Argument-adjunct asymmetry in long-distance wh-movement in Russian

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Abstract

This paper investigates an argument-adjunct asymmetry in Russian in wh-questions. Such an asymmetry is described for many languages. In current relevant literature there are different approaches to wh-movement in Russian, but some questions are still unanswered, for example: is there a general argument-adjunct asymmetry in different types of questions? In present study, I conducted three grammaticality judgment experiments in an attempt to clarify the empirical picture regarding argument-adjunct asymmetry. According to the results, the island constraints hold in Russian for *chto*-clauses and indirect questions. *Chtoby*-clauses do not demonstrate island effects. However, it was also observed that there exists argument asymmetry which is valid for all types of indirect questions.

Keywords: argument-adjunct asymmetry, long-distance wh-movement, Russian, experimental study

Argument-adjunct asymmetry

The purpose of this study is to find out how the asymmetry of arguments and adjuncts is manifested when they are extracted out of various types of interrogative structures in Russian, and also to consider the influence of interrogative structure type on the extraction's availability.

Previous works devoted to the problem of long-distance wh-movement in Russian, mainly describe subject-object asymmetry (Antonenko, 2010), or the asymmetry caused by the type of embedded clause complementizer. Hence, for example, some researchers (Khomitsevich 2008; Dyakonova 2009) claim that there is an asymmetry that occurs when the wh-phrases are extracted out of *chto-* ('what') and *chtoby-* ('why') embedded clauses. All researchers notice the impossibility of components extraction from an embedded clause with a complementizer *chto*. As for *kak* ('how') -clauses, Baylin in (Bailyn 2018) notes that their properties similar to *chto*-clauses. Extraction of wh-adjuncts and wh-subjects from it is unacceptable, whereas the extraction of wh-arguments is marginal. The marginality, apparently, is caused by the variability of the native speaker's judgments.

The asymmetry of extraction from the indirect question island is also well known (Boeckx 2012). An indirect question with an interrogative pronoun in Russian is also considered as a weak island, and its properties depend on the

type of extraction (Lyutikova 2009: 466). As for wh-movement, this type of question also shows an asymmetry: arguments can be extracted, but not adjuncts. A general indirect question in Russian is formed with *li* ('whether') particle, the presence of a *li* particle in question is mandatory.

Thus, based on previous works, I assumed that: a) long-distance wh-movement in Russian is restricted at the level of the embedded clause by complementizers; b) the extraction of wh-elements from indirect questions with interrogative pronoun is less acceptable than from indirect questions with *li* particle; c) d-linked constituents will be more acceptable than non-d-linked; d) the researchers describing this problem practically do not consider the asymmetry between arguments and adjuncts. Even if the asymmetry between the extraction of wh-phrases from *chto-* and *chtoby*-clauses is observable through introspective studies, then the potential asymmetry of arguments and adjuncts, as well as the combination of these factors, can only be established by formal quantitative methods.

Experimental study

Each experiment included 'type of extracted elements' as an independent variable (wh-argument and wh-adjunct). Other independent variables included: in **Exp1** type of complementizer ('chto' or 'chtoby'); **Exp2**: type of interrogative structure (indirect question with *li* particle and indirect question with interrogative pronoun) and D-linking (in term of (Pesetsky 1987)); **Exp3**: type of interrogative structure (indirect question with *li* particle, embedded clause with complementizer '*chto*' and embedded clause with complementizer '*kak*'). The stimulus material in each experiment was unified by a number of parameters: extracted wh-words, matrix predicate and length of sentence. Half of wh-arguments were animated (*kogo* 'who').

Participants had to judge the acceptability of the target sentence on a 7-point Likert scale (1 = unacceptable, 7 = acceptable). Every participant in total rated from 16, 32, and 24 target items, and the same quantity of fillers. Fillers divided on grammatical, ungrammatical and marginal ones. All stimuli and fillers were written materials. In case of Exp1, participants should read sentence word by word and then rate it, however, in Exp2 and 3 participants could see the whole sentence (target item or filler).

Exp1 involved 102 respondents, aged 15 to 70. Exp2 involved 136 people, 15 to 72 years old. Finally, Exp3 involved 83 people, from 23 to 72 years old. All participants were native speakers of Russian language, living in Russia. Responses of some participants were deleted due to too short time (approximately 35ms for each item response) or inadequate fillers rating.

