

Constructions and Language Change: From Genitive to Accusative Objects in Russian

Abstract

This article reports on a corpus study of ongoing language change in Russian, whereby **genitive governing** verbs like *bojat'sja* 'fear' combine with objects in the accusative in addition to the traditionally normative genitive. While the use of the accusative is still not very frequent in Contemporary Standard Russian, we demonstrate that it is increasing, and that a number of factors such as individuation (animacy), grammatical voice, frequency and verb semantics (intensionality and directionality) promote the use of the accusative. Our analysis is couched in Construction Grammar, and we show that the shift from genitive to accusative objects in Russian provide empirical arguments in support of Construction Grammar as a theory of language change.

Keywords: Russian, corpus linguistics, Construction Grammar, argument structure, case, individuation, animacy

1. Introduction

Ever since the traditional term "construction" had its renaissance in theoretical linguistics and Construction Grammar established itself as a major linguistic framework, constructions have proven relevant for a wide range of problems in syntax and morphology, and in recent years constructions have also become increasingly important in diachronic linguistics (Barðdal 2008 and 2011, Traugott and Trousdale 2013). The present article adds to this body of evidence through a corpus-based study of changes in argument structure in Russian. In particular, our study indicates that Construction Grammar facilitates an insightful analysis of language change due to its focus on (a) networks, (b) constructions, (c) the mapping of semantic information directly onto syntactic structures, and (d) the intimate relationship between language use and language structure (a usage-based approach). In this way, our study lends support to four fundamental tenets of Construction Grammar.

Besides contributing to diachronic Construction Grammar in general, the present study sheds new light on Russian historical syntax. While it is well known that verbs **that traditionally govern the genitive such as** *bojat'sja* 'fear' to some extent combine with objects in the accusative, we present the first large-scale study of corpus data. Our study addresses three empirical questions: (a) to what extent do verbs like *bojat'sja* combine with the accusative?, (b) what are the factors that motivate the use of the accusative?, and (c) are we witnessing language change in progress?

With regard to the first question, we show that on average in the Russian National Corpus the verbs under scrutiny take accusative objects in about 2% of the

examples. Although we discover systematic differences between verbs, we conclude that we are dealing with a relatively low-frequent phenomenon in Contemporary Standard Russian.

Our study of the second question indicates that the use of the accusative is the result of the interplay of a number of factors. In particular, **we demonstrate that animacy (which is related to the broader concept of individuation)**, grammatical voice, frequency and semantic factors such as intensionality and directionality are relevant for the use of the accusative.

The third question about language change in progress can be answered in the affirmative. Our findings clearly show that for animate objects the use of the accusative has increased significantly since the mid 1800s.

Our argument is structured as follows. After a brief presentation of the problem and previous research in section 2, we clarify our methodology in section 3 and discuss our main findings in section 4. Section 5 addresses the role of individuation, while section 6 shows that the variation we observe in modern Russian reflects language change in progress. In section 7, we consider the differences among individual verbs, before we provide a unified analysis in terms of Construction Grammar in section 8. The contribution of our study is summarized in section 9.

2. The problem

The direct object of Russian verbs is in the accusative. However, some groups of verbs combine with objects in the dative (e.g. *pomogat'* 'help'), the instrumental (e.g. *vladet'* 'possess') and the genitive (e.g. *bojat'sja* 'fear'). In this article, we focus on verbs that take the object in the genitive:

- (1) On **boitsja ženy**_{GEN} i staraetsja byt' točnym. [Vs. V. Ivanov 1940-48]¹
'He fears his wife and tries to be accurate.'

What interests us is the fact that *bojat'sja* and some other verbs are also occasionally attested with objects in the accusative:

- (2) Vot on takoj prosten'kij, **boitsja svoju ženu**_{ACC} [...]. [Kollektivnyj 2007-11]
'He's such a simple-minded guy, he fears his wife [...].

Variation between accusative and genitive in the object is well known from other Slavic languages such as Czech and Polish (Timberlake 2014: 1687-1689, Tabakowska 2014), and is also attested in other Indo-European languages, e.g. Ancient Greek (Conti and Luraghi 2014) and Indo-Iranian (Dahl 2014). However, we will confine us to the study of Russian, for which we focus on the following empirical research questions:

¹ Unless otherwise indicated all numbered examples are from the Russian National Corpus, which is freely available at www.ruscorpora.ru. For the convenience of the reader we use subscripts _{ACC} and _{GEN} in order to designate the cases of relevant noun phrases in the examples. The relevant parts of the example sentences are boldfaced.

- (3) a. To what extent is the accusative used for verbs like *bojat'sja*?
 b. What are the factors that motivate the use of the accusative?
 c. Are we witnessing ongoing language change?

We have to separate accusative-genitive variation in verbs like *bojat'sja* from three more well-known phenomena where the grammatical object may appear in either accusative or genitive case:

- (4) a. Objects of negated verbs
 b. Objects with partitive meaning
 c. Objects of **some** so-called weak intensional verbs²

First, when the speaker negates a transitive verb, its object **may occur** in the genitive, although the accusative **is also a frequent option**, cf. the non-negated phrase *čitat' knigu_{ACC}* 'read a book' vs. the negative phrases *ne čitat' knigi_{GEN}* with the object in the genitive and *ne čitat' knigu_{ACC}* with the object in the accusative. Second, the objects of certain perfective verbs vary between accusative and genitive objects: a genitive object indicates an unspecified amount (so-called partitive meaning). Compare the unmarked use of the accusative in *kupit' xleb_{ACC}* 'buy bread' with the use of the genitive in *kupit' xleba_{GEN}* 'buy some bread'. Finally, accusative-genitive variation occurs in the object of so-called weak intensional verbs (Kagan 2013) as shown in examples such as *ždat' avtobus_{ACC}* 'wait for the bus' vs. *ždat' avtobusa_{GEN}* 'wait for a bus'. As the glosses suggest, in verbs of this type case depends on definiteness, or in more general terms, individuation. In fact, Timberlake (2004: 317) suggests that individuated reference is relevant for all three types of case variation mentioned in (4): low individuation promotes the use of the genitive.

As opposed to the verb types in (4), where both accusative and genitive objects are well established in normative Russian, in the present study we investigate a group of verbs (e.g. *bojat'sja* 'fear'), where according to the traditional norm genitive is the only permitted case in the object. The verbs under scrutiny in the present article are semantically related to the verbs in (4c), and we will therefore not attempt a semantic characterization of the verbs we investigate, but instead provide a full list of verbs in section 3 below.

Since the accusative-genitive variation for verbs like *bojat'sja* traditionally has not been considered normative, it comes as no surprise that this group is less well understood than the cases mentioned in (4) above. However, variation in verbs like *bojat'sja* has not gone completely unnoticed in the scholarly literature. Major grammars of Russian tend to mention the phenomenon briefly (e.g. Švedova (ed.) 1980: 35, Švedova and Lopatin 1989: 364 and 2002: 413, Mathiassen 1996: 218, Timberlake 2004: 319, Vinogradov 1947: 623), and although accusative-genitive

² In the same way as Kagan (2013: 89f.) we distinguish between strong and weak intensional verbs. For strong intensional verbs such as *predstavljat' sebe* 'imagine' there is an assumption that the object exists in the relevant mental world, whereas for weak intensional verbs such as *ždat'* 'wait' no such implication holds. For instance in *Dima predstavljaet sebe burju* 'Dima imagines a storm', the storm does exist in Dima's imagination. For *Dima ždet čuda* 'Dima is waiting for a miracle', on the other hand, there is no implication that the miracle exists in the relevant mental world.

variation for *bojat'sja* and similar verbs is not mentioned in large dictionaries such as Černišev (ed.) (1950-1965), Evgen'eva (ed.) (1999) and Ožegov and Švedova (2005), some specialized dictionaries comment on the fact that these verbs are attested with accusative objects (e.g. Vakurov and Raxmanova 1993-1994 and Rozental' and Telenkova 1984).³

Objects in the accusative for the relevant verbs are furthermore mentioned in socio-linguistic works, especially those concerned with changes in the prescriptive norms of standard Russian (cf. e.g. Comrie, Stone and Polinsky 1996: 144-147, Gorbačevič 1971: 237, Ickovič 1982: 35-37, and Ljustrova et al. 1982: 95-96). Works on historical syntax, e.g. Krys'ko 1997: 240-245 and Ferm 2005: 142-145, show that the use of the accusative for verbs like *bojat'sja* is not a new phenomenon. Linguists interested in grammatical voice often cite *bojat'sja* and similar verbs as exceptions to the general rule that verbs with the middle voice marker *-sja* normally do not combine with accusative objects – a point we come back to in section 7.1 (cf. e.g. Bulaxovskij 1952: 174, Israeli 1997: 40-45, Janko-Trinickaja 1962: 60-61, Miloslavskij 1978: 212, and Nichols 1993: 81-82). The relevance of semantics for the accusative-genitive variation has been studied by Kagan (2013). All the cited works provide interesting examples and valuable insights – and sometimes different assessments of the situation. However, we are not aware of previous large-scale corpus studies. The present article is an attempt to fill this gap in the scholarly literature.

3. Methodology: Corpus Data

In order to shed light on accusative-genitive variation in grammatical objects we searched for accusative objects in the Russian National Corpus for the following verbs, which traditionally are assumed to govern the genitive:⁴

- (5) *bereč'sja* 'be careful, *čuždat'sja* 'shun', *deržat'sja* 'hold on to', *dičit'sja* 'be shy of', *dobivat'sja* 'strive for', *doždat'sja* 'wait for', *domogat'sja* 'seek after', *dostigat'* 'reach', *gnušat'sja* 'have an aversion to', *izbegat'* 'avoid', *kasat'sja* 'touch', *lišat'sja* 'be deprived of', *opasat'sja* 'be afraid of', *osteregat'sja* 'beware of', *pugat'sja* 'be frightened of', *slušať'sja* 'obey', *stesnjat'sja* 'feel shy', *storonit'sja* 'shun', *strašit'sja* 'be afraid of', *stydit'sja* 'be ashamed of', *trusit'* 'be a coward', *udaljat'sja* 'move away', *užasat'sja* 'be horrified', *xvatit'sja* 'notice the absence of'

³ An exception from the rule that major dictionaries ignore case variation for these verbs is Ušakov (ed.) (1935-40/2008), which acknowledges the accusative for *slušať'sja*.

