Asymmetry in Russian metalinguistic comparatives: Corpus and experimental evidence

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Abstract: The paper reports a corpus and experimental study of three types of Russian asymmetric metalinguistic comparatives (*lučše*, *skoree*, and *bol'še* meta-comparatives), two parts of which belong to different syntactic categories and/or have different morphological forms. We discuss their morphological and syntactic properties and uncover diversity among their types and various grammatical patterns that they allow. From a morphological point of view, infinitives in meta-comparatives tend to be imperfective, and finite verbs in the subjunctive and indicative mood are generally perfective. From a syntactic point of view, asymmetric meta-comparatives are either bi-clausal, bi-phrasal, or mixed (clausal-phrasal). The bi-phrasal variety shows functional homogeneity. *Lučše* meta-comparatives are more frequent in the corpus and are evaluated as more grammatical than *skoree* meta-comparatives. Furthermore, the asymmetric pattern 'noun phrase + infinitive clause' is evaluated as more grammatical than the pattern 'finite clause + infinitive clause' for *lučše* meta-comparatives, while there is no such contrast between these patterns for *skoree* meta-comparatives. Our study sheds light on the grammatical portrait of Russian meta-comparatives as well as on the use and evaluation of asymmetric meta-comparatives in a natural language in general and thus contributes to the discussion of grammatical asymmetry in parallel syntactic structures, such as comparative and coordinated structures, among others.

Keywords: comparative, comparison, corpus linguistics, Russian, syntax

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Асимметрия в русских металингвистических компаративах: корпусное и экспериментальное исследование

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Аннотация: В статье излагаются результаты корпусного и экспериментального исследования трех видов русских асимметричных металингвистических компаративов (далее — метакомпаративов; метакомпаративы с *лучше*, *скорее* и *больше*), две части которых представляют собой различные

синтаксические группы и/или имеют различные морфологические формы. В работе обсуждаются их морфологические и синтаксические особенности. С морфологической точки зрения инфинитивы в металингвистических компаративах обычно несовершенного вида, в то время как финитные глагольные формы изъявительного и сослагательного наклонений обычно совершенного вида. С синтаксической точки зрения асимметричные металингвистические компаративы могут включать две клаузы, две группы или клаузу и группу, т. е. быть смешанными. Две группы в составе метакомпаративов функционально однородны. *Лучше*-метакомпаративы более частотны в корпусе и оцениваются как более грамматичные, чем *скорее*-метакомпаративы. Кроме того, асимметричная конструкция ‘именная группа + инфинитивная клауза’ оценивается как более грамматичная, чем асимметричная конструкция ‘финитная клауза + инфинитивная клауза’ в случае *лучше*-метакомпаративов, при этом такого контраста не наблюдается между аналогичными конструкциями в случае *скорее*-метакомпаративов. В статье выявляются грамматические черты русских асимметричных металингвистических компаративов, а также частотность их употребления и оценка носителей в отношении их грамматичности. Результаты статьи могут быть интересны с точки зрения грамматической асимметрии в параллельных синтаксических структурах, к которым, в частности, относятся сравнительные и сочинительные предложения.

Ключевые слова: компаратив, корпусная лингвистика, русский язык, синтаксис, сравнение

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1. Introduction

Metalinguistic comparatives (or merely meta-comparatives, glossed as MC henceforth) involve a comparison between propositions according to the speaker's judgement of their prototypicality, probability, or preferability. To illustrate, in (1), the speaker believes that the sentence *His speech was eloquent* is a more appropriate/precise description of a given situation than the alternative *His speech was convincing*.

(1) *His speech was* ***more*** [*eloquent*] ***than*** [*convincing*]. [Jespersen 1924: 252]

In this respect, meta-comparatives are distinguished from standard comparatives, which involve semantic comparison of degrees of some properties. Consider (2), in which it is stated that the degree to which Mary's speech was eloquent is greater than the degree to which Peter's speech was eloquent. Importantly, it is not dependent on the speaker's preference for a particular proposition or description of a given state of affairs.

(2) *Mary's speech was* ***more*** *eloquent* ***than*** *Peter's*.

Meta-comparatives have much in common with meta-linguistic negation [Horn 1989], which also reflects the speaker's preference for a particular utterance among alternatives. For example, (3) does not negate the fact that the water in the lake is cool. Rather, it conveys the idea that *cold* is a better word than *cool* to describe the situation.

(3) *The water in the lake is not cool, it is cold*.

A large body of literature has been accumulated, which provided cross-linguistic evidence for meta-comparatives as a separate grammar phenomenon, see [McCawley 1991; Morzycki 2011; Sassoon 2015] for English; [Sawada 2007] for Japanese; [Giannakidou, Stavrou 2009] for Greek; [Giannakidou, Yoon 2011] for Korean; [Herburger, Rubinstein 2014] for German; [Goncharov 2014; Zevakhina et al. 2017; Goncharov, Irimia 2018] for Russian; [Goncharov, Irimia 2018]

for Romanian, French; [Goncharov, Irimia 2020] for Bulgarian, among others. Since the study reported in this paper examines Russian meta-comparatives, in what follows, we primarily focus on Russian data and take a broader perspective for illustrative and argumentative purposes.

The Russian meta-comparatives are grammaticalized from the following three comparative forms: *skoree* 'quicker, sooner' (4), *lučše* 'better' (5), and *bol'še* 'more' (6). They originated from the positive forms of the adverbs *skoro* 'quickly, soon', *xorošo* 'well', and *mnogo* 'a lot'.

(4) *ix* *granicy* *sleduet* ***skoree*** [$_{VP}$ *čuvstvovat'*],
their borders.ACC should MC feel.INF
čem [$_{VP}$ *opredeljat'* *rassudkom*].
than determine.INF mind.INST
'⟨…⟩ the borders [of theatrical plays] should be felt rather than determined by reason.' [M. Chekhov. O texnike aktëra (1945)]

(5) ***Lučše*** [$_{VP}$ *umeret'* *stoja*], ***čem*** [$_{VP}$ *žit'* *na* *kolenjax*].
MC die.INF stand.CONV than live.INF on knees.LOC
'It is better to die standing than to live on your knees.' [V. Shalamov. Kolymskie rasskazy (1954–1961)]

(6) *Èto* ***bol'še*** [$_{NP}$ *isključenie*], ***čem*** [$_{NP}$ *pravilo*].
this MC exception.NOM than rule.NOM
'This is more an exception than a rule.' [B. Bujanov. In 'Volga', 2013]

Adverbs of speed, quality, and quantity are cross-linguistically common sources of meta-comparatives. Adverbs of speed used in this function include French *plutôt*, Romanian *mai degrabă* [Goncharov 2014]; Greek *malon* [Giannakidou, Stavrou 2009; Giannakidou, Yoon 2011]; German *eher* [von Fintel, Kratzer 2014]; English *rather*, which goes back to *hræth* 'quick' and the comparative form *hrathor* 'earlier, more quickly' [Stevenson, Waite (eds.) 2011]. Greek additionally has meta-comparatives derived from adverbs of quality (*kalitera*) and quantity (*perissotero* and *pjo poly*), cf. also English *more* [Giannakidou, Stavrou 2009; Giannakidou, Yoon 2011].

