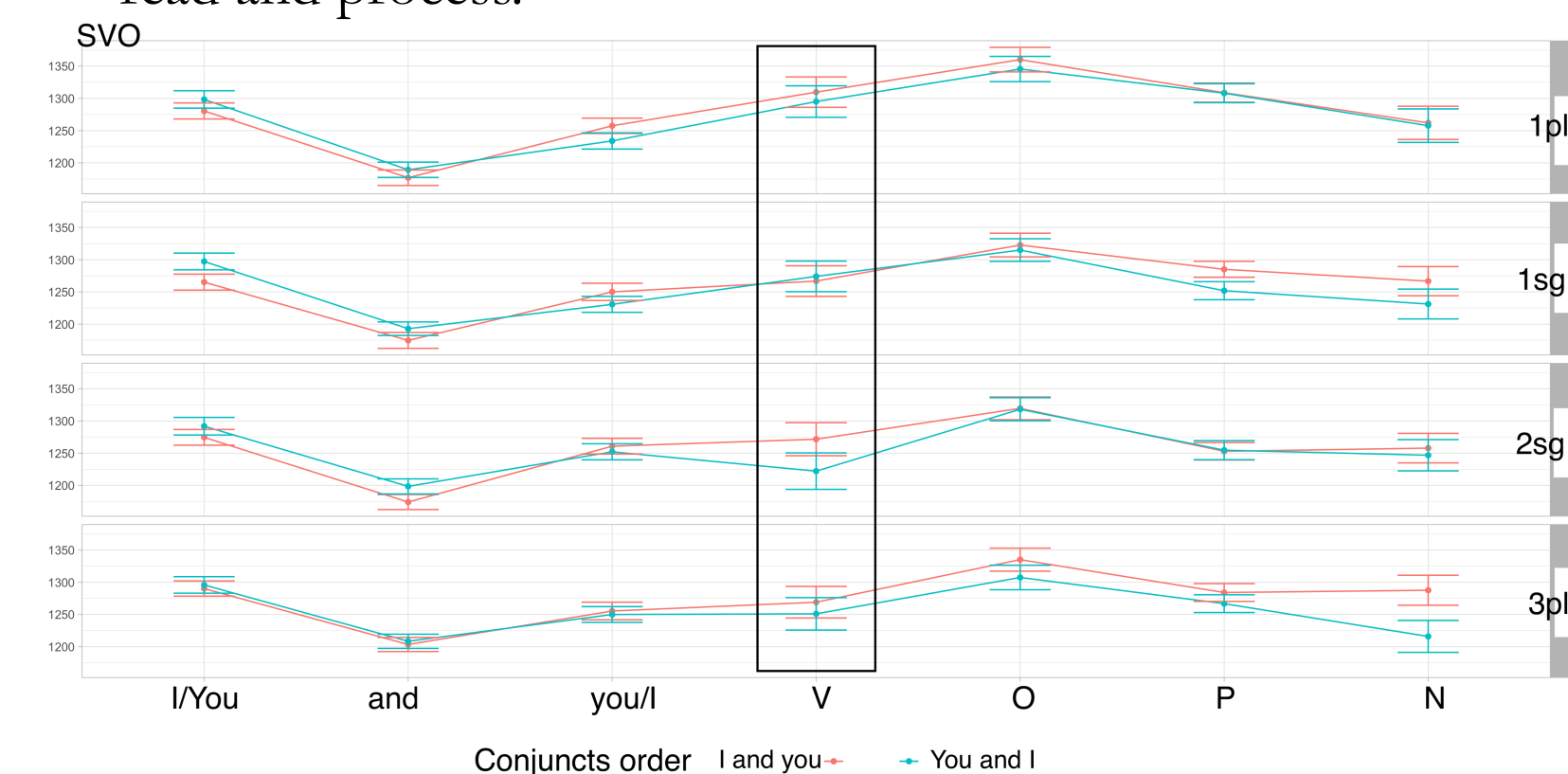 - LMM formula: z-scores ~ 1 + conjunct_order * verb_form

The overall low level of the target ratings in comparison to the grammatical fillers <= a pragmatically unusual context of the stimuli. Given that:

- All three strategies are rated significantly higher than the ungrammatical fillers => **all three are possible**
- Besides the obvious superiority of the 1pl (resolution), no signs of the CCA in the SVO order, but the **clear CCA in the OVS**
- Unlike previous experimental research in other languages, our Russian data shows different levels of acceptability of different agreement strategies
- The gap between 1pl and 1sg/2sg in OVS may be explained by the feature: person mismatches are less likely to induce the PA than gender/noun class mismatches [Nevins & Weisser 2018].
- However, the 3pl ratings are still higher than expected as there is no 3rd person conjunct
  - In German, the 3pl form is considered to be the default because of the 1/3 syncretism [Frampton 2002]
  - In Russian the «true» unmarked defaul form is the 3sg
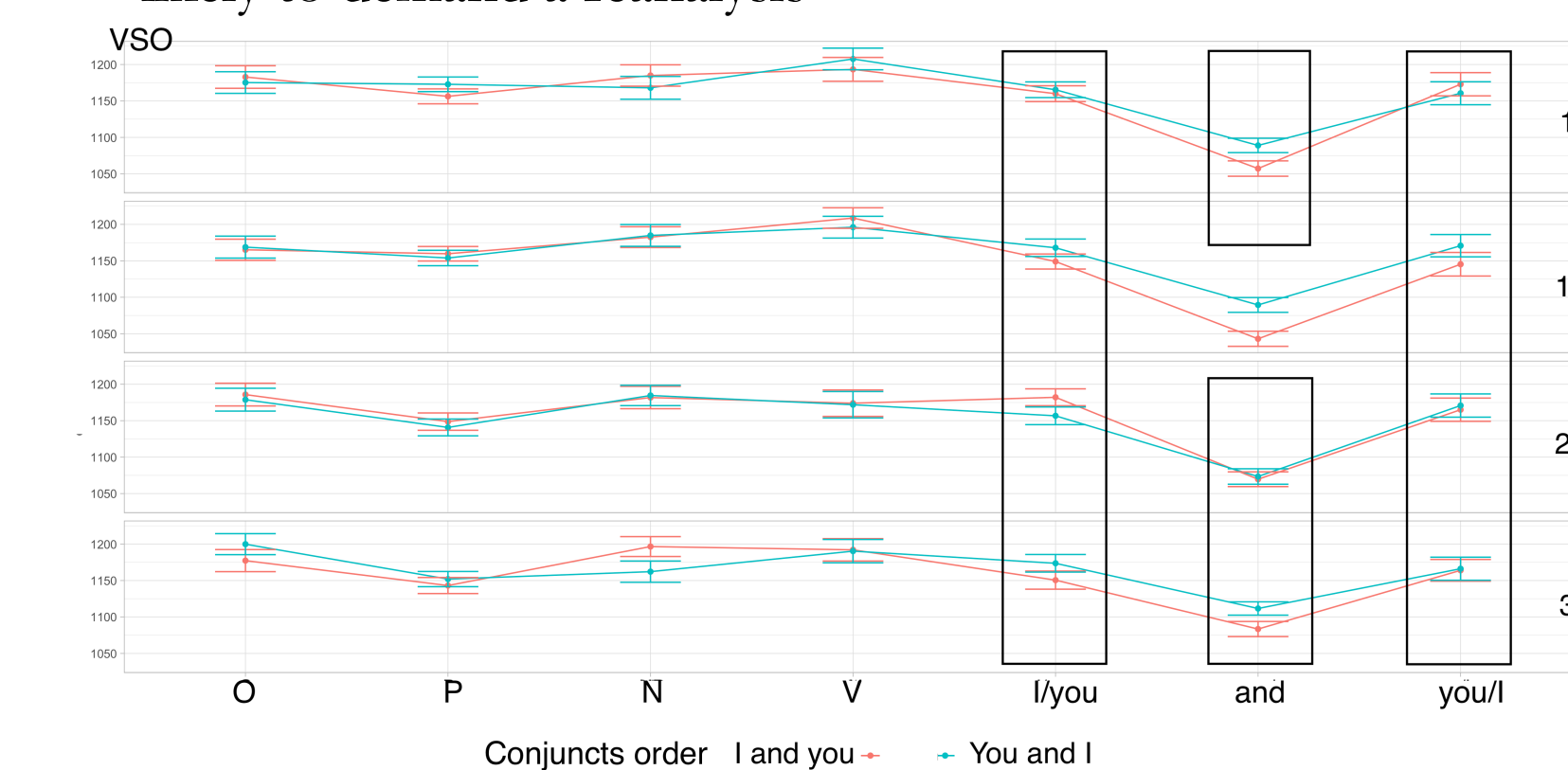 - The «defaultness» of the 3pl needs to be investigated further (default person but own number value?)

Reading time

- **SVO**: no differences in the reading time of verbs between the two conjunct orders for any of the verb forms => although different verb forms are clearly on different levels of acceptability, they all take the same amount of time to read and process.

- **VSO**: no difference found in the reading time of first nor second conjuncts, however, conjunctions are read faster when the conjunct order is *ja i ty* for the stimuli with every verb form except the 2sg, although it was presumably more likely to demand a reanalysis

- The alternative hypothesis: it is only after the first conjunct that a reader starts processing the whole coordinated phrase, thus the difference would be seen in the conjunction. It is not borne out either => methodological issues rather than theoretical ones as all three personal pronouns and the conjunction are very short monosyllable (and some one-letter) words

References

Corbett (1985) "Hierarchies, Targets and Controllers. Agreement Patterns in Slavic". London & Canberra: Croom Helm. **Frampton** (2002) "Syncretism, Impoverishment, and the Structure of Person Features", In: Papers from the Chicago Linguistics Society Meeting 38, 207-222. **Harbert & Bahloul** (2002) "Postverbal subjects in Arabic and the theory of agreement". In: Themes in Arabis and Hebrew Syntax, 45–75. **Marušič et al.** (2015) "The grammars of conjunction agreement in Slovenian". In: Syntax 18(1), 39-77. Pekelis (2013) "Частичное согласование в конструкции с повторяющимся союзом: корпусное исследование основных закономерностей". In: Вопросы языкознания 4, 55–86. Timmermans et al. (2004) "Disagreement on agreement". In: Linguistics 42, 905-929. Zwicky (1997) "Hierarchies of Person". In: Papers from the Chicago Linguistics Society Meeting, 714–733.