⁴ For ease of reference, the list above only mentions imperfective verbs, but our corpus searches covered morphologically related perfective verbs as well, both prefixations such as *pobojat'sja* 'fear (perfective)' from *bojat'sja* 'fear (imperfective)' and verbs with different suffixes such as *lišit'sja* 'be deprived of (perfective)', which corresponds to *lišat'sja* 'be deprived of (imperfective)'. **It would be interesting to investigate whether aspect has an impact on the choice between accusative or genitive in the object. However, since not all imperfective verbs under scrutiny in the present study have imperfective partners, and since some of the relevant perfective verbs are low-frequent, a study of the relationship between aspect and object case will have to be left open for future research.**

The list in (5) is based on the authoritative Russian Academy Grammar (Švedova (ed.) 1980: 26), and supplemented with some relevant verbs from Mathiassen (1996: 218) and Timberlake (2004: 317).⁵

Of the verbs in (5), only ten verbs returned examples with accusative objects in the Russian National Corpus. The number of hits is given in Table 1. In addition to the main corpus (which comprises ca. 230 million words), we also performed searches in the newspaper corpus (ca. 170 million words). The newspaper corpus is of particular interest for us since it consists of texts from **year 2000 onwards**, and thus is likely to reflect ongoing language change.

The corpus sizes referred to above are from July–September 2013, when the corpus searches were carried out. In order to avoid the confounding factor of negation, which, as mentioned above, may motivate the use of the genitive in the object, examples with the negation marker *ne* before the verb were excluded from the sample. We also avoided objects with animate nouns in declension I such as *otec* ‘father’. Since these nouns display syncretism between the accusative and genitive cases, we would not be able to decide whether the object is in the accusative or the genitive. Only objects in the singular were searched for, and the numbers in Table 1 refer to examples where the verb and the object noun are adjacent. The adjacency requirement was included in order to eliminate unnecessary noise in the sample. We return to declension classes in section 5.

	Main corpus	Newspaper corpus	Total
<i>bojat'sja</i> ‘fear’	35	53	88
<i>dobivat'sja</i> ‘strive for’	1	1	2
<i>dožadat'sja</i> ‘wait for’	73	41	114
<i>dostigat'</i> ‘reach’	19	5	24
<i>izbegat'</i> ‘avoid’	20	10	30
<i>kasat'sja</i> ‘touch’	1	0	1
<i>opasat'sja</i> ‘be afraid of’	2	0	2
<i>pugat'sja</i> ‘be frightened of’	2	0	2
<i>sluшат'sja</i> ‘obey’	69	23	92
<i>stesnjat'sja</i> ‘feel shy’	2	0	2
Total	224	133	357

Table 1: Attestations of Accusative objects in the Russian National Corpus

As shown in Table 1, five verbs returned only one or two hits with the accusative. In the following we focus on the remaining five verbs (*bojat'sja*, *dožadat'sja*, *dostigat'*, *izbegat'* and *sluшат'sja*) for which we have enough data to study the factors motivating the use of the accusative in the object. These verbs are boldfaced in Table 1.

Providing comparable data for genitive objects is not a trivial task. While for the accusative the challenge is that we are dealing with relatively small numbers, the genitive confronts us with the opposite challenge. For *bojat'sja*, for instance, a search in the Russian National Corpus (main corpus) for an adjacent object in the

⁵ Additional verbs are mentioned in Janda and Clancy (2002), but in order to keep our corpus study within manageable limits, these additional verbs are not investigated in the present article.

genitive returned 5,925 hits. However, there is considerable noise in the data, which can only be weeded out manually. Since this would not be a feasible task for almost 6,000 examples, we developed the following methodology. We first extracted randomized samples for each of the verbs under scrutiny. In order to cover all relevant genders and declension classes, we carried out **four** searches for each verb in both parts of the corpus⁶. If a search yielded more than 300 hits, we extracted a random sample of 300 examples. If a search returned less than 300 hits, we analyzed all examples. As a result of this procedure we arrived at samples ranging from 161 examples (*slušať'sja* 'obey' in the newspaper corpus) to 1176 examples (*dožiadať'sja* 'wait for', newspaper corpus). On the basis of the numbers of genuine examples in the samples, it was possible to extrapolate the numbers of genuine examples with the genitive in the whole corpus. In the next section, we will see that these extrapolated numbers facilitate reliable comparisons between genitive and accusative objects.

4. How Widely is the Accusative Used?

Different scholars give different estimates of the frequency of accusative objects for verbs like *bojať'sja*. Miloslavskij (1978: 212) characterizes the use of the accusative as a "scanty exception" (Russian: *mizernoe isključenie*) and Prokopovič et al. (1975: 17) mentions "isolated examples" (*ediničnye primery*), whereas according to Gorbačevič (1971: 237) the accusative is attested "not infrequently" (*neredko*) and Krys'ko (1997: 244) states that the accusative displays "quite a high frequency" (*dostatočno vysokaja častotnost'*) in his data. Several authors place themselves somewhere in between, using words such as *inogda* 'sometimes' and *izredka* 'now and then' to describe the frequency of the accusative with the relevant verbs (cf. e.g. Butorin 1966: 130, Ickovič 1982: 35, and Janko-Trinickaja 1962: 60).

Assessments of the socio-linguistic status of accusative objects also vary. Some scholars regard the use of the accusative as "colloquial" (Russian: *razgovorno*, Comrie, Stone and Polinsky 1996: 145, Ljustrova et al. 1982: 95-96, Rozental' and Telenkova 1984: 54), while others consider it "substandard" (*prostorečno*, e.g. Gorbačevič 1971: 237, Janko-Trinickaja 1962: 60, Nichols 1993: 82, Vinogradov 1947: 623). A more positive evaluation is given by Ickovič (1982: 35), who locates the use of accusative in the "gray zone" between normative and non-normative speech. In a similar vein, Krys'ko (1997: 244-245) states that although the use of the accusative is not part of the literary norm today, it may become normative in a not too distant future. It is interesting to note that Švedova and Lopatin 2002: 413, the most recent grammar published by the Russian Academy of Sciences, gives both genitive and accusative objects for *bojať'sja* and *slušať'sja* without indicating a difference in the socio-linguistic status of the two options.

Different assessments like these suggest a need for a thorough investigation of corpus data with a comparison of the frequencies of accusative and genitive

⁶ We searched for all relevant verbs combined with each of the following types of nouns: feminine singular nouns (e.g. *žena* 'wife'), masculine singular nouns ending in *-a* (e.g. *papa* 'dad'), masculine singular nouns ending in *-ja* (e.g. *djajda* 'uncle'), and inanimate masculine singular nouns (e.g. *stol* 'table').

objects. Table 2 compares the (actual) numbers of accusative objects with the (estimated) numbers of objects in the genitive. The table gives numbers from both the main part of the corpus and the newspaper corpus. The columns marked “#Accusative” and “#Genitive” provide raw frequencies, while the percentages of accusative objects are given in the rightmost column.

Verb	Corpus	#Accusative	#Genitive	%Accusative
<i>bojat'sja</i>	Main	35	3437	1
	Newspaper	53	757	7
<i>dožadat'sja</i>	Main	73	1406	5
	Newspaper	41	370	10
<i>dostigat'</i>	Main	19	3185	1
	Newspaper	5	2604	<1
<i>izbegat'</i>	Main	20	1765	1
	Newspaper	10	2115	<1
<i>služadat'sja</i>	Main	70	292	19
	Newspaper	23	44	34
All verbs	Main	212	10086	2
	Newspaper	132	5891	2

Table 2: The frequency of accusative and genitive objects in the Russian National Corpus

Three conclusions can be drawn on the basis of the table. First of all, only one verb – *služadat'sja* – has more than 10% accusative in both parts of the corpus, and **the aggregate numbers for all five verbs in the two rows at the bottom of the table are 2% accusative in both parts of the corpus. Clearly, we are dealing with a fairly infrequent phenomenon, especially when we take into account that the five verbs in Table 2 are more likely to combine with accusative objects than the other genitive governing verbs mentioned in (5) and Table 1 in the previous section.** Given that the Russian National Corpus is somewhat biased towards written language and normative usage, it is likely that the proportion of accusative objects is higher in some varieties of Russian, but even so, we are clearly not dealing with a highly frequent phenomenon. In short, the genitive seems to be the normal option for the verbs under scrutiny in the present article.