Several semantic accounts were proposed for various types of meta-comparatives. Morzycki [2011] and Sassoon [2015] give two different accounts: 'more' meta-comparatives convey the idea either that, according to the speaker, one sentence is more precise than another to describe a given state of affairs or that, according to the speaker, one proposition is more prototypical than another to describe some property of an entity. For some other meta-comparatives (e.g., *lučše*), [Giannakidou, Stavrou 2009; Giannakidou, Yoon 2011] argue that the speaker believes that one proposition is more preferable than another one. As for the *skoree* meta-comparative, Inkova-Manzotti [2001] and Goncharov [2014] independently suggest that, according to the speaker, one proposition is more probable than another one (cf. also [Beaulieu-Masson, Inkova-Manzotti 2003]).

The syntactic and morphological properties of the three Russian meta-comparatives were reported in [Zevakhina et al. 2017]. In what follows, we concentrate only on such a syntactic property that is relevant to the present study, namely, on the cross-categorial distribution of meta-comparatives. According to [Zevakhina et al. 2017], *skoree* and *bol'še* meta-comparatives are combined with adjectival phrases, adverbial phrases, noun phrases in the Nominative case, numeral phrases, prepositional phrases, verb phrases, predicative clauses, and full clauses. *Lučše* meta-comparatives are used either with noun phrases in the Nominative case or verbal forms in the future indicative, subjunctive or imperative (2nd-person imperative and *pust'*-imperative) mood. All these predicate forms are possible both with verb phrases and full clauses in *lučše* meta-comparatives. As seen from this overview, *lučše* meta-comparatives reveal more grammatical restrictions than *skoree* and *bol'še* meta-comparatives.

Generally, all three meta-comparatives require symmetry between syntactic categories and morphological forms in their two parts, so that, for example, if the first part of a meta-comparative comprises a noun phrase in the Nominative case, then its second part also consists of a noun

phrase in the Nominative case, cf. (6). It cannot be a verb phrase or a prepositional phrase. Other types of phrases are also typically symmetric, see (4) and (5) for symmetric clauses with infinitives.

Morzycki [2011] demonstrated that English meta-comparatives do not always require symmetric syntactic and morphological properties of their parts. Consider (7). Its first part is an adjectival phrase, while its second part is a prepositional phrase. This suggests that syntactic asymmetry holds for meta-comparatives.

(7) *George is* ***more*** [$_{AP}$ *afraid of Dick*] ***than*** [$_{PP}$ *in love with him*]. [Morzycki 2011: 41]

Coordinated sentences also provide evidence for syntactic asymmetry. Culicover and Jackendoff [1997] argue that coordination makes possible unparalleled, or asymmetric, syntactic structures. To illustrate, in (8), the first part of a coordinated sentence includes a noun phrase, while its second part is a full clause.

(8) [$_{NP}$ *One more can of beer*] ***and*** [$_{CP}$ *I'm leaving*]. [Culicover, Jackendoff 1997: 196]

What about Russian? Sannikov [2008] shows that Russian coordinated structures are asymmetric. To illustrate, in (9), a noun phrase and an adverbial phrase are coordinated, while in (10), an adjectival phrase and a noun phrase are coordinated.

(9) *Mne* [$_{NP}$ *nikto*] ***i*** [$_{AdvP}$ *nikogda*] *ne* *pomožet*.
I.DAT nobody.NOM and never not help.FUT.3SG
'Nobody will ever help me.' [Sannikov 2008: 402]

(10) *Knigi* [$_{AdjP}$ *moi*] ***i*** [$_{NP}$ *moego* *otca*].
books.NOM my and my father.GEN
'The books are mine and my father's.' [Ibid.: 401]

Sannikov points out that standard comparatives are symmetric in that the syntactic position, morphological coding, and lexical-semantic class of both their parts are identical. To illustrate, in (11), the subjects of two comparative clauses *Petja* and *Vasja* are marked with the Nominative case and belong to the lexical-semantic class of people. The verb in the second clause is elided.

(11) *Petja* *prygaet* ***vyše***, ***čem*** *Vasja* ~~*prygaet*~~.
Petja.NOM jump.PRS.3SG high.COMP than Vasja.NOM jump.PRS.3SG
'Petja jumps higher than Vasja [does].'

Besides this prototypical version of a standard comparative, Sannikov argues that Russian comparatives represent two more variants, which are viewed as deviations from the prototypical variant. Before moving on, let us introduce the notion of 'syntactic function' borrowed from [Sannikov 2008]. This notion incorporates, on the one hand, a syntactic status of a phrase in terms of the dichotomy between arguments vs. adjuncts, and, on the other hand, the semantic role of a phrase.

One deviation lacks identical morphological coding and lexical-semantic class but features an identical 'syntactic function' of both parts of a standard comparative. Consider (12). It compares a noun phrase in the Dative case and a prepositional phrase in the Accusative case. Their morphological coding and lexical-semantic classes are different. However, both are arguments of the verb *pisat'* 'to write' and have an identical semantic role, that is, addressee/direction.[1] Sannikov refers to this deviation as 'functional homogeneity'.

(12) *Ja* ***čašče*** *pišu* [$_{NP}$ *tovarišču*], ***čem*** [$_{PP}$ *v* *institut*].
I often.COMP write.PRS.1SG friend.DAT than to institute.ACC
'I write more often to a friend than to the institute.' [Ibid.: 390]

[1] The set of semantic roles depends on the theoretical framework. At any rate, in (12), *v institut* 'to the institute' is used metonymically and means 'to some people who work at the institute', that is, to some addressees.

Another deviation lacks identical morphological marking and 'syntactic function' of two parts of a comparative but preserves their identical lexical-semantic class. To illustrate, in (13), prepositional phrases are arguments of the verb *govorit'* in two different meanings. Their morphological marking is also different: Instrumental case vs. Locative case.