Three experiments showed the following results. ANOVA analysis demonstrated that: in Exp1 the only significant factor was 'type of complementizer' (p-value <2.2e-16).
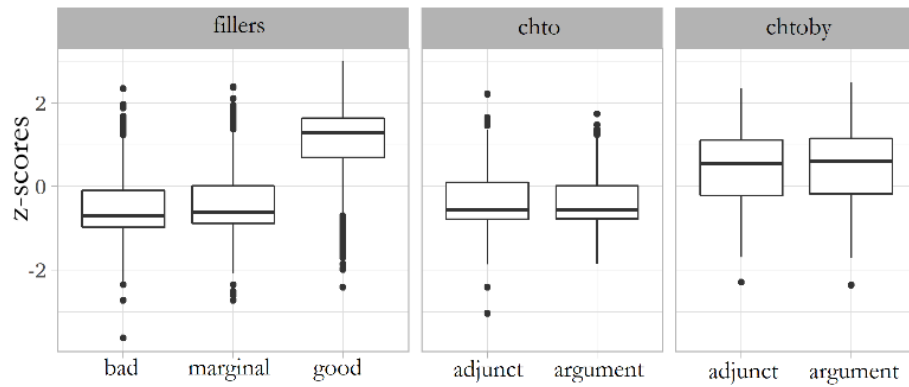
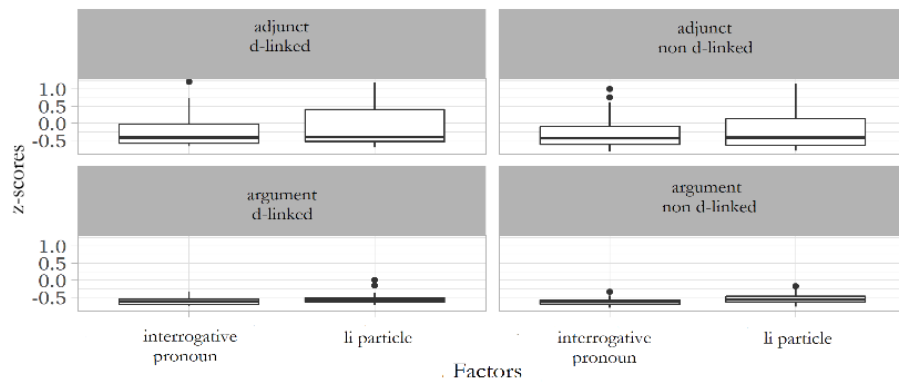Figure 1. Experiment 1: z-scores of fillers and stimuli.

Figure 2. Experiment 2: z-scores of all stimulus.
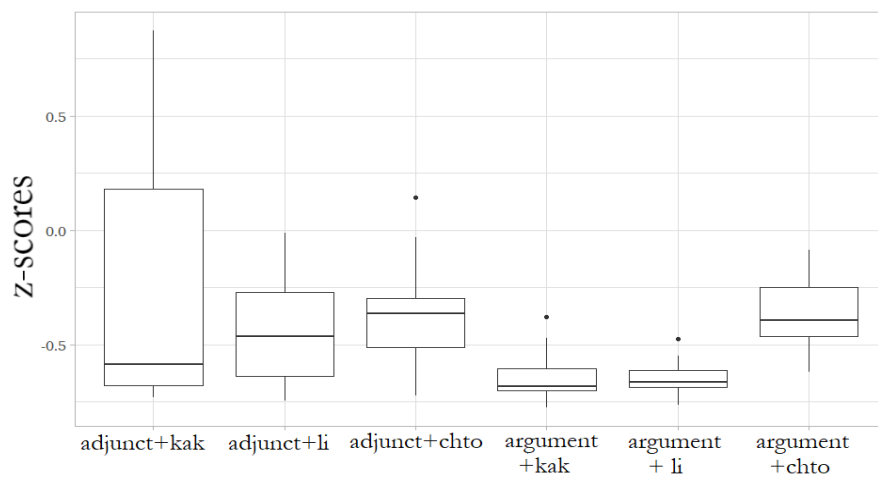
Figure 3. Experiment 3: z-scores of all stimuli.

Opposite, in Exp2 and Exp3 factor 'type of extracted element' was significant (p-value = 2.04e-14 in both cases). As for Exp2, stimuli containing d-linked constituents are slightly more acceptable (according to average z-scores and pairwise comparison data) than stimuli containing non-d-linked constituents, however 'd-linking' was not significant (p-value = 0.2158).

Exp1 and Exp3 indicate that the embedded clauses, headed by the complementizer '*chto*', are strong islands, from which it is impossible to extract any elements. According to the results of Exp2, indirect questions in Russian also demonstrate islands constraint. Interrogatives with embedded clauses headed by complementizer '*chtoby*' do not exhibit any island effects and allow extraction of any elements. Next, stimuli with extracted arguments from *chtoby*-clauses got higher scores than stimuli with adjuncts (Fig.1). In Exp2 and Exp3 all stimuli with adjunct got slightly higher scores than stimuli with arguments due to the possibility of late adjunction (Stepanov 2001).

Stimulus sentences with *kak*-clause and adjuncts showed the greatest variability in ratings (Fig.3). Structures with *kak*-clauses do not allow extracting wh-arguments, but extracting adjuncts is acceptable for a certain group of respondents. Probably, we can talk about several groups of respondents who process stimuli with adjuncts in different ways. Hence, among the participants of experiment 3 exist a group of participants, who can associate extracted adjunct with the matrix clause and rate such a stimulus as acceptable. The question of the status *kak*-clause is still open, since there is still not enough data to draw a conclusion about its properties.

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