The second conclusion that can be drawn from the data in Table 2 is that there are differences between verbs. *Služadat'sja* takes more accusative objects than the other verbs, while *dostigat'* and *izbegat'* are least “accusative-friendly”. The observed differences are statistically significant.⁷ The following hierarchy, where >

⁷ Pearson's Chi-squared test (X-squared = 642.9499, df = 4) returns a p-value < 2.2e-16. This is the smallest number the statistical software package R (R Development Core Team 2011) operates with, so this is a clear indication that the likelihood that the differences observed in Table 2 are due to chance is very close to zero. Cramer's V-value is 0.25, which indicates a small to moderate effect size. In general, effect sizes larger than 0.1 are considered reportable, while effect sizes from 0.3 to 0.5 are moderate, and effect sizes above 0.5 are regarded as high (cf. King and Minium 2008, 327-329). Notice that the statistical analysis is based on the frequencies in the main corpus. For the newspaper corpus Pearson's Chi-squared test does not provide reliable results, since there is only 5 examples of the accusative for *dostigat'*.

means “is more likely to combine with an accusative object than”, captures the situation:

- (6) Accusative-friendliness hierarchy:
slušať'sja > dožiďat'sja > bojať'sja > dostigať', izbeġat'

The third conclusion on the basis of Table 2 concerns the two parts of the corpus. On average, the five verbs show the same behavior in the main corpus and the newspaper corpus, since the accusative percentage is the same for the rows “all verbs” in both parts of the corpus. However, if we ignore *dostigať'* and *izbeġat'*, which only very rarely combine with the accusative, and focus on the three most accusative-friendly verbs, the picture is somewhat different. As shown in Table 2, for *slušať'sja*, *dožiďat'sja* and *bojať'sja* we observe higher percentages of accusative objects in the newspaper corpus. If we add up the numbers for all three verbs and calculate the percentages of accusative objects, we get 9% accusative objects in the newspaper corpus, but only 3% in the main corpus. This difference is statistically significant, and the effect size is small but robust.⁸ We conclude that for the three most accusative-friendly verbs the accusative is more widely used in the newspaper corpus than in the main part of the Russian National Corpus. This finding will prove important for our discussion of language change in section 6. However, before we can address diachrony, we must consider the role of individuation.

5. Restrictions on Nouns: The Individuation Hypothesis and the Animacy Prediction

In section 2 we mentioned that individuation is considered relevant for accusative-genitive variation in objects of negated verbs, objects with partitive meaning, and objects of intensional verbs such as *žďat'* ‘wait’ (cf. e.g. Timberlake 2004: 317). We hypothesize that individuation is relevant for the object of verbs like *bojať'sja*, too:

- (7) The Individuation Hypothesis:
High degree of individuation favors the accusative in the object.

For the purposes of the present article, we understand degree of individuation as the conventional likelihood of viewing something as an individual (cf. Timberlake 1985). **Individuation cannot be observed directly in corpus data, but can be researched on the basis of observable properties such as definiteness and animacy. For the purposes of the present study we focus on animacy.** Animates (or at least humans) have free will and are able to move and express emotions, and they thus display a higher degree of individuation than inanimate entities. Accordingly, we expect a stronger tendency to use the accusative if the grammatical object denotes an animate:⁹

⁸ Pearson's Chi-squared test with Yates' continuity correction (X-squared = 78.5197, df = 1) gave p-value < 2.2e-16. Cramer's V-value = 0.1.

⁹ In principle, it would be possible to consider a more detailed animacy hierarchy and distinguish between, say, humans, animals, concrete objects and abstract entities. However, since our database is

(8) The Animacy Prediction:
Animate > Inanimate

In order to find out whether the Animacy Prediction in (8) is true, we considered the data in Tables 3 and 4, which summarize the situation in the main corpus (Table 3) and the newspaper corpus (Table 4). The differences between animates and inanimates in the two parts of the corpus are visualized in Figure 1, which compares the aggregate numbers for all verbs in Tables 3 and 4.

		#Accusative	#Genitive	%Accusative
<i>bojat'sja</i>	Animate	27	286	9
	Inanimate	3	3152	<1
<i>dožadat'sja</i>	Animate	65	153	30
	Inanimate	8	1253	1
<i>dostigat'</i>	Animate	2	9	18
	Inanimate	13	2393	1
<i>izbegat'</i>	Animate	10	14	42
	Inanimate	10	1751	1
<i>služadat'sja</i>	Animate	66	99	40
	Inanimate	4	51	8
All verbs	Animate	170	561	23
	Inanimate	38	8600	<1

Table 3: Accusative vs. genitive for animate and inanimate objects (main corpus)

		#Accusative	#Genitive	%Accusative
<i>bojat'sja</i>	Animate	30	3	91
	Inanimate	23	754	3
<i>dožadat'sja</i>	Animate	30	5	86
	Inanimate	11	365	3
<i>dostigat'</i>	Animate	0	0	n/a
	Inanimate	286	2604	10
<i>izbegat'</i>	Animate	1	0	100
	Inanimate	9	2115	<1
<i>služadat'sja</i>	Animate	18	5	78
	Inanimate	5	39	11
All verbs	Animate	79	13	86
	Inanimate	334	5877	5

Table 4: Accusative vs. genitive for animate and inanimate objects (newspaper corpus)

not large enough to facilitate reliable statistical analysis for more fine-grained hierarchies, we will not consider such hierarchies in the following. For discussion of various versions of the animacy hierarchy, see e.g. Enger and Nessel (2011) and Brown et al. (2013) and references therein.

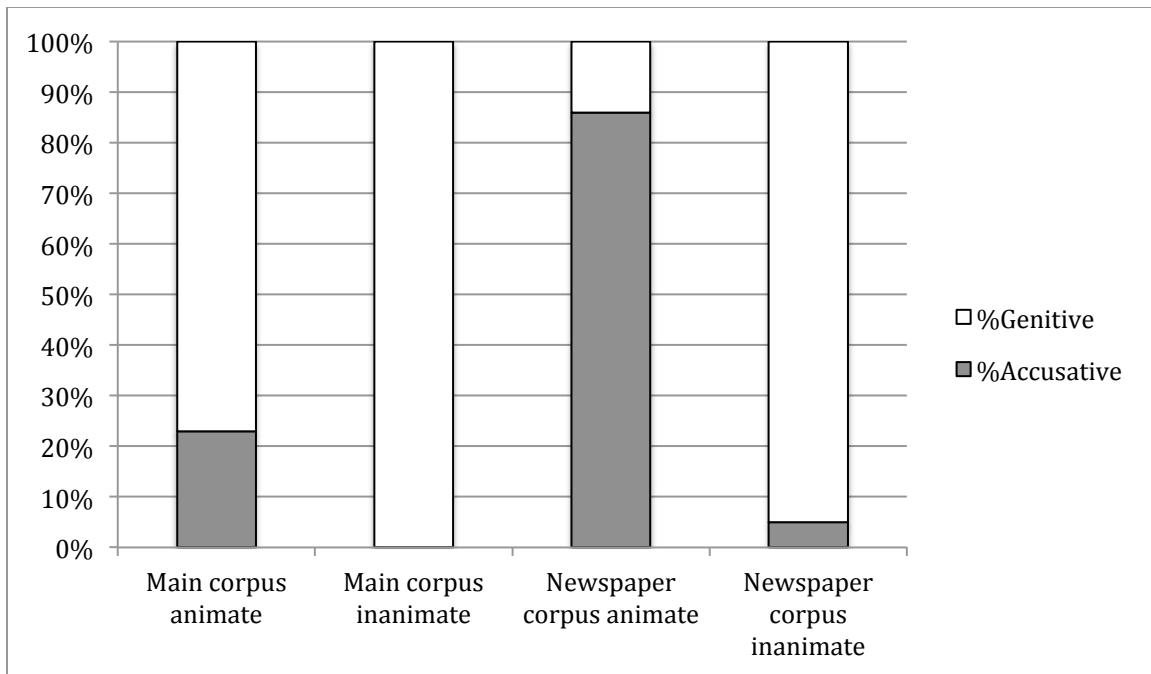


Figure 1: Accusative vs. genitive for animate and inanimate objects (main corpus and newspaper corpus)

Two conclusions can be drawn on the basis of Tables 3 and 4 and Figure 1. First, the Animacy Prediction in (8) is true for both corpora, since the proportion of accusative objects is higher for animates than for inanimates. In both corpora the difference between animates and inanimates is statistically significant with moderate effect sizes.¹⁰ This lends support to the Individuation Hypothesis in (7), although the reader should bear in mind that other factors such as definiteness are relevant for individuation too. Our study does not make any claims about such factors.

In general, the Animacy Prediction is true not only for the aggregate numbers for all verbs, but also for each individual verb. The only exception is *dostigat'* in the newspaper corpus. However, the reason why the accusative comes out as more frequent for inanimates is simply that there are no attestations of animate objects for *dostigat'* in this corpus at all. In other words, this finding tells us more about this verb's ability to combine with animates than it tells us about its accusative (un)friendliness.

The second conclusion concerns the two parts of the corpus. In section 4, we saw that the newspaper corpus is more accusative-friendly than the main corpus for the verbs *boajt'sja*, *dožadat'sja* and *služadat'sja*. The results reported in Tables 3 and 4 and Figure 1 also show that the newspaper corpus is more accusative-friendly; in the newspaper corpus the accusative covers 86% of the examples for animates, while the corresponding number for the main corpus is 23%. For inanimates we

¹⁰ For the main corpus, we compared the aggregate numbers for all verbs. Pearson's Chi-squared test with Yates' continuity correction ($X^2 = 1605.698$, $df = 1$) gave p -value $< 2.2e-16$. Cramer's V -value is 0.4. The situation for the newspaper corpus is essentially the same. Pearson's Chi-squared test with Yates' continuity correction ($X^2 = 946.1605$, $df = 1$) returned p -value $< 2.2e-16$. Cramer's V -value is 0.4.

have 5% accusative in the newspaper corpus, whereas the main corpus has less than 1%. Both for animates and inanimates the observed differences are statistically significant and the effect sizes are reportable. The effect size is larger for animates than for inanimates.¹¹

Although the data we have discussed so far support the Individuation Hypothesis and indicate that animates are most likely to occur in the accusative, it is important to note that the accusative is not ruled out for inanimates. Among the examples with inanimate objects in the accusative we have several with organizations, such as *milicija* ‘police’:

- (9) Nel'zja žit' v strane, gde ubivajut i kalečat beznakazanno i gde **miliciju**_{ACC} **bojatsja** tak že, kak banditov. [Izvestija 2010]
‘It is impossible to live in a country where one can kill or cripple someone without being punished, and where one fears the police as much as gangsters.’