(13) *Ja* ***oxotnee*** *govorju* [$_{PP}$ *s* *xudožnikami*],
I.NOM willingly.COMP talk.PRS.1SG with artists.INST
čem [$_{PP}$ *o* *xudožnikax*].
than about artists.LOC
'I talk more willingly with artists than about artists.' [Ibid.: 391]

Regarding the symmetry in meta-comparatives, Inkova [2013] points out that two parts of the meta-comparative *skoree… čem* 'MC … than' ('substitutive connector' in her terms) have to be symmetric. Presumably, this means that they need to have identical syntactic categories and morphological forms. *Skoree* and *lučše* meta-comparatives have not been investigated with respect to syntactic and morphological (a)symmetry yet. The present study addresses the question of grammatical (a)symmetry in the three Russian meta-comparatives with *skoree*, *lučše*, and *bol'še*.

The paper has the following structure. Section 2 presents the goals of the current study that has two parts: corpus and experimental. Section 3 reports a corpus study, while Section 4 documents an experimental study. Section 5 concludes the paper.

2. The present study

The aim of the present study is to show that Russian meta-comparatives do not require symmetry between their two parts either in syntactic categories or morphological coding. To justify this claim, we collected and analyzed naturally occurring sentences from the Russian National Corpus, as well as native speaker judgements of sentences constructed on the basis of the occurrences observed in the corpus.

The results reveal three asymmetrical patterns that are not dependent upon the type of a meta-comparative or syntactic categories. The evidence for the first asymmetry comes from corpus occurrences that are functionally homogeneous in terms of [Sannikov 2008]. This means that they lack identical syntactic categories or morphological coding between the phrases in comparison. The second asymmetry does not demonstrate functional homogeneity. Instead, the examples involve either two clauses or a clause and a phrase that are compared. These two asymmetries have not been paid attention to in the literature. We tested them additionally in a follow-up experiment and observed that, overall, they are semi-grammatical and demonstrate further distinctions in their grammaticality status.[2]

3. Corpus study

3.1. Search queries and their results

The corpus study was based on data from the Russian National Corpus (further referred to as RNC, www.ruscorpora.ru), more precisely, on data from the Main corpus that comprises genre and stylistically diverse texts from the beginning of the 18th century to the present. In April 2021, when the study was conducted, the Main corpus contained 322 million tokens. The goal

[2] The corpus data and experimental materials can be accessed via https://osf.io/qb5ju/.

of the corpus study was to reveal the contexts in which the first part of a meta-comparative differed from its second part in terms of its syntactic category or morphological form. Accordingly, the search query in the corpus was as given in (14).

(14) Meta-comparative {*skoree* / *lučše* / *bol'še*} + first part + *čem* + second part[3]

The distance between the components of a search query ranged from 1 to 5 words. In each search query, one of the three meta-comparatives was used. Parts of meta-comparative sentences were noun phrases, adjectival phrases, adverbial phrases, prepositional phrases, and clauses with various verbal forms (finite forms in the indicative, subjunctive, and imperative mood; infinitives; participles; converbs). Although imperatives belong to finite forms on a par with indicatives and subjunctives, they were considered separately since they showed patterns distinct from the patterns of the other two finite forms. Therefore, 9 patterns (noun phrases, adjectival phrases, adverbial phrases, prepositional phrases, finite verb phrases (indicative and subjunctive forms), imperative verb phrases, infinitive phrases, participle phrases, converb phrases) were combined with each other in different orders and with each of the three meta-comparatives. This resulted in 72 combinations, or coarse-grained patterns. Each coarse-grained pattern was tested for each of the three meta-comparatives, resulting in 72 x 3 = 216 fine-grained patterns.

The contexts found with the help of the queries were manually browsed in order to identify meta-comparatives. Not all fine-grained patterns were found. Table 1 presents the number of occurrences of meta-comparative patterns that were attested in the corpus. The patterns are sorted from the most frequent to the least frequent ones. Sentences from (15) to (25) illustrate uses of some of the meta-comparatives.

According to Table 1 (p. 41), among 72 coarse-grained patterns, 30 patterns (41.7 %) occurred in meta-comparative contexts, while 42 patterns (58.3 %) were absent. Moreover, 3 coarse-grained patterns (4.2 %) were found with all three meta-comparatives, while 6 patterns (8.4 %) were observed in two meta-comparatives, and 21 patterns (29.2 %) were used only in one type of meta-comparative.

Regarding the individual portraits of the meta-comparatives, *lučše* meta-comparatives received 142 occurrences (70.3 %) in 20 coarse-grained patterns (47.6 %), *skoree* meta-comparatives received 46 occurrences (22.8 %) in 14 patterns (33.3 %), while *bol'še* meta-comparatives received 14 occurrences (6.9 %) in 8 patterns (19 %).

These descriptive statistics are summarized in Figure 1.

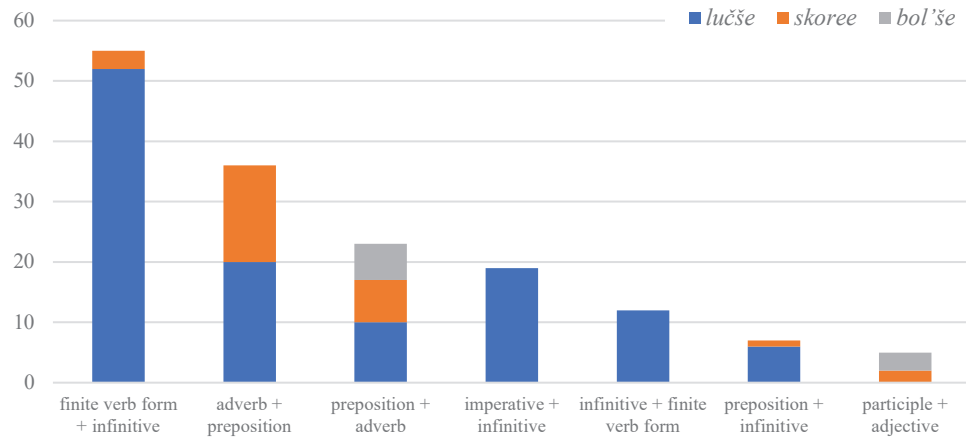

Fig. 1. The distribution of the most frequent asymmetrical patterns among the three meta-comparatives

[3] Like standard comparatives, meta-comparatives allow not only the *čem* connector but also *neželi*. Since the former one is more frequent in meta-comparatives than the latter one [Zevakhina et al. 2017], the search queries used in this study include only the *čem* connector.

