

Genitive-accusative case alternation in Russian

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ABSTRACT

In Russian, the direct object of a transitive verb is canonically accusative case-marked. Under sentential negation, the direct object can be accusative or genitive case-marked. There is a long standing debate about whether this case alternation is semantically conditioned. This paper reports on an experiment designed to test whether this case alternation is influenced by definiteness and/or existential commitment. While these predictions were not borne out, this experiment identified three sources of variability in the acceptability of genitive case: i) participant effect; ii) age effect, iii) verb's effect. These findings provide empirical support for an ongoing language change in Russian, whereby the accusative is becoming the default case under negation. These findings also have implications for further investigations and empirically adequate analyses of Genitive of Negation.

KEYWORDS Genitive of Negation · case alternation

1 INTRODUCTION

In Russian, the direct object of a transitive verb is canonically accusative case-marked as shown for *braslet* 'bracelet' in (1).¹

- (1) Ivan kupil braslet.
 Ivan.NOM buy.PST.3SG bracelet.ACC
 'Ivan bought a/the bracelet.'

Under sentential negation, the direct object can bear accusative case or genitive case marking as shown for the noun *braslet* 'bracelet' in (2). This phenomenon is known as *Object Genitive of Negation*.²

- (2) Ivan ne kupil braslet / braslet-a.
 Ivan.NOM NEG buy.PST.3SG bracelet.ACC bracelet-GEN
 'Ivan didn't buy a/the bracelet.'

The availability of both genitive and accusative cases in (2) raises the issue — what determines the choice between the two cases? The answers offered to this question are complex, and at times even contradictory.

Various semantics notions have been invoked in explaining the genitive-accusative case alternation. For instance, Partee et al. (2012) and Kagan (2005, 2012) suggest that the case alternation signals existential commitment. Namely, genitive case signals the (possible) absence of existential commitment. Partee et al. (2012) argue that accusative case presupposes existence. The genitive-accusative case alternation is thus equipollent, as both genitive and accusative cases make a semantic contribution. Kagan (2005, 2012), on the other hand, argues that accusative case is the default case;

¹Russian is article-less language, therefore bare nominals can be interpreted as definite or indefinite depending on contextual factors.

²In Russian, there is also a genitive-nominative case alternation known as Subject Genitive of Negation. Since there is an ongoing debate in the literature as to whether Object and Subject Genitive of Negation constitute the same phenomenon (Partee et al., 2012, see e.g.), in this paper I will focus exclusively on Object Genitive of Negation.

consequently it does not make any semantic contribution. The case alternation is thus assumed to be privative.

Babyonyshev & Brun (2002) claim that there are two distinct dialects of Russian. The dialects differ in what syntactic/semantic notions are encoded by the case alternation. In one dialect, the case alternation encodes specificity, whereby specificity is defined as whether a nominal has ‘a fixed referent in (the model of) the world that can be identified by the speaker or the person whose propositional attitudes are being reported’ (Babyonyshev & Brun, 2002, 51). Genitive case-marked nominals are interpreted as non-specific, while their accusative case-marked counterparts are interpreted as specific. The case alternation is thus equipollent. In the other dialect, the case alternation encodes definiteness, whereby definiteness is assumed to be ‘a purely syntactic notion’ (Babyonyshev & Brun 2002: 51). Genitive nominals are argued to be indefinite, while accusative nominals can be interpreted as definite or indefinite. The case alternation is thus privative.

Other authors list a wide variety of semantic notions as playing a role in the case alternation (e.g. Bailyn, 1997, 2004; Kim, 2003). For example, Bailyn (1997, 94) suggests that genitive case-marked nominals ‘have an existential or indefinite interpretation’, while accusative case-marked nominals ‘have a individuated, topical, or definite interpretation’. It is less-straightforward to assess what this characterization amounts to given the number of semantic notions involved.

In sum, there is substantial disagreement in the literature about the empirical characterization of the case alternation. First, while there is an underlying intuition that the case alternation has a semantic effect (Bailyn, 1997; Brown, 1999; Harves, 2002; Franks & Pereltsvaig, 2004; Babyonyshev & Brun, 2002, among others), the question of which semantic notions the cases are sensitive to is not settled. This disagreement is not surprising: the distinctions between the semantic notions invoked are often subtle and intricate. What complicates matters further is that these notions are often left undefined. Furthermore, more generally it not clear whether the case alternation is privative or equipollent. This means that currently there is no consensus on what governs the distribution of the two cases and what is the nature of the case alternation (privative or equipollent).

Given the intricacy and the complexity of the case alternation, there is the need for controlled and quantifiable experimental investigations. The goal of the present paper is to shed some light on the empirical characterization of the case alternation by using experimental methodology. This will be achieved by testing predictions made by the afore-mentioned analyses of Genitive of Negation.