Organizations like the police are semantically closely related to animate nouns, since they consist of human beings. A similar relationship is evident in many examples with geographical concepts; in the following sentence, for instance, the accusative form of *Rossija* ‘Russia’ metonymically stands for Russia’s sports team, i.e. a group of people:

- (10) Ja že znaju navernjaka, čto **Rossiju**_{ACC} **bojatsja** vse bez isključenija sbornye. [Sovetskij sport 2007]
‘I know for sure that all teams without exception fear Russia.’

While the number of inanimate objects in the accusative is too small to permit quantitative analysis, sentences like (9) and (10) suggest that groups of people serve as a “bridgehead” for the accusative into the realm of inanimate nouns. In this way, examples like (9) and (10) testify to the importance of animacy for the accusative-genitive variation in objects of verbs like *bojat’sja*.

Yet another indication of the importance of animacy comes from syncretism in the declension system. It is customary to divide Russian nouns into three declensions in the singular.¹² While animates in declensions II and III have different endings for the accusative and genitive cases, animates in declension I display syncretism. In other words, a form like *otec* can be both the accusative and the genitive singular of the declension I noun *otec* ‘father’. Since accusative is the default

¹¹ For animates, Pearson's Chi-squared test with Yates' continuity correction (X-squared = 358.6339, df = 1) gave p-value < 2.2e-16. Cramer's V-value is 0.4. For inanimates, Chi-squared test with Yates' continuity correction (X-squared = 358.6339, df = 1) gave p-value < 2.2e-16. Cramer's V-value is 0.2.

¹² Some researchers assume four classes (cf. e.g. Corbett 1982, Corbett 1991: 34-43, Corbett and Fraser 1993), but this issue is not relevant for our discussion. Notice that different traditions number the declension classes differently. For the purposes of the present article, we regard masculine nouns with no ending in the nominative singular (e.g. *otec* ‘father’) and neuters in *-o* (e.g. *mesto* ‘place’) as members of declension I. Declension II contains masculine and feminine nouns in *-a* (e.g. *mama* ‘mom’ and *papa* ‘dad’), while feminine nouns without an ending in the nominative singular (e.g. *ljubov* ‘love’) are in declension III.

case for the grammatical object in Russian, it seems likely that the object in constructions like *bojat'sja otca* 'to fear (your) father' may be reanalyzed as an accusative object. In other words, it stands to reason that the syncretism in declension I for animates promotes the use of the accusative for animate objects in other declensions without syncretism. Circumstantial evidence for such reanalysis comes from sentences where an object from declension II (with syncretism) is coordinated with an accusative object from another declension. The following example is discussed in Gorbačevič (ed.) 1973: 429 and Israeli 1997: 44:

- (11) A sam [...] užasno **stesnialsja otca**_{ACC/GEN} **i mat'**_{ACC}. (Šugaev)
'And he himself [...] was feeling terribly bashful in the presence of his father and mother.'

It seems reasonable to assume that the reanalysis of *otca* as an accusative object in sentences like (11) paves the way for the use of unequivocal accusative objects such as *mat'* 'mother'. However, our data do not permit a systematic investigation of syncretism as a motivating factor for the use of the accusative in animate objects.

6. Ongoing Language Change?

In the previous sections we have established that verbs like *bojat'sja* display accusative-genitive variation, and we have seen that the accusative is more likely to be used for animate objects. The question now arises as to whether this variation reflects ongoing language change. As we will see, our corpus data enable us to answer this question in the affirmative, insofar as the use of the accusative has increased significantly for animate objects over the last two hundred years.

Variation and language change are closely related concepts; as Andersen (2001: 228) points out, "[c]hanges are always manifested in synchronic variation." However, while language change presupposes synchronic variation, we cannot take for granted that all variation reflects ongoing language change, so an empirical investigation is necessary. Although several authors cite examples of *bojat'sja* and similar verbs with accusative objects from the 19th century (e.g. Bulaxovskij 1952: 174, Butorin 1966: 129-130, Černyšev 1911:163, and Krys'ko 1997: 241), such examples do not enable us to draw clear conclusions about the diachronic development. However, our corpus data provide two pieces of evidence that the use of the accusative has increased.

First, as shown above, the newspaper corpus is generally more accusative-friendly than the main corpus. The two parts of the corpus differ with regard to time period and genre. The newspaper corpus includes texts from newspapers after the year 2000, whereas the main corpus covers a wide range of genres and goes back to the 18th century. The fact that the accusative is used more widely in the part of the corpus that is limited to contemporary texts strongly suggests that the use of the accusative is increasing over time. **Newspaper prose is less conservative than other written genres. This can be illustrated by Table 5, which compares the two parts of the corpus with regard to texts written from the year 2000 onwards. Notice that the table contains data for animates only, since we have established earlier that this is**

the main domain of change from genitive to accusative marking of objects in the verbs under scrutiny. In the main corpus, we find the accusative in 59% of the examples, while 86% are in the accusative case in the newspaper corpus. This difference, which is statistically significant, shows the newspaper corpus is more indicative of ongoing change than the main corpus.¹³

Corpus	#Accusative	#Genitive	%Accusative
Main	37	26	59
Newspaper	79	13	86

Table 5: The frequency of accusative and genitive animate objects in the Russian National Corpus after the year 2000.

A second indication that we are dealing with ongoing language change comes from analysis of the main corpus. In order to find out whether the use of the accusative for animate nouns has increased over time, we carried out a comparison of the development since 1825.¹⁴ Table 6 summarizes the raw numbers of examples with the accusative (marked as “#A” in the table) and the genitive (marked as “#G” in the table). Similarly to data shown in Table 5, Table 6 only contains information on animate objects, since we have previously established that the shift from the genitive to the accusative case is more prominent for these nouns. The percentages of the accusative are given in Figure 2. Since the numbers are very low for *dostigat’* and *izbegat’*, these verbs are excluded from the figure. However, the figure contains the percentages of the accusative based on the aggregate numbers for all five verbs.

	<i>bojat’sja</i>		<i>dožidat’sja</i>		<i>dostigat’</i>		<i>izbegat’</i>		<i>sluшат’sja</i>		Total	
	#A	#G	#A	#G	#A	#G	#A	#G	#A	#G	#A	#G
1825-49	0	3	0	4	0	0	0	0	1	10	1	17
1850-74	1	13	2	2	0	0	1	1	3	8	7	24
1875-99	0	6	2	3	0	1	1	2	5	7	8	19
1900-24	1	20	2	1	0	1	1	1	4	3	8	26
1925-49	1	23	4	5	0	1	4	1	8	2	17	32
1950-74	1	13	7	3	0	1	0	0	11	3	19	20
1975-99	9	22	17	8	2	0	1	1	13	2	42	33
2000-	10	18	17	4	0	1	0	2	10	1	37	26

Table 6: Diachronic development for animate nouns (raw numbers from main corpus, one example per author)

¹³ Pearson's Chi-squared test with Yates' continuity correction (X-squared = 13.2207, df = 1) gave p-value = 0.0002. Cramer's V-value is 0.3, which indicates a moderate effect size.

¹⁴ Although the main corpus includes scattered examples from the 18th and early 19th centuries, only from 1825 we have enough examples to facilitate statistical analysis. In cases where one author was represented with more than one example, we limited our investigation to one example per author, using a randomizing function in Microsoft Excel. We chose one example per author in order to avoid bias due to preferences of individual authors.

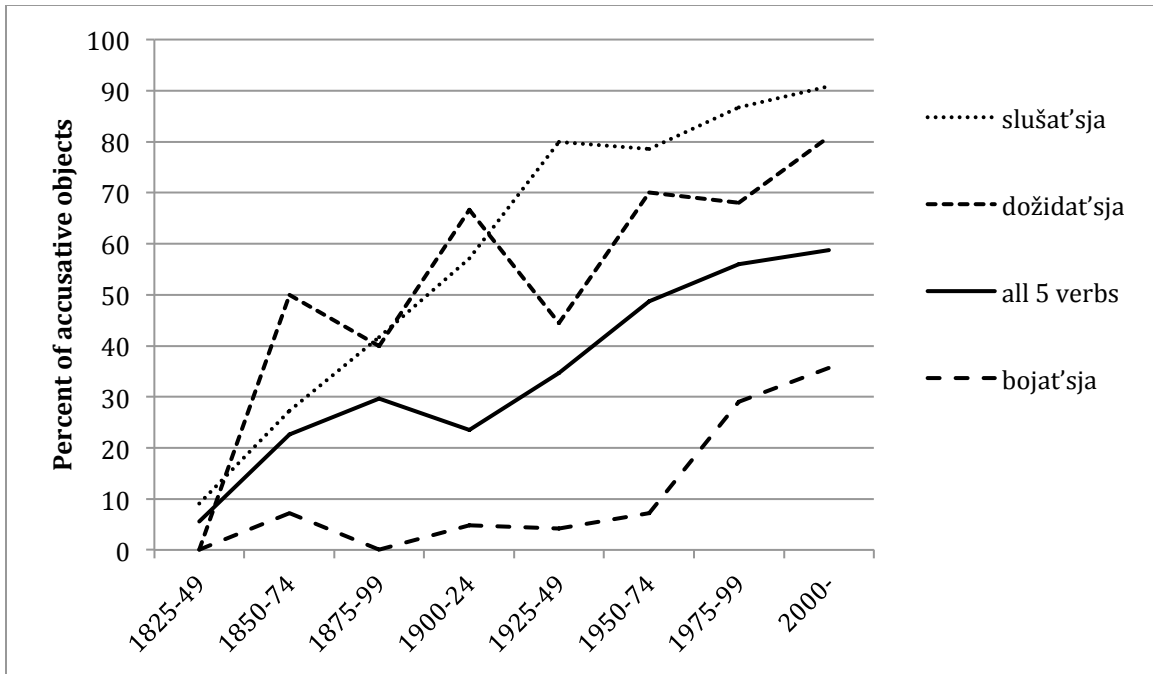


Figure 2: Diachronic development for animate nouns (percent of objects in the accusative in the main corpus, one example per author)

Table 5 and Figure 2 demonstrate that the use of the accusative has increased over time. Whereas all verbs started out with less than 10% accusative in the period 1825-49, they end up with between 36% (*bojat'sja*) and 91% (*slušat'sja*) in the beginning of the 21st century. Admittedly, the numbers of examples are not very large, but it is possible to carry out a statistical analysis based on the aggregate numbers for all verbs, i.e. the development that is represented as a solid line in Figure 2. This analysis shows that the observed increase from 6% accusative in 1825-49 to 59% after the year 2000 is indeed statistically significant with a moderate effect size.¹⁵ In other words, our corpus data clearly indicate that we are dealing with language change, not variation that is stable over time.