Table 1

Asymmetrical patterns of meta-comparatives attested in the corpus

#	Coarse-grained patterns in the search queries (with reference to some examples)	Number of *lučše* meta-comparative contexts	Number of *skoree* meta-comparative contexts	Number of *bol'še* meta-comparative contexts	Numbers of occurrences per combination (in total)
1	finite form + infinitive, cf. ex. (15)	52	3	—	55
2	adverb + preposition, cf. ex. (18)	18	17	—	35
3	preposition + adverb	10	7	6	23
4	imperative + infinitive, cf. ex. (16)	19	—	—	19
5	infinitive + finite form	12	—	—	12
6	preposition + infinitive, cf. ex. (23)	6	1	—	7
7	adjective + noun, cf. ex. (19)	1	2	1	4
8	noun + infinitive, cf. ex. (21)	4	—	—	4
9	adjective + participle	—	4	—	4
10	participle + adjective	—	2	1	3
11	adjective + preposition	2	1	—	3
12	noun + adverb, cf. ex. (24)	1	1	1	3
13	infinitive + noun	3	—	—	3
14	infinitive + preposition	3	—	—	3
15	finite form + adverb	—	3	—	3
16	preposition + converb, cf. ex. (20)	—	2	1	3
17	preposition + noun	—	—	2	2
18	adverb + infinitive	2	—	—	2
19	finite form + noun, cf. ex. (22)	2	—	—	2
20	noun + preposition	2	—	—	2
21	converb + finite form	—	1	—	1
22	participle + finite form, cf. ex. (17)	—	—	1	1
23	adjective + finite form	—	—	1	1
24	adverb + noun, cf. ex. (25)	1	—	—	1
25	infinitive + adverb	1	—	—	1
26	preposition + participle	—	1	—	1
27	noun + participle	1	—	—	1
28	finite form + converb	—	1	—	1
29	converb + preposition	1	—	—	1
30	adverb + converb	1	—	—	1
	Numbers of occurrences (in total)	142	46	14	202
	Numbers of patterns (in total)	20 (out of 72)	14 (out of 72)	8 (out of 72)	42 (out of 216)

As an anonymous reviewer noticed, three of the five leftmost columns show ‘some kind of verb form + some kind of verb form’, and the other two show ‘adverb + preposition’. Since

prepositional phrases and adverbial phrases tend to be functionally homogeneous (e.g., they tend to be adjuncts), what we see here is a preference to join similar things together: verb forms tend to go with verb forms, and adjunct-like phrases tend to go with adjunct-like phrases.

Regarding the grammatical features, infinitives were primarily imperfective (103 occurrences, 89.4 %), and only a few of them were perfective (11 occurrences, 10.6 %). Finite forms, that is, indicatives and subjunctives, were unequally distributed. In the coarse-grained pattern 'finite form + infinitive' in *lučše* meta-comparatives, there were 33 occurrences of subjunctive forms (64.7 %) vs. 18 occurrences of future indicative forms (35.3 %). In the coarse-grained pattern with the opposite order 'infinitive + finite form' in *lučše* meta-comparatives, the tendency was reversed: there were 9 occurrences of future indicative forms (81.8 %) vs. 2 occurrences of subjunctives (18.2 %). In both patterns, all future indicative forms were perfective. As for the subjunctive mood, let's have a closer look at the coarse-grained pattern 'finite form + infinitive'. Subjunctive forms in this pattern were perfective in 21 occurrences (63.6 %) and imperfective in 12 occurrences (36.4 %). This yields quite an interesting aspectual contrast between finite forms and infinitives. Finite forms tend to be perfective, and infinitives tend to be imperfective in meta-comparatives.

Imperatives (in the coarse-grained pattern 'imperative + infinitive') were almost equally distributed between 2nd-person imperatives (10 occurrences, 52.6 %) and *pust'*-imperatives (9 occurrences, 47.4 %).

There are three groups of meta-comparative sentences distinguished with respect to the clausal/phrasal status and the presence/absence of functional homogeneity. The first group, which is the most numerous (93 occurrences in our sample, that is 46 %), comprises meta-comparative sentences with two clauses, in which morphological forms of verbs are distinct from each other. This is illustrated by examples (15)–(17). Functional homogeneity is not applicable to this group.

(15) [$_{CP}$ *My* *eë* ***lučše*** ***poslušaem***], ***čem*** [$_{TP}$ *samim* ***vydumyvat'***].
we.NOM she.ACC MC listen.FUT.1PL than selves.INST think.up.INF
'We would rather listen to her than invent [something] by ourselves.'
[A. Permjakov. In 'Volga', 2016]

(16) ***Lučše*** [$_{CP}$ ***pojdëmte*** *k* *ozeru*], ***čem*** [$_{TP}$ *zdes'* ***stojat'***].
MC go.IMP.1PL to lake.DAT than here stand.INF
'We would rather go to the lake than stand here.' [A. Skalon. Strela letjaščaja (1964)]

(17) *Sil'no* *zametno*, *čto* [$_{CP}$ *on* ***bol'še*** ***progulivaem*** *eju*]
very noticeable that he.NOM MC be.walked.PTCP.PRS she.INST
neželi.čem [$_{CP}$ *on* ***progulivaet*** *eë*].
than he.NOM walk.PRS.3SG she.ACC
'It seems that he is being walked by her rather than he is walking her.'
[V. Volodin. In 'Volga', 2000]

In (15), the first clause of a finite future indicative form is compared with the second clause with an infinitive. In (16), the first clause with a finite form in the imperative mood is compared with the second clause with an infinitive. In (17), the first clause with a participle is compared with the second clause with a finite form in the indicative mood and the present tense.

The second group, which is also relatively numerous (77 occurrences in the sample, 38 %), is constituted by meta-comparative sentences with functionally homogeneous parts belonging to one clause, cf. examples (18)–(20).

(18) ***Skoree*** [$_{AdvP}$ ***avtomatičeski***], ***čem*** [$_{PP}$ ***s*** *interesom*],
MC automatically(ADV) than with(PREP) interest.INST
snjal *odnu* *iz* *knig* *s* *šatkoj* *etažerki*.
take.PST.SG.M one.ACC out.of books.GEN from wobbly bookcase.GEN
'[He] took a book from the wobbly bookcase automatically rather than selectively.'
[V. Aksënov. Novyj sladostnyj stil' (1997)]

(19) *Èto* *byli* *ljudi* ***skoree*** [$_{AP}$ ***bednye***],
this be.PST.PL people.NOM MC poor(ADJ)
čem [$_{NP}$ *srednego* ***dostatka***].
than average prosperity.GEN(N)
'These were poor people rather than people of average prosperity.' [S. Sergeev-Tsenskij. Flot i krepost' (1941)]

(20) *Vsë* *budet* *xorošo*, — *skazal* *Foma*,
everything be.FUT.3SG good say.PST.SG.M Foma.NOM
skoree [$_{PP}$ ***po*** *privyčke*], ***čem*** [$_{TP}$ *tak* ***dumaja***].
MC by(PREP) habit.DAT than so think.CONV
'"Everything will be good," said Foma, by force of habit rather than thinking so.'
[S. Osipov. Strasti po Fome… (1998)]

In (18), an adverbial phrase is compared with a prepositional phrase. Both are adjuncts and have the semantic role of manner. In (19), an adjectival phrase is compared with a noun phrase. Both are parts of a verb phrase with the copula *byli* '[they] were' and are used predicatively. In (20), a prepositional phrase is compared with a converb clause. Both are adjuncts and have the semantic role of manner.

