The order of objects in Russian: the factors of interest on a corpus study[1]

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The relative order of direct and indirect objects (DO and IO) in Russian has been discussed in many formal studies and used as a piece of evidence in favour of a certain structure of the vP [Junghanns & Zybatow 1995; Dyakonova 2007; Bailyn 2010, 2012; Titov 2017]. In addition to that, there is a rich functional tradition discussing different factors that can influence the order of objects, among them animacy, heaviness of both NP and the type of dative NP [Heine König 2010, Hawkins 1994]. These factors have been tested in a recent corpus study on Russian [Bazhukov et al. 2021].

However, some researchers argue that the preferred order may be different for different verbs [Boneh, Nash 2017]. In particular, Boneh and Nash claim that the argumenthood of the dative plays an important role. Verbs that allow datives with a beneficiary or maleficiary semantic role, like *sozdat'* 'to create (something or somebody for somebody else)', *uspocoit'* 'to calm (somebody for somebody else)' – external, non-argumental datives – have a syntactic structure in which the dative NP is high and therefore prefer the IO-DO order (the basic order for these verbs). The opposite is true for argumental datives.

This hypothesis was based on judgement data. We tested it on corpus data, looking at the factors analyzed in [Bazhukov et al. 2021] and checking if there are any differences for argumental and non-argumental datives (for the sake of convenience, we call both of them indirect objects). From the SynTagRus corpus [Boguslavsky et al. 2000] where sentences have been manually annotated, we gathered datives of two types: argumental internal datives and non-argumental external datives. We collected 709 internal dative sentences and 158 external dative sentences. We excluded all orders except V DO IO and V IO DO, so the "order" here means postverbal order. We also filtered out the cases in which one of the NPs was a pronoun.

In our data, argumenthood does not affect the role of such factor as the length of the object. According to Boneh and Nash, we could expect the following picture: unless they are too long, non-argumental datives would tend to precede argumental ones. However, we found the same pattern for both types of datives: the longer, and therefore, the heavier the object, the more likely it is to follow the other object.

As for another important factor, animacy, we did not have any animate DOs in the subsample with external datives after filtering (their rarity can be explained by the semantics of verbs that take external datives). But a strong preference can be observed in the case when both objects are inanimate — unlike in the argumental subsample without any preference.

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Contrary to [Boneh, Nash 2017], verbs with non-argumental datives prefer the DO-IO order. This preference is preserved when both samples are analyzed together (Fig. 1).

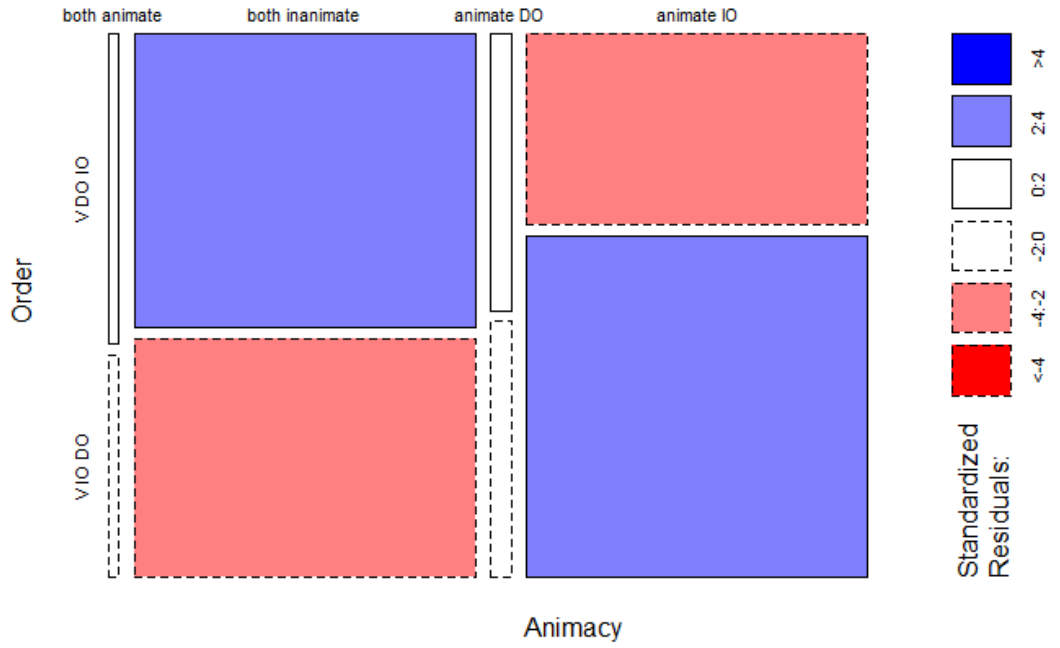

Figure 1. Mosaic plot of animacy effect (merged samples)

To test the impact of these factors we fitted logit models predicting order, with V IO DO coded as 1 and V DO IO as 0. The results are as follows: longer NPs of any type tend to be further away from the verb (for both IO and DO lengths, $p<0.001$). This is also true for inanimate IO in the context of inanimate DO ($p<0.001$). The argumenthood of the dative NP is weakly significant ($p<0.05$) when it is the only factor in the model or is used together with animacy. However, it loses significance in more complicated models in which length is used as a factor. We report results for increasingly more complex models, where addition of extra variables (starting with an empty, intercept-only model) is significant under ANOVA Likelihood Ratio testing.

Thus, we confirm statistically the hypotheses on object length and animacy and conclude that the argumenthood factor requires further investigation. We have also checked other factors and their interaction.

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