7. Restrictions on Verbs: Three Factors at Work

We now turn to the properties of the verbs. In section 3, it was shown that the verbs under scrutiny display different degrees of accusative-friendliness. For convenience, we repeat the Accusative-Friendliness Hierarchy from (6):

- (12) Accusative-friendliness hierarchy:
slušat'sja > *dožadat'sja* > *bojat'sja* > *dostigat'*, *izbegat'*

¹⁵ Interestingly, Pearson's Chi-squared test shows that the differences between each two consecutive 25-year periods are not statistically significant. However comparison of the first period (1825-1849) and the last period (2000-) indicates a statistically significant difference: Pearson's Chi-squared test with Yates' continuity correction ($X^2 = 5.224$, $df = 1$) gives p -value = 0.02. Cramer's V -value = 0.3, which indicates a moderate effect size. This pattern suggests that we are dealing with slow increase, which becomes evident over a period of two centuries.

Why do these verbs show accusative-genitive variation? How can we account for the differences in the hierarchy? We argue that a number of factors are relevant. In particular, we will discuss grammatical voice, semantic proximity to other alternating verbs, and productivity/frequency.

7.1 Grammatical Voice

As mentioned in section 2, conventional wisdom has it that Russian verbs with the middle voice marker *-sja* do not combine with accusative objects. The historical rationale behind this rule is the fact that *-sja* has developed from a clitic pronoun in the accusative (Zaliznjak 2008). In other words, originally the accusative object slot was filled by the clitic pronoun, and the verb was thus prevented from combining with another accusative object. However, *-sja* has developed into a suffix in modern Russian and no longer functions as the grammatical object of the verb (Neset 1996, Neset 1998: 264-272, Zaliznjak 2008).¹⁶ In a sense, therefore, the descriptive rule that verbs with *-sja* do not combine with accusative objects has lost its *raison d'être*. As pointed out in section 2, verbs like *bojat'sja* are sometimes mentioned as exceptions to the rule, and the data we have explored in sections 4 through 6 demonstrate that such exceptions do indeed exist. **It is striking that the Accusative-Friendliness Hierarchy in (12) contains three verbs with *-sja*, although verbs with *-sja* traditionally are thought to be incompatible with accusative objects. The question is why such verbs can be part of the hierarchy.** We suggest it may have to do with the relative opacity of *-sja* as a marker of grammatical voice:

(13) Opacity Hypothesis:

The more opaque *-sja* is, the more likely is the verb to combine with an accusative object

Unfortunately, it is difficult to operationalize the degree of opacity, since *-sja* is highly polysemous. Its functions range from typical middle voice (in the sense of Kemmer 1993) such as *myt'sja* 'wash (oneself)' from *myt'* 'wash (transitive)', through reciprocals such as *celovat'sja* 'kiss (each other)' from *celovat'* 'kiss (transitive)' to passives (cf. *kniga_{NOM} čitaetsja* 'the book is being read' vs. *čitat' knigu_{ACC}* 'read a book'). Enger and Neset (1998) analyze *-sja* in terms of a large network of related meanings, where *-sja* occupies 11 nodes (see also Geniušienė 1987 and Israeli 1997 for detailed analyses of *-sja*).

The three verbs with *-sja* under scrutiny in the present study display a high degree of opacity. While e.g. *myt'sja* 'wash (oneself)' corresponds to the transitive verb *myt'* 'wash', there is no verb **bojat'* without *-sja* corresponding to *bojat'sja*. Hence, it is not clear what grammatical meaning *-sja* contributes (if any), and *-sja* therefore stands out as highly opaque in *bojat'sja*.

For *dožidat'sja* 'wait until' the corresponding *dožidat'* without *-sja* is widely attested in dialects (Filin (ed.): 1972), but generally not accepted as part of Contemporary Standard Russian. For example, major dictionaries such as Evgen'eva

¹⁶ In the Russian grammatical tradition, *-sja* is often referred to as a "postfix" since it always occurs at the very end of the verb.

(ed.) 1999 and Ožegov and Švedova 2005 do not include *dožidat'*, while Ušakov (ed.) 1935-40/2008 marks it as “regional” (Russian: *oblastnoj*). Moreover, to the extent that *dožidat'* is used, it seems to have the same meaning as *dožidat'sja* (Filin (ed.) 1972, Ušakov (ed.) 1935-40/2008), so once again we are dealing with a verb where *-sja* is rather opaque.¹⁷

In the case of *slušat'sja* ‘obey’ there is a corresponding verb without *-sja*, namely *slušat'* ‘listen’. Although ‘obey’ and ‘listen’ are related meanings, the relationship **does not involve any of the standard functions of *-sja***. In other words, in the same way as for *bojat'sja* and *dožidat'sja*, *-sja* shows a high degree of opacity in *slušat'sja*.

Although our data do not permit a rigorous empirical test of the Opacity Hypothesis, the three *-sja* verbs under scrutiny combine a high degree of opacity with a high degree of accusative-friendliness – as predicted by the hypothesis. It stands to reason, therefore, that opacity of *-sja* promotes accusative-friendliness, and it is even likely that some degree of opacity is a necessary condition for a verb with *-sja* to combine with objects in the accusative.

7.2 Semantic proximity to alternating verbs: weak intensionality and directionality

Recall from section 2 that Russian has a class of alternating verbs like *ždat'* ‘wait’ that combine with objects in the accusative and genitive. In addition to *ždat'*, accusative-genitive alternation is well established for *inter alia* *želat'* ‘wish’, *žaždat'* ‘thirst for’, *iskat'* ‘seek, look for’ and *xotet'* ‘want’ (Timberlake 2004). From historical linguistics we know that words tend to migrate between classes of words that have similar meanings (see e.g. Bybee 2007: 961, Kraska-Szlenk 2007: 14, Barðdal 2008, Nessel and Makarova 2014 and references therein):

- (14) Semantic Proximity Hypothesis:
Verbs that are semantically close to alternating verbs of the *ždat'* class are likely to combine with accusative objects.

In her thorough analysis of genitive objects in Russian, Kagan (2013) points out that the verbs of the *ždat'* class are so-called weak intensional predicates. By way of illustration, consider (15) (discussed in Kagan 2013: 89-90):

- (15) Dima **ždet čuda**_{GEN}.
'Dima is waiting for a miracle.'

Characteristic of *ždat'* and other weak intensional verbs is the fact that they describe events in the mental world of the subject, but do not involve a commitment to the existence of the object in the relevant world. As pointed out by Kagan (2013: 90),

¹⁷ Since in Contemporary Standard Russian *dožidat'* (without *-sja*) doesn't exist, *do...sja* is often referred to as a “circumfix” in the Russian grammatical tradition (cf. e.g. Zaliznjak and Šmelev 2000: 117). This analysis reflects the fact that it is difficult to pinpoint the semantic contribution of *-sja* in *dožidat'sja*.

Dima does not have to assume that the miracle has happened or is taking place in (15).

Are there weak intensional verbs in the *bojat'sja* class? The answer is clearly “yes”. *Dožadat'sja* is semantically very close to *ždat'*, and Kagan (2013: 110) also includes *bojat'sja* and *izbegat'* in the group of weak intensional verbs. However, it is not clear whether *slušet'sja* and *dostigat'* belong to the class of weak intensional verbs. Even though there are intensional verbs in both the *bojat'sja* and the *ždat'* classes, weak intensionality cannot explain why *slušet'sja* is the most accusative-friendly verb in the *bojat'sja* class.

A traditional insight about Russian verbs that govern the genitive is that they tend to imply directionality towards or away from the object (cf. e.g. Mathiassen 1996: 218 and Švedova (ed.) 1980: 26). For instance, *dostigat'* describes motion towards a goal, while *izbegat'* involves the direction away from the object, and so these two verbs have high degree of directionality. The verb *bojat'sja* resembles *izbegat'* in that the speaker will avoid what s/he is afraid of, and therefore the meaning of this verb also contains directionality. The verbs *dožadat'sja* and *slušet'sja* are least related to directionality. Thus, the verbs that have strong ties with the genitive case resist the shift from the genitive to the accusative, while verbs that have less strong ties with the genitive network are more likely to undergo a change in case assignment.

If one accepts that the verbs of the *ždat'* class also involve directionality, we see another semantic contact point between the *bojat'sja* and *ždat'* classes. However, while the semantic similarities between the two classes may motivate syntactic similarities (the accusative-genitive variation), the similarities do not suffice to explain all the differences between the verbs in the Accusative-Friendliness Hierarchy in (12). The semantic properties we have explored might suggest why *dožadat'sja* and *slušet'sja* appear at the top of the hierarchy and why *dostigat'* and *izbegat'* appear at the bottom, but do not explain why the verb *slušet'sja* is more prone to use accusative objects than other verbs. The next section sheds light on this difference.