The third group (32 occurrences in the sample, 16 %) comprises meta-comparative contexts either with a clause and a phrase smaller than a clause or two phrases smaller than a clause. See examples (21)–(25). Functional homogeneity is not applicable to this group.

(21) *Pust'* *už* ***lučše*** ⟨…⟩ [$_{NP}$ *vsemu* ***konets***],
IMP.PART PART MC everything.DAT end.NOM
čem [$_{TP}$ *vsë* *vremja* ***bojat'sja***].
than all time.ACC be.afraid.INF
'It's better to finish everything than to be afraid all the time.'
[V. Belousova. Žil na svete rycar' bednyj (2000)]

(22) ***Lučše*** [$_{CP}$ ***by*** *my* ***possorilis'***],
MC SUBJ we.NOM quarrel.PST.PL
čem [$_{NP}$ *èto* *oskorbivšee* *menja* ***nevnimanie***]!
than this insult.PTCP.PST I.ACC inattention.NOM(N)
'I would rather quarrel with you than [put up with] your being inattentive, which insulted me.'
[V. Kaverin. Otkrytaja kniga (1949–1956)]

(23) ***Lučše*** [$_{PP}$ ***na*** *peredovuju*], ***čem*** [$_{TP}$ *zdes'* ***korpet'***].
MC on(PREP) front.line.ACC than here persevere.INF
'It is better [to go] to the front line than to persevere here.'
[G. Baklanov. Yužnee glavnogo udara (1957)]

(24) *Ja* ***lučše*** [$_{NP}$ ***pulju*** *sebe* *v* *lob*], ***čem*** [$_{AdvP}$ ***tak-to***]!..
I.NOM MC bullet.ACC(N) self.DAT in forehead.ACC than so(ADV)
'I would rather [fire] a bullet in my forehead than [live] in this way!'
[B. Vasil'ev. Byli i nebyli. Kniga 1 (1988)]

(25) ***Lučše*** [$_{AdvP}$ ***ploxo***], ***čem*** [$_{NP}$ ***ničego***].
MC badly(ADV) than nothing.GEN(PRON)
'It is better [to speak] ill than [to say] nothing.' [R. Frumkina. O nas — naiskosok (1995)]

The sentences (21)–(23) include a clause and a phrase smaller than a clause. In (21), a noun phrase is compared with an infinitival clause, while in (22), a clause with a finite form in the subjunctive mood is compared with a noun phrase. In (23), a prepositional phrase is compared with an infinitive clause. The sentences (24) and (25) have two phrases smaller than a clause. In (24), a noun phrase is compared with an adverbial phrase, while in (25), an adverbial phrase is compared with a noun phrase with a pronoun.

However, it is hard to decide which syntactic analysis to propose for examples (21)–(25). Let us start with example (24). We can assume that the first part of a meta-comparative in (24) is a full clause with an elided verbal finite form (e.g., *pušču* '[I] will fire') and its second part is a clause with an elided finite form and an infinitive that forms the analytic future tense (*budu žit'* '[I] will live'), see (26a) repeated from (24) with added verbal forms. An alternative analysis for (24) is that the second part includes only an elided infinitival form (e.g., *žit'* 'to live'), see (26b).

(26) a. *Ja* ***lučše*** [$_{CP}$ ~~***pušču***~~ *pulju* *sebe* *v* *lob*],
I.NOM MC shoot.FUT.3SG bullet.ACC(N) self.DAT in forehead.ACC
čem [$_{CP}$ *tak-to* ~~***budu***~~ ~~***žit'***~~]*!..*
than so(ADV) be.FUT.1SG live.INF
'I would rather [fire] a bullet in my forehead than [will live] in this way!'
[B. Vasil'ev. Byli i nebyli. Kniga 1 (1988)]

b. *Ja* ***lučše*** [$_{CP}$ ~~***pušču***~~ *pulju* *sebe* *v* *lob*],
I.NOM MC shoot. FUT.3SG bullet.ACC(N) self.DAT in forehead.ACC
čem [$_{TP}$ *tak-to* ~~***žit'***~~]*!..*
than so(ADV) live.INF
'I would rather [fire] a bullet in my forehead than [to live] in this way!'
[B. Vasil'ev. Byli i nebyli. Kniga 1 (1988)]

Regarding examples (21)–(23), it is less clear which lexical items are elided. Below we repeat these examples adding verbal forms that can be assumed to be elided, cf. (27)–(29):

(27) *Pust'* *už* ***lučše*** ⟨…⟩ [$_{CP}$ *vsemu* ~~***nastupit***~~/~~***pridët***~~ *konets*],
IMP.PART PART MC everything.DAT come.FUT.3SG end.NOM
čem [$_{TP}$ *vsë* *vremja* ***bojat'sja***].
than all time.ACC be.afraid.INF
'It's better to finish everything than to be afraid all the time.'
[V. Belousova. Žil na svete rycar' bednyj (2000)]

(28) ***Lučše*** [$_{CP}$ ***by*** *my* ***possorilis'***], ***čem*** [$_{TP}$ ~~***vyslušivat'***~~/~~***terpet'***~~ *èto*
MC SUBJ we quarrel.PST.PL than listen.INF/put.up.with.INF this
oskorbivšee *menja* ***nevnimanie***]!
insult.PTCP.PST I.ACC inattention.NOM(N)
'I would rather quarrel with you than [put up with] your being inattentive which insulted me.'
[V. Kaverin. Otkrytaja kniga (1949–1956)]

(29) ***Lučše*** [$_{TP}$ ~~***poexat'***~~/~~***otpravit'sya***~~ *na* *peredovuju*],
MC go.INF/set.off.INF on(PREP) front.line.ACC
čem [$_{TP}$ *zdes'* ***korpet'***].
than here persevere.INF
'It is better [to go] to the front line than to persevere here.'
[G. Baklanov. Južnee glavnogo udara (1957)]

Finally, consider (25). It is also not clear which lexical items are elided in this context. It can be *govorit'* 'to say', *otzyvat'sja* 'to speak [somehow of somebody]', *dumat'* 'to think' or some other speech or mental verbs.