7.3 Productivity and Frequency

Productivity is an ambiguous term (see discussion in Barðdal 2007, 2008). For our purposes, we are interested in productivity as ability of a pattern to be extended to new lexical items. Barðdal argues that such productivity is negatively correlated with frequency and positively correlated with how semantically coherent the class is. She proposes a productivity cline where patterns with high type frequency and low semantic coherence are most productive. Patterns with low type frequency and high semantic coherence are less productive, while patterns with a low score for both type frequency and semantic coherence are unproductive.

Where do the accusative and genitive constructions place themselves on Barðdal's productivity cline? As mentioned in section 2, Russian verbs normally combine with objects in the accusative, so this pattern scores very high for type frequency. With regard to semantic coherence, there are no semantic properties that unite verbs that govern the accusative, so we are dealing with a pattern with

high type frequency and low coherence. In other words, the accusative construction is at the top of Barðdal’s productivity cline, and we therefore predict that it will extend to new lexical items.

The genitive construction is much further down on the productivity cline. As shown in section 3, only a couple of dozens of verbs combine with genitive objects, so we are dealing with a category with low type frequency. Although there is no semantic property that unites all verbs that govern the genitive, we have seen that directionality and weak intensionality characterize genitive-governing verbs. In this way, genitive-governing verbs score relatively high on semantic coherence. Since the genitive construction is much lower than the accusative construction on the productivity cline, we predict that the genitive construction is likely to lose members, while the accusative construction is likely to attract new members (Barðdal 2010: 69). This is exactly what we observe, since verbs like *bojat’sja* are migrating to the accusative construction.

However, the migration from unproductive to productive classes depends on the frequency of the lexical items in the unproductive class. Other things being equal, low frequent words are most likely to adopt the productive pattern, whereas high frequent words are more entrenched in the mental grammars of the speakers and therefore are better equipped to resist regularization (Bybee 2007: 945). In Germanic languages, for instance, many low frequent strong verbs have become weak, while high frequent verbs in general have a better chance to remain strong (cf. e.g. Bybee and Slobin 1982 and Lieberman et al. 2007 for discussion). In view of this, we suggest the following hypothesis:

- (16) Frequency Hypothesis:
 Low frequent verbs are most likely to combine with accusative objects.

As mentioned in section 1, accusative is the default case for direct objects in Russian; this pattern covers the vast majority of verbs and recent loanwords such as *guglit’* ‘google’ combine with objects in the accusative (e.g. *guglit’ stat’ju_{ACC}* ‘google an article’; for a study of this and other recent borrowings, see Gjervold 2013). In view of this, we would expect verbs that traditionally have governed the genitive to become compatible with objects in the accusative. Moreover, we would expect low frequent verbs to be most compatible with the accusative.

	RNC: occurrences	Frequency dictionary: ipm
<i>bojat’sja</i>	3468	266.5
<i>dožadat’sja</i>	1479	26.5
<i>dostigat’</i>	2417	35.2
<i>izbegat’</i>	1785	21.9
<i>služat’sja</i>	784	14.1

Table 7: Frequency for five verbs (numbers from main corpus and frequency dictionary)

The data in Table 7 enable us to test the frequency hypothesis empirically. The second column of Table 7 shows the number of objects in the genitive or accusative case for the five verbs under scrutiny in the main corpus of the RNC. The

third column of the table presents frequency data (in items per million) taken from the frequency dictionary by Lyashevskaya and Sharoff (2009). As can be seen from the table, one verb, namely *slušaťsja*, notably differs from the remaining four verbs. The other four verbs have at least twice as many examples with objects relevant for this study and have higher frequency overall. The verb *slušaťsja*, is by far the least frequent of the five verbs under scrutiny. *Slušaťsja* is also the most accusative-friendly, so the data supports the frequency hypothesis.

7.5 Summing up

In order to explain why verbs of the *bojaťsja* class combine with accusative objects, and why they do so to different degrees, we have considered **several** factors. For opacity of *-sja* and semantic proximity to alternating verbs, we have not been able to draw strong conclusions. It nevertheless stands to reason that these factors promote accusative-genitive variation, and it is possible that they represent necessary conditions for accusative-genitive variation. However, the role of *-sja* and semantic proximity cannot explain why certain verbs are more accusative-friendly than others.

The remaining factors, **directionality and frequency**, on the contrary, may explain the differences in the accusative-friendliness hierarchy in (12). We propose that the hierarchy reflects both frequency and **compatibility with directionality**. **Only verbs that show low compatibility with directionality are high up in the accusative-friendliness hierarchy, and among verbs with a high degree of compatibility with directionality low frequency verbs are most accusative-friendly.** Taken together, therefore, **compatibility with directionality** and frequency account for the differences in accusative-friendliness.

8. Constructions: A Unified Analysis

In the previous sections we have seen that the increase of the accusative is connected to a number of factors. Is it possible to provide a unified account of all relevant factors? In the following, we argue that Construction Grammar facilitates such an analysis.

Construction Grammar is a family of closely related frameworks that share *inter alia* the following fundamental assumptions (cf. e.g. Goldberg 1995, 2006 and 2013 and Traugott and Trousdale 2013: 3):

- (17) a. Language and other cognitive systems can be represented as networks, where the nodes are linked by means of association lines.
- b. Constructions, defined as conventional pairings of form and meaning, are the basic unit of grammar.
- c. Semantic information is mapped directly onto surface syntactic structure, without mediating derivations.
- d. A usage-based approach is adopted, whereby language structure takes its shape from language use.

As we will show, all these tenets are crucial for the unified analysis we propose.

Different varieties of Construction Grammar employ different kinds of formalizations. For present purposes we follow Goldberg’s advice and limit ourselves to “the most minimal formalization” (Goldberg 2013: 29), which is sufficient to bring out the points we want to make without making the representations more complex than necessary. Our analysis takes the shape of a construction network presented in Figure 4, where each node (box) represents a construction. For ease of reference, the nodes are supplied with letters (a-d). All constructions are on the general format [V [NP]], where the brackets indicate that NP is an object of the verb V. Indices in subscript represent properties relevant for our discussion.

The topmost node (a) is a general schema for verb-object constructions in Russian. Although Russian has a number of such constructions with objects in different cases, Figure 4 contains only the two subtypes of direct relevance for our argument. To the left (nodes b and c) are constructions with the object in the accusative, whereas the genitive object construction is given to the right in the figure (node d). The accusative and genitive cases are represented as indices ([NP]_{ACC} and [NP]_{GEN}). The schema and its subtypes are connected by solid lines.

The next section demonstrates how this network captures the generalizations discussed in sections 4–7.

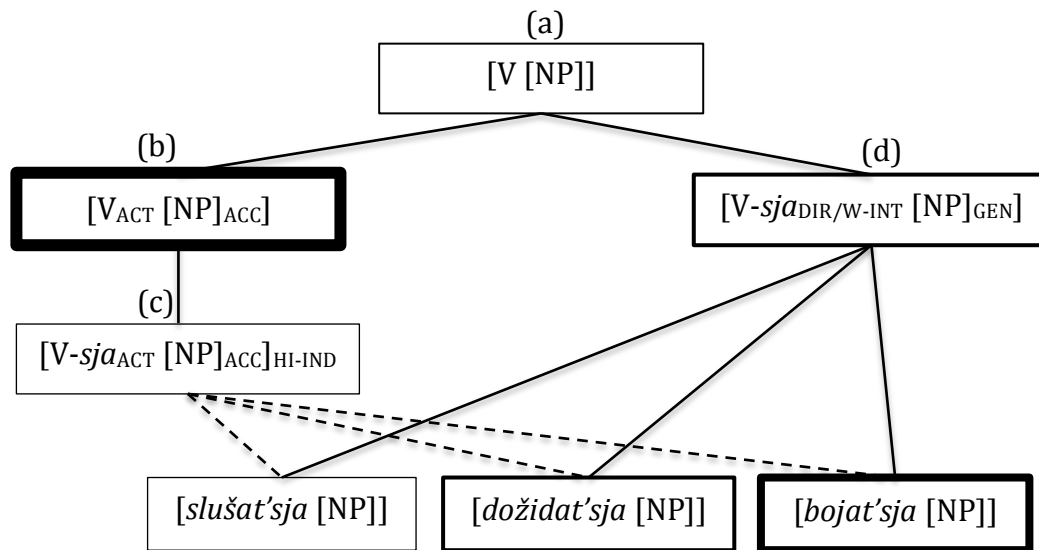


Figure 3: Construction network for accusative-genitive variation and change (ACC = accusative, ACT = active, DIR = directional, GEN = genitive, HI-IND = highly individuated (animate), W-INT = weak intentional)

8.1 Constructions and Individuation/Animacy

In section 5 we argued that individuation is a key factor. As we have shown, the accusative competes with the genitive for **animate (highly individuated)** objects, while the genitive is generally used for **inanimates (objects of low individuation)**. In other words, for verbs like *bojat'sja* the accusative is restricted to highly individuated objects, whereas the genitive combines with objects regardless of their

degree of individuation. In order to capture this asymmetry, we have included the index HI-IND (which is short for “high degree of individuation”) in node (c). No corresponding index is included for the genitive construction in node (d), which shows that the genitive case is attested for objects with different degrees of individuation. **Although the index refers to individuation, the reader should bear in mind that we have only considered one factor that contributes to high individuation, viz. animacy.**

The nodes for individual verbs in the bottom portion of the figure are connected to both nodes (c) and (d), thus indicating that the relevant verbs are compatible with objects in the accusative and genitive. We focus on *slušaťsja*, *dožiďat’sja* and *bojat’sja*, since *dostigat’* and *izbegat’* only marginally combine with accusative objects, as shown in section 4. Solid lines connect the verbs to the genitive object construction, while dashed lines are used for the accusative object construction. **The solid lines indicate that the genitive is (still) the global default option for the verbs in question, when both inanimate and animate objects are considered.** The dashed lines receive both a synchronic and a diachronic interpretation. In synchronic terms they represent less strong associations, thus indicating that the accusative is not obligatory even for highly individuated objects. In diachronic terms, dashed lines represent emerging associations, i.e. associations that are in the process of becoming more entrenched in the minds of individual speakers and the speech community as a whole.

We use the horizontal dimension to symbolize the closeness of the associations between verbs and nodes in the network. *Šlušaťsja* is placed to the left because it is more frequently used with highly individuated objects in the accusative than the other verbs. *Bojat’sja*, which is least frequently used with the accusative, is located to the right, while *dožiďat’sja* occupies an intermediate position. In this way, the network reflects the accusative-friendliness hierarchy in (6) and (12).

Before we leave individuation, two comments are in order. First, in section 5 we have shown that individuation is relevant both for verbs and their objects. Animate objects are more likely to appear in the accusative. In order to capture the generalization that individuation is equally important for verbs and objects, in the construction schema $[V-sja_{ACT} [NP]_{ACC}]_{HI-IND}$ in node (c) we have placed the index referring to individuation after the outermost bracket, which includes both verb and object NP. In other words, individuation refers to the construction as a whole.

Second, although as mentioned above, node (d) does not refer to low individuation, low individuation is clearly related to genitive objects in the Russian language in general. For instance, as mentioned in section 2, genitive objects imply a low degree of individuation for verbs of the *ždat’* type. Furthermore, genitive objects with so-called partitive meaning (e.g. *kupit’ xleba_{GEN}* ‘buy some bread’) also tend to involve a low degree of individuation. While these genitive constructions are not the topic of this article and therefore not included in Figure 4, these constructions may have an impact on *bojat’sja* type verbs too. Since the genitive is generally associated with a low degree of individuation, it is likely that this propagates the use of the accusative for highly individuated objects.

8.2 Constructions and the Voice Marker *-sja*

In section 7.1, we saw that *-sja* is of importance for the accusative-genitive variation. Verbs with *-sja* normally combine with non-accusative objects, but the accusative is nevertheless possible if *-sja* is no longer a transparent marker of grammatical voice.¹⁸ In order to accommodate this generalization in the network in Figure 4, we include the string “V-*sja*” in nodes (c) and (d). This indicates that verbs in *-sja* are compatible with objects in both the accusative and the genitive.

In order to accommodate the generalization that accusative objects are much less characteristic of *sja*-verbs than objects in the genitive, the box of node (c) has thinner lines than the box of node (d). Thin lines indicate low type frequency, while thick lines represent high frequency. In other words, accusative objects are marginal for verbs in *-sja*, while genitive objects are not.

The generalization about semantic opacity is also captured in the network in Figure 4. In node (c), we have included the subscript _{ACT} for “active” after the verb. For convenience, we use “active” as shorthand for the unmarked grammatical voice as opposed to reflexive, middle, passive, etc. The string “V-*sja*_{ACT}” in node (c) expresses that accusative objects are only possible when *-sja* is not a transparent marker of middle voice. There is no corresponding index on the verb in the genitive-object construction (node d), **since according to our analysis there is no relationship between *-sja* and the genitive case.**

8.3 Constructions and Productivity, Frequency and Coherence

In section 7.3, we discussed the differences in productivity between the accusative and genitive constructions. Following Barðdal (2007, 2008), we argued that productivity (understood as the ability of the class to be extended to new lexical items) depends on two factors, namely type frequency and coherence, and is negatively correlated with the former and positively correlated with the latter. The network in Figure 4 is designed to accommodate the differences in type frequency and coherence and thus captures the differences in productivity. We employ lines of various thicknesses in order to represent differences in type frequency. The lines around node (b) are much thicker than the lines around node (d), so it is clear from the network that accusative objects represent a much more frequent pattern. No semantic properties are included in node (b), so this has minimal coherence – and hence maximal productivity. Node (d) contains the semantic specifications “directional” and “weak intensional” represented as the subscript indices _{DIR} and _{W-INT}, respectively (see section 7.2). Since node (d) combines low type frequency with semantic specifications, the network adequately accommodates the fact that the genitive construction is low on Barðdal’s productivity cline.

In the network, node (c) emerges as a result of the productivity asymmetry between nodes (b) and (d). As a result of the high degree of productivity (extensibility) of the accusative pattern (node b), a new and more specific

¹⁸ The term “grammatical voice” is used in different ways; we follow Kemmer (1993) and use the term as a cover term for reflexive, middle, passive and active, all of which are attested in Russian (Enger and Nessel 1998).

subschema emerges (node c), which starts to “steal” verbs from the genitive construction (node d).

Before we leave productivity and frequency, it is important to point out that frequency is also relevant for the verbs at the bottom of Figure 4. In section 7.4, we saw that low frequent verbs are more likely to combine with the accusative than verbs of high frequency. In order to capture this generalization, the box around *slušať’sja* has thinner lines than the box around *dožiďat’sja*, which in turn is included in a box with thinner lines than *bojať’sja*. Notice that frequency is relevant for constructions as wholes, i.e. combinations of verbs and objects. What we compared in section 7.3, were relative frequencies of verb-object combinations. This generalization is captured in Figure 4, insofar as the boxes with thick or thin lines include whole constructions, not individual constituents (verbs or object NPs).

8.4 Why Construction Grammar?

In (18) we presented four basic tenets of Construction Grammar. The analysis we have proposed in sections 8.1-8.3 shows that all four principles are necessary for a unified account of the genitive-accusative variation under scrutiny. First of all, the notion of a **network** (cf. 18a) enables us to incorporate all factors at work and relate them to each other. Second, the notion of **construction** is crucial (cf. 18b). In particular, key factors such as **individuation/animacy** and frequency refer to the verb-object construction as a whole, not to individual constituents (the verb or the object NP). Construction Grammar enables us to capture these generalizations straightforwardly. Third, the fact that Construction Grammar makes it possible to map **semantic information** directly onto syntactic structures (cf. 18c) has proven useful. We have shown that semantic factors such as directionality and intensionality are relevant for the genitive-accusative variation, and these factors are incorporated in the network in Figure 4. Last but not least, the network we have proposed accommodates one of the most important facets of language use, namely frequency, and thus indicates that the **usage-based approach** adopted in Construction Grammar (cf 18d) facilitates an insightful analysis of the genitive-accusative variation in grammatical objects.

9. Conclusion

In the present article we have described variation between accusative and genitive objects of Russian verbs like *bojať’sja* ‘fear’. Our analysis adds to the existing evidence that Construction Grammar offers a fruitful approach to language change. In particular, we have demonstrated that the framework provides a unified analysis of the factors conditioning the choice between accusative and genitive. Construction Grammar’s focus on (a) networks, (b) constructions, (c) the mapping of semantic information directly onto surface syntactic structures, and (d) the intimate relationship between language use and language structure has proven essential in the analysis of language change we have proposed.

In addition to these general theoretical points, our analysis contributes to a better understanding of case variation and change in Russian. Our study revolves

around three empirical questions. First, we have found significant differences among the verbs under scrutiny. While *slušať'sja* 'obey' and *dožiďat'sja* 'wait for' take more accusative objects than *bojat'sja* 'fear', *dostigat'* 'reach' and *izbegat'* 'avoid' are less accusative friendly. However, only one verb – *slušať'sja* 'obey' – has more than 10% accusative in both parts of the corpus, and the average for all the analyzed verbs is 2% accusative in the Russian National Corpus.

Second, we have suggested that the use of the accusative is the result of an interplay between a number of factors; in addition to individuation (animacy), we have considered grammatical voice (opacity of *-sja*) and semantic factors such as intensity and directionality, and frequency.

The third question we have addressed regards language change – are we witnessing ongoing language change? Our findings clearly indicate for animate objects the use of the accusative has increased significantly since the mid 1800s and is still on an increase in the beginning of the twenty-first century.

Linguists often study language change long after it has happened. The fact that the change under scrutiny in the present article is unfolding before our eyes enables us to analyze the intricate interplay of numerous factors in a construction network by means of corpus data. In this way, our study contributes to a richer understanding of the mechanisms of language change in Construction Grammar.

References

- Andersen, Henning (2001): Actualization and the (uni)directionality of change. In Henning Andersen (ed.): *Actualization: linguistic change in progress*. Amsterdam–Philadelphia: John Benjamins, 225–248.
- Barđdal, Jóhanna (2007): Predicting the Productivity of Argument Structure Constructions, *Proceedings of the Annual Meeting of the Berkeley Linguistics Society* 32.
- Barđdal, Jóhanna (2008): *Productivity: Evidence from Case and Argument Structure in Icelandic*. Amsterdam & Philadelphia: John Benjamins.
- Barđdal, Jóhanna (2011): The Rise of Dative Substitution in the History of Icelandic: A Diachronic Construction Grammar Approach. *Lingua* 121.1: 60-79.
- Brown, Dunstan, Greville G. Corbett, Sebastian Fedden, Andrew Hippisley, and Paul Marriott (2013): Grammatical typology and frequency analysis: Number availability and number use. *Journal of Language Modelling* 1.2: 227–241.
- Bulaxovskij, Leonid A. (1952): *Kurs russkogo literaturnogo jazyka* (vol. 1). Kiev: Gosudarstvennoe učebno-pedagogičeskoe izdatel'stvo "Radnjans'ka škola".
- Butorin, D. I. (1966): Ob osobyx slučajax upotreblenija vinitel'nogo prjamoĝo ob'ekta v sovremennom russkom literaturnom jazyke. In G. A. Kačevskaja and K. S. Gorbačevič (eds.): *Normy sovremennogo russkogo literaturnogo slovuopotreblenija*. Moscow and Leningrad: Nauka, 125-136.
- Bybee, Joan L. (2007): Diachronic linguistics. *The Oxford Handbook of Cognitive Linguistics*, ed. by Dirk Geeraerts & Hubert Cuyckens, 945-974. Oxford: Oxford University Press.
- Bybee, Joan, and Dan Slobin (1982): Rules and schemas in the development and use of the English past tense. *Language* 58: 265-289.