3.2. Discussion

Let us summarize the main findings of the corpus study. Although the number of occurrences of asymmetric meta-comparatives shows that they represent a marginal grammatical

phenomenon, the corpus provided enough data to make the following generalizations about their syntactic and morphological properties.

Firstly, *lučše* is used in asymmetric meta-comparative sentences more often than *skoree* and *bol'še*. It is worth pointing out that asymmetric meta-comparative sentences with *lučše* demonstrate at least the same grammatical restrictions as symmetric meta-comparative sentences with *lučše*, see more in Section 1 with a reference to [Zevakhina et al. 2017]. The present corpus study added to this list more syntactic categories and more morphological forms which *lučše* is compatible with.

Secondly, asymmetric meta-comparatives show bias towards imperfective infinitives and perfective finite forms.

Thirdly, asymmetric meta-comparatives are either bi-clausal, bi-phrasal or mixed (clausal-phrasal). Their bi-phrasal variety shows functional homogeneity. The clausal/phrasal status of the parts of meta-comparatives is dependent upon verbal ellipsis, which is sometimes hard to determine and seems to be conventionalized.

The experiment reported in the next section tests bi-clausal and mixed (clausal and phrasal) groups of asymmetric meta-comparatives. For both groups, we test the grammaticality of patterns with infinitives. For the former group, we take the most frequent coarse-grained pattern 'finite form + infinitive', while for the latter group, we take the coarse-grained pattern 'noun + infinitive' that lacks a finite verbal form. Both patterns are tested with the *lučše* meta-comparative, which is the most frequent across all patterns in the corpus, and with the *skoree* meta-comparative.

4. Experimental study

4.1. Hypotheses

The first hypothesis (H1) is that the asymmetric meta-comparatives *lučše* and *skoree* would be judged as semi-grammatical in contrast to grammatical and ungrammatical sentences. This hypothesis is mainly motivated by the low number of occurrences of asymmetric meta-comparatives in the corpus. A plausible reason for their rarity is that they lie in the periphery of Russian grammar and seem to be neither fully grammatical nor entirely ungrammatical.

According to the second hypothesis (H2), *lučše* meta-comparatives would be evaluated as more grammatical than *skoree* meta-comparatives, since the former were more frequent in the corpus and revealed more patterns in the corpus study than the latter ones.

The third hypothesis (H3) can be divided into two parts.

On the one hand, infinitive clauses and noun phrases can take argument positions in a clause and be coordinated, cf. (30), and are also grammatical as parts of standard comparatives, cf. (31). Therefore, we hypothesize (H3a) that the pattern 'noun + infinitive' would be evaluated as more grammatical than the pattern 'finite form + infinitive'.

(30) *Ja* *ljublju* ***tantsy*** *i* ***pet'***.
I.NOM like.PRS.1SG dances.ACC and sing.INF
'I like dances and singing.'

(31) *Ja* *bol'še* *ljublju* ***tantsy,*** *čem* ***pet'***.
I.NOM more like.PRS.1SG dances.ACC than sing.INF
'I like dances more than singing.'

On the other hand, as seen from the corpus data, meta-comparatives with finite verbal forms and infinitives are more frequent than those comparing infinitive clauses and noun phrases. According to the hypothesis (H3b), the pattern 'finite form + infinitive' would be evaluated as more grammatical than the pattern 'noun + infinitive'.

4.2. Participants

A hundred and five people voluntarily participated in the experiment. Seventy-seven of them were women and twenty-eight were men. Their ages ranged from 20 to 48 years, with the mean age being 23 years.

4.3. Design and materials

Critical items included 24 sentences, which were similar to the meta-comparatives observed in the corpus study from Section 2. The experiment had a 2 x 2 factorial design: meta-comparative contexts (*lučše* vs. *skoree*) x asymmetric grammatical forms in two parts of a meta-comparative ('finite form + infinitive' vs. 'noun + infinitive'). Each of the 4 experimental conditions had 6 versions. This yielded 24 critical items illustrated by examples (32)–(35).

(32) *lučše* + finite form + *čem* + infinitive
[$_{CP}$ *Alyona* ***lučše*** *fil'm* ***posmotrit***], ***čem*** [$_{TP}$ *delami* ***zanimat'sja***].
Alyona.NOM MC film.ACC watch.FUT.3SG than work.INST.PL do.INF
'Alyona would rather watch a film than do work.' [4]

(33) *skoree* + finite form + *čem* + infinitive
[$_{CP}$ *Ix* *roditeli* ***skoree*** ***oslepnut***], ***čem*** [$_{TP}$ ***videt'*** *ètot* *užas*].
their parents.NOM MC go.blind.FUT.3SG than see.INF this horror.ACC
'Their parents would rather go blind than see this terrifying thing.'

(34) *lučše* + noun + *čem* + infinitive
[$_{NP}$ *Dlja* *nas* ***lučše*** *družnaja* *sem'ja*], ***čem*** [$_{TP}$ ***žit'*** *bogato*].
for we.GEN MC close-knit family.NOM(N) than live.INF richly
'For us, it is better to be a close-knit family than to live richly.'

(35) *skoree* + noun + *čem* + infinitive
[$_{NP}$ *Tut* *važno* ***skoree*** ***umenie***], ***čem*** [$_{TP}$ ***iskat'*** *lëgkie* *puti*].
here important MC skill.NOM(N) than search.INF easy ways.ACC
'In this case, it is more important to have a skill than to look for an easy way.'

All the critical items that constitute one condition resembled each other. Finite forms were in the indicative mood, perfective aspect, and future tense. The reason for choosing these forms was that, firstly, they were one of the most frequent verbal forms observed in the corpus study and, secondly, the patterns that included nouns and infinitives were only in the indicative mood in the corpus. All the infinitives were derived from imperfective verbs, since, according to the corpus study, imperfective infinitives were more frequent than the perfective ones.