- Černyšev, Vasilij I. (1911): *Pravil'nost' i čistota russkoj reči: opyt russkoj stilističeskoj grammatiki*. St. Petersburg: Imperatorskaja akademija nauk.
- Černyšev, Vasilij I. (ed.) (1950-1965): *Slovar' sovremennogo russkogo literaturnogo jazyka*. Moscow and Leningrad: Izdatel'stvo Akademii Nauk SSSR.
- Comrie, Bernard, Gerald Stone and Maria Polinsky (1996): *The Russian language in the twentieth century*. Oxford: Clarendon Press.
- Conti, Luz and Silvia Luraghi (2014): *The Ancient Greek Partitive Genitive in Typological Perspective*. In Silvia Luraghi and Tuomas Huumo (eds.): *Partitive Cases and Related Categories*. Berlin: De Gruyter Mouton, 443-476.
- Corbett, Greville G. (1982): Gender in Russian: an account of gender specification and its relationship to declension. *Russian Linguistics* 6.2: 197-232.
- Corbett, Greville G. (1991): *Gender*. Cambridge: Cambridge University Press.
- Corbett, Greville G. and Norman M. Fraser (1993): Network Morphology: a DATR account of Russian nominal inflection. *Journal of Linguistics* 29: 113-142.
- Dahl, Eystein (2014): *Partitive Subjects and Objects in Indo-Iranian and beyond*. In Silvia Luraghi and Tuomas Huumo (eds.): *Partitive Cases and Related Categories*. Berlin: De Gruyter Mouton, 417-442.
- Enger, Hans-Olav and Tore Nettet (1998): The Value of Cognitive Grammar in Typological Studies: the Case of Norwegian and Russian Passive, Middle and Reflexive, *Nordic Journal of Linguistics* 22: 27-60.
- Enger, Hans-Olav and Tore Nettet (2011): Constraints on diachronic development: the Animacy Hierarchy and the Relevance Constraint. *Sprachtypologie und Universalienforschung* 64.3, 193-212.
- Evgen'eva, Anastasija P. (ed.) (1999): *Malyj Akademičeskij Slovar'*. Moscow: Russkij jazyk.
- Ferm, Ljudmila (2005): *Variativnoe bespredložnoe glagol'noe upravlenie v russkom jazyke XVIII veka*. Stockholm: Södertörns högskola.
- Filin, Fedot P. (ed.) (1972): *Slovar' russkix narodnyx govorov* (volume 8). Leningrad: Nauka.
- Geniušienė, Emma (1987): *The Typology of Reflexives*. Berlin/New York/Amsterdam: Mouton de Gruyter.
- Gjervold, Jonas (2013): Prefix Variation: A Comparison between Slang and Contemporary Standard Russian. *Poljarnyj Vestnik* 16: 33-46.
- Goldberg, Adele E. (1995): *Constructions*. Chicago: The University of Chicago Press.
- Goldberg, Adele E. (2006): *Constructions at Work*. Oxford: Oxford university press.
- Goldberg, Adele E. (2013): Constructionist Approaches. In Thomas Hoffmann and Graeme Trousdale (eds.): *The Oxford Handbook of Construction Grammar*. Oxford: Oxford University Press, 15-31.
- Gorbačevič, Kirill S. (1971): *Izmenenie norm russkogo literaturnogo jazyka*. Leningrad: Prosveščenie.
- Ickovič, Viktor A. (1982): *Očerki sintaksičeskoj normy*. Moscow: Nauka.
- Israeli, Alina (1997): *Semantics and Pragmatics of the "Reflexive" Verbs in Russian*. Munich: Verlag Otto Sagner.
- Janda, Laura A. and Steven J. Clancy (2002): *The Case Book for Russian*. Bloomington: Slavica

- Janko-Trinickaja, Nadija A. (1962): *Vozvratnye glagoly v sovremennom russkom jazyke*. Moscow: Izdatel'stvo Akademii Nauk SSSR.
- Kagan, Olga (2013): *Semantics of Genitive Objects in Russian: A Study of Genitive of Negation and Intensional Genitive Case*. Dordrecht: Springer.
- Kemmer, Suzanne (1993): *The Middle Voice*. Amsterdam/Philadelphia: John Benjamins.
- King, Bruce M. and Edward Minium (2008): *Statistical Reasoning in the Behavioral Sciences*. Hoboken, NJ: John Wiley & Sons.
- Kraska-Szlenk, Iwona (2007): *Analogy: The Relation between Lexicon and Grammar*. Munich: Lincom Europa.
- Krys'ko, Vadim B. (1997): *Russkij istoričeskij sintaksis. Ob'ekt i perexodnost'*. Moscow: Indrik.
- Lieberman, Erez, Jean-Baptiste Michel, Joe Jacson, Tina Tang and Martin A. Nowak (2007): Quantifying the evolutionary dynamics of language. *Nature* 449: 713-716.
- Ljustrova, Zoja N., Lev I. Skvorcov and Viktor Ja. Derjagin (1982): *Druz'jam russkogo jazyka*. Moscow: Znanie.
- Lyashevskaja Olga N. and Sergey A. Sharoff. (2009) *Častotnyj slovar' sovremennogo russkogo jazyka (na materialax Nacional'nogo korpusa russkogo jazyka)*. Moscow: Azbukovnik.
- Mathiassen, Terje (1996): *Russisk grammatikk*. Oslo: Universitetsforlaget.
- Miloslavskij, Igor' G. (1978): Kakomu zalogu prinadležit glagol "nraiv't'sja"? In: Viktor S. Xrakovskij (ed.): *Problemy teorii grammatičeskogo zaloga*. Leningrad: Nauka, 208-213.
- Neset, Tore (1996): Affiks eller klitikon? (Affix or Clitic?). *Norsk Lingvistisk Tidsskrift* 16: 185-206.
- Neset, Tore (1998): *Russian Conjugation Revisited. A Cognitive Approach to Aspects of Russian Verb Inflection*, Oslo: Novus Press.
- Neset, Tore and Anastasia Makarova (2014): Testing the Semantic Homogeneity Constraint: Analogical change and Russian verbs. *Journal of Historical Linguistics* 4.2: 159-189.
- Nichols, Johanna (1993): Transitive and Causative in the Slavic lexicon: Evidence from Russian. In Bernard Comrie and Maria Polinsky (eds.): *Causatives and transitivity*. Amsterdam and Philadelphia: John Benjamins, 69-86.
- Ožegov, Sergej I. and Natalija Ju. Švedova (2005): *Tolkovyj slovar' russkogo jazyka*. Moscow: Institut russkogo jazyka RAN.
- R Development Core Team: 2011. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org/>
- Rozental', Ditmar È. and Margarita A. Telenkova (1984): *Slovar' trudnostej russkogo jazyka*. 3rd edition. Moscow: Russkij jazyk.
- Švedova, Natalija Ju. (ed.) (1980): *Russkaja grammatika* (vol. 2). Moscow: Nauka.
- Švedova, Natalija Ju. and Vladimir V. Lopatin (1989): *Kratkaja Grammatika*. Moscow: Russkij jazyk.
- Švedova, Natalija Ju. and Vladimir V. Lopatin (2002): *Kratkaja Grammatika* (second ed.). Moscow: Institut russkogo jazyka RAN.

- Tabakowska, Elżbieta (2014): *Double Government in Polish*. In Silvia Luraghi and Tuomas Huomo (eds.): *Partitive Cases and Related Categories*. Berlin: De Gruyter Mouton, 399-414.
- Timberlake, Alan (1985): Hierarchies in the genitive of negation, in: Richard D. Brecht and James S. Levine, (eds.), *Case in Slavic*. Columbus, Ohio: Slavica Publishers, 338–360.
- Timberlake, Alan (2004): *A Reference Grammar of Russian*. Cambridge: Cambridge University Press.
- Timberlake, Alan (2014): *The Simple Sentence*. In Sebastian Kempgen, Peter Kosta, Tilman Berger and Karl Gutschmidt (eds.): *Die slavischen Sprachen/The Slavic Languages*. (Halbband 2). Berlin: De Gruyter Mouton, 1675-1699.
- Traugott, Elizabeth Closs and Graeme Trousdale (2013): *Constructionalization and Constructional Changes*. Oxford: Oxford University Press.
- Ušakov, Dmitrij N. (ed.) (1935-40/2008): *Bol'šoj tolkovyj slovar' sovremennogo russkogo jazyka*. Moscow: Alta Print.
- Vakurov, Vladimir N. and L. I. Raxmanova (1993-1994): *Trudnosti russkogo jazyka: slovar'-spravočnik*. Moscow: Izdatel'stvo Moskovskogo universiteta.
- Vinogradov, V.V. (1947): *Russkij jazyk (grammatičeskoe učenie o slove)*. Moscow and Leningrad: Gosudarstvenno-pedagogičeskoe izdatel'stvo ministerstva prosvěščenija RSFSR.
- Zaliznjak, Andrej A. (2008): *Drevnerusskie ènklitiki*. Moscow: Jazyki slavjanskix kul'tur.
- Zaliznjak, Anna A. and Aleksej Šmelev (2000): *Vvedenie v russkiju aspektologiju*. Moscow: Jazyki russkoj kul'tury.