The experiment involved 26 control items. Since the critical items were expected to be evaluated as semi-grammatical, one half of the control items were grammatically correct, and the other half was grammatically incorrect (13 vs. 13 respectively). Grammatically incorrect

[4] An anonymous reviewer pointed out that the reverse clause order is also possible, cf.: *Čem* [$_{TP}$ *delami zanimat'sja*], [$_{CP}$ *Alyona lučše fil'm posmotrit*]. Moreover, it sounds more natural. It is worthy to note that *skoree… čem* is also possible with the reverse clause order. However, only the direct order for *bol'še… čem* is grammatical, whereas the reverse order is non-grammatical. It is an interesting issue, and we thank an anonymous reviewer for drawing our attention to it. We leave it for future research.

control items contained a preposition in an incorrect position. The sentences (36)–(37) illustrate control items.

(36) Example of a grammatically correct control item
Progulka v solnečnyj den' podnimet vam nastroenie.
walk.NOM on sunny day.ACC raise.FUT.3SG you.DAT mood.ACC
'A walk on a sunny day will cheer you up.'

(37) Example of a grammatically incorrect control item[5]
**Po ego mneniju, tebja est' u vse šansy postupit'.*
by(PREP) his opinion.DAT you.GEN exist by(PREP) all chances.NOM enter.INF
'You have every chance of being admitted to the university.'

Besides 24 critical items and 26 control items, the experiment included three control items always presented before the main part of the experiment. The control items consisted of two grammatically correct sentences and one grammatically incorrect one, in which a preposition also had a wrong position. To conclude, the experiment consisted of 53 sentences such that their length ranged from 7 to 11 words.

4.4. Procedure

The experiment was administered at the Ibex Farm (https://ibex.spellout.net), which was a web platform to host online psycholinguistic experiments until September 30, 2021. This Internet resource is designed in such a way that it makes it possible to randomly order critical and control items for each participant, to measure the reaction times of the participants' responses to given items, and to restrict the time for an answer.

The experiment was carried out as a grammaticality judgment task. This means that participants had to read a critical or control sentence presented on the computer screen, press the spacebar, and answer a question about whether the sentence was grammatically correct, either selecting the 'F' key for 'yes' or selecting the 'J' key for 'no'. The time to give an answer was limited to 5 seconds. This was a reasonable time interval not to be rushed and not to be distracted. The experiment started with a questionnaire in which participants were asked to fill in their personal information required for statistical purposes: name, age, gender, and first language. Furthermore, participants had to confirm their agreement to participate in the experiment and to give permission for data processing. The next step was to read the following instruction (here translated into English): 'Your task is to read sentences and decide whether they are grammatically correct, that is, whether they are constructed according to the rules of Russian grammar. To illustrate, the sentence *I am very grateful for the help* is correct from a grammatical point of view, while the sentence *I are very grateful the help for* is not, since it contains a grammatical error. To start the experiment, press the spacebar. After reading the sentence, you will need to answer the question whether it is grammatically correct. You have up to 5 seconds. Press the 'F' key to choose 'yes' and the 'J' key to choose 'no'. After that period, you will be presented with the next sentence. To move from one sentence or question to another, press the spacebar. The experiment takes around 10 minutes to complete. There are no correct or incorrect answers. Don't think too long and don't be in a hurry. The first 3 sentences will be training.'

[5] The sentence (37) is ungrammatical since the preposition *u* selects a noun phrase in the Genitive case and is detached from its argument *tebja*.

4.5. Results

Responses from five participants were excluded from the statistical analysis. Three of these participants were not native Russian speakers. Two other participants gave incorrect responses to more than 50 % of the control items. Furthermore, nine critical and seven control items received from several participants (that is, 16 data points) were removed since they were given null answers. This left 2391 answers for the critical items and 2593 for the control items (in total, 4984 answers).

Figure 2 shows the distribution of *yes*/*no*-answers to the critical and (in)correct control items.

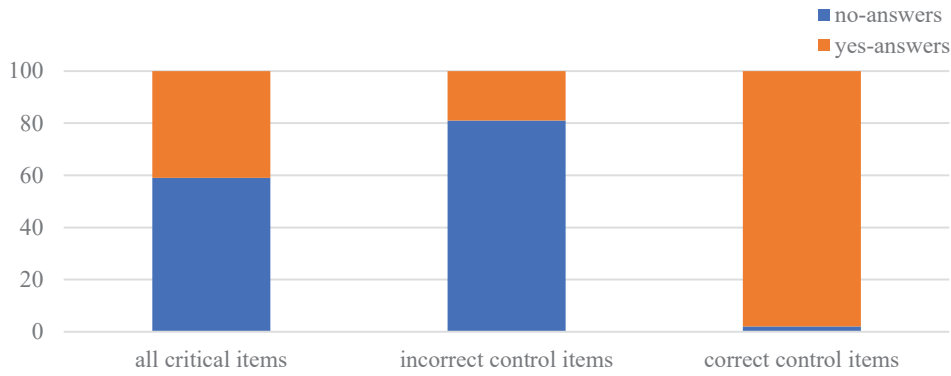

Fig. 2. The distribution of the answers to critical items and (in)correct control items

Using R [R Core Team 2020], we performed a generalized mixed-effects logistic regression model [Bates et al. 2015] with random intercepts included for subjects and items to test H1.

The correct control items received significantly more *yes*-answers than the incorrect control items ($\beta = -6.4918$, $SE = 0.5261$, $Z = -12.34$, $p < 0.0001$). The incorrect control items received around 20 % of *yes*-answers. For all of these cases, the participants commented on their decisions, saying that they considered the wrong position of prepositions as typos, rather than errors. This could have been avoided if the instruction had included something like ‘there are no typos in the sentences’. However, statistically this drawback of the procedure was not that important.

The critical items received significantly more *yes*-answers than the incorrect control items ($\beta = -1.7708$, $SE = 0.4286$, $Z = -4.132$, $p < 0.0001$), but significantly less *yes*-answers than the correct control items ($\beta = 4.7209$, $SE = 0.4624$, $Z = 10.210$, $p < 0.0001$). Moreover, as seen in Figure 2, the critical items were evaluated as semi-grammatical (around 42 % of *yes*-answers vs. around 58 % of *no*-answers). This confirms hypothesis H1.

Figure 3 shows the distribution of *yes*/*no*-answers for the following four meta-comparatives: *lučše* + finite form + *čem* + infinitive, *skoree* + finite form + *čem* + infinitive, *lučše* + noun + *čem* + infinitive, *skoree* + noun + *čem* + infinitive.

According to Figure 3, the participants evaluated the pattern ‘noun + infinitive’ with *lučše* meta-comparatives as the most grammatical (around 73 % *yes*-answers). The pattern ‘finite form + infinitive’ with *lučše* meta-comparatives was semi-grammatical (around 42 % *yes*-answers). Finally, the two patterns with *skoree* meta-comparatives were evaluated as the least grammatical, but still not as entirely ungrammatical (with 74 % and 71 % *no*-answers respectively).

To test H2 and H3, using R [R Core Team 2020], we performed a generalized mixed-effects logistic regression model [Bates et al. 2015], with random intercepts included for subjects and items.

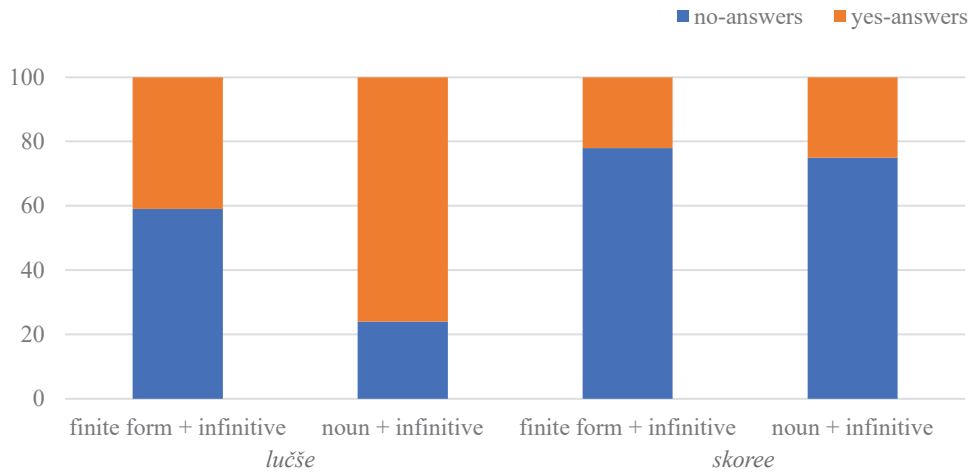

Fig. 3. The distribution of *yes*/*no*-answers for 'finite form/noun + infinitive' patterns in *lučše* and *skoree* meta-comparatives

Lučše meta-comparatives were evaluated as more grammatical than *skoree* meta-comparatives ($\beta = -1.9242$, $SE = 0.4344$, $Z = -4.429$, $p < 0.0001$). This confirms hypothesis H2. The pattern 'noun + infinitive' was judged to be more grammatical than the pattern 'finite form + infinitive' ($\beta = 1.1293$, $SE = 0.5393$, $Z = 2.094$, $p = 0.03625$). This confirms hypothesis H3a. The interaction of the factor of the meta-comparative type (with 2 levels: *lučše* and *skoree*) vs. the factor of pattern (with 2 levels: 'noun + infinitive' and 'finite form + infinitive') was also significant ($\beta = -1.8349$, $SE = 0.6290$, $Z = -2.917$, $p = 0.00353$).

Regarding the individual patterns, in *lučše* meta-comparatives, the pattern 'noun + infinitive' received significantly more *yes*-answers than the pattern 'finite form + infinitive' ($\beta = 2.0397$, $SE = 0.4461$, $Z = 4.573$, $p < 0.0001$). Furthermore, the pattern 'noun + infinitive' in *lučše* meta-comparatives received significantly more *yes*-answers than the pattern 'finite form + infinitive' in *skoree* meta-comparatives ($\beta = -3.0430$, $SE = 0.4507$, $Z = -6.752$, $p < 0.0001$), as well as the pattern 'noun + infinitive' in *skoree* meta-comparatives ($\beta = -2.8383$, $SE = 0.4496$, $Z = -6.313$, $p < 0.0001$). The pattern 'finite form + infinitive' in *lučše* meta-comparatives received significantly more *yes*-answers than the pattern 'finite form + infinitive' in *skoree* meta-comparatives ($\beta = -1.0034$, $SE = 0.4430$, $Z = -2.265$, $p = 0.0235$). Other comparisons did not reveal any statistically significant distinctions (all p's > 0.05).

4.6. Discussion

The results of the experimental study showed that meta-comparatives were evaluated as semi-grammatical. This agrees with the results of the corpus study that also demonstrated marginality of asymmetric meta-comparatives.

Furthermore, the results revealed that *lučše* meta-comparatives were judged as more grammatical. This also agrees with the results of the corpus study, where they were more frequent than meta-comparatives of other types.

Finally, the pattern 'noun + infinitive' was evaluated as more grammatical than the pattern 'finite form + infinitive' for *lučše* meta-comparatives. This is not expected from the corpus data that demonstrated a reverse contrast. A possible reason is that nouns and infinitives take argument positions in a clause, and, in this sense, they are functionally homogeneous.

5. Conclusion

To conclude, the paper presents certain morphological and syntactic properties and shows the diversity among their various grammatical patterns. Morphologically, infinitives tend to be imperfective, and finite verb forms (in the subjunctive and indicative mood) tend to be perfective in asymmetric meta-comparatives. Syntactically, asymmetric meta-comparatives are either bi-clausal, bi-phrasal, or mixed (clausal-phrasal). Their bi-phrasal variety shows functional homogeneity. The clausal/phrasal status of the parts of meta-comparatives is dependent upon verbal ellipsis, which is sometimes hard to determine and seems to be conventionalized. *Lučše* meta-comparatives are more frequent in the corpus and are evaluated as more grammatical than *skoree* meta-comparatives. The asymmetric pattern 'noun phrase + infinitive phrase' is evaluated as more grammatical than the pattern 'verb phrase (finite form) + infinitive phrase' for *lučše* meta-comparatives, while there is no such contrast between these patterns for *skoree* meta-comparatives. All these facts shed light on the grammatical portrait of Russian meta-comparatives as well as on the use and evaluation of asymmetric meta-comparatives in a natural language.

By providing corpus and experimental evidence, the paper contributes to our deeper understanding of asymmetric (meta-)comparative structures that represent a marginal though important phenomenon of language grammar, demonstrate morphological and syntactic properties, and show within-group diversity in terms of their grammaticality status. The study contributes to the discussion of grammatical asymmetry in parallel syntactic structures (comparative and coordinated structures, among others).

ABBREVIATIONS

1, 3 — 1, 3 person
ACC — accusative case
ADJ — adjective
ADV — adverb
COMP — standard comparative
CONV — converb
DAT — dative case
FUT — future tense
GEN — genitive
IMP — imperative mood
IMP.PART — imperative particle
INF — infinitive
INST — instrumental case
LOC — locative case
MC — meta-comparative
NOM — nominative case
N — noun
PART — particle
PL — plural
PREP — preposition
PRON — pronoun
PRS — present tense
PTCP — participle
PST — past tense
SG — singular
SUBJ — subjunctive

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