Cho (2013) has already provided some preliminary experimental evidence for distributional differences between genitive and accusative cases. Cho’s acceptability experiment was designed to test the hypothesis that accusative case-marked nominals presuppose existence, while genitive case-marked nominals do not presuppose existence. This hypothesis is informed by Franks & Pereltsvaig (2004), who argued that genitive and accusative-case marked nominals differ in their syntactic status. Namely, genitive case-marked nominals are NPs and therefore do not presuppose existence, whereas their accusative case-marked counterparts are DPs, and therefore presuppose existence. The stimuli in Cho’s experiment were 8 contexts that were presented with two accompanying target sentences. The context either gave rise to existential commitment or denied the existence of the relevant discourse referent. Sample contexts and the corresponding target sentences are provided in (3) and (4) (Cho, 2013, 45–46).

- (3) (Context with existential commitment) Katya left her glasses at home. While Katya was driving to work, she hit something. Katya was not sure what that was. She thought it could be a rock. But when Katya got out of the car, she was horrified. She had run over a tiny squirrel. Katya should not have driven without her glasses on.
- a. Katja ne uvidela malen’kuju belku.
Katya NEG saw small.ACC squirrel.ACC
‘Katya didn’t see a small squirrel.’
 - b. Katja ne uvidela malen’koj belki.
Katya NEG saw small.GEN squirrel.GEN
‘Katya didn’t see a small squirrel.’
- (4) (Context without existential commitment) I watched a movie last night. In the movie, two brothers Ivan and Peter got lost in the desert in Africa. There was no water or food.

- a. Ivan ne uvidel golub-*oj* oazis.
Ivan NEG saw blue-ACC oasis.ACC
'Ivan didn't see a blue oasis.'
- b. Ivan ne uvidel golub-*ogo* oazis-*a*.
Ivan NEG saw blue-GEN oasis-GEN
'Ivan didn't see a blue oasis.'

56 participants (all university students) rated the acceptability of the target sentences. Responses were given on a 5-point Likert scale. There was also an *I don't know* option. The prediction was that accusative case-marked nominals would be rated higher in contexts with existential commitment than in contexts without existential commitment. Genitive case-marked nominals, on the other hand, would be rated higher in contexts without existential commitment than in contexts with existential commitment. Cho (2013) found that participants gave genitive case-marked nominals high ratings regardless of the context. Cho suggests attributing this result to prescriptive norms. Accusative case-marked nominals received significantly higher ratings in contexts with existential commitment (mean 3.82) than in contexts without existential commitment (mean 3.31). Cho concludes that accusative case signals referentiality. These results thus provide partial support for the hypothesis that the acceptability of the accusative case is semantically conditioned.

This finding constitutes an important step towards establishing the empirical characterization of the case alternation in Russian. However, the conclusions we can draw from Cho's study are limited. The empirical picture is complicated by the variability present in the stimuli. For example, the nominals used in the target sentences differed in animacy, gender and whether they were modified by adjectives. Timberlake (1975) suggests that case-assignment under negation is sensitive to a number of discourse and (lexical) semantic factors, including but not limited to, the presence of modifying elements, animacy, mass-count distinctions, noun gender. These differences between stimuli could have led to confounding effects and consequently premature conclusions.

The aim of the current study is to improve upon the existing experimental study in systematically comparing the acceptability of genitive and accusative case-marked nominals in contexts differing in definiteness and existential commitment. This experiment will also shed light on the nature of the case alternation, i.e. whether it is equipollent or privative.

2 EXPERIMENT

The acceptability rating experiment reported on in this paper was designed to explore the extent to which definiteness and existential commitment influence the acceptability of accusative and genitive cases under negation. This four-way comparison (definiteness x existential commitment) allows us to test predictions made by several theoretical accounts. The predictions that are informed by the aforementioned analyses in the literature are listed in (5).

- (5) P1 The acceptability of accusative and genitive case is influenced by definiteness. More specifically, accusative case-marked stimuli are judged to be more acceptable in definite than indefinite contexts, while the genitive case-marked stimuli are judged to be more acceptable in indefinite than definite contexts (compatible with Babyonyshev & Brun, 2002).
- P2 Accusative case-marked stimuli are judged to be acceptable regardless of context, while genitive case-marked stimuli are judged to be more acceptable in contexts that do not give rise to existential commitment than in the ones that do give rise to existential commitment (compatible with Kagan, 2012);
- P3 Accusative case-marked stimuli are judged to be most acceptable in definite contexts that give rise to existential commitment. Genitive case-marked stimuli are judged to be most acceptable in indefinite contexts that do not give rise to existential commitment (compatible with Bailyn, 1997; Kim, 2003).

2.1 PARTICIPANTS

297 participants filled out an online survey hosted on OSU Qualtrics. The participants were recruited via word of mouth and social media. This recruitment procedure allowed for a collection of a sizeable data sample. One disadvantage of this recruitment procedure is that the participants constitute a heterogeneous group. The results presented in this paper are based on the subset of the data. For better comparison, only the data from participants that fit the following criteria were considered: i) born in Russia; ii) self-reported native speaker of Russian; iii) rated both ungrammatical controls as unacceptable and grammatical controls as acceptable. These strict inclusion criteria lead to a smaller but a more homogeneous data pool of 94 participants. Out of 94 participants, 13 resided in Russia and 81 lived abroad. The participants were aged 22–67 (mean 37.48). Informed consent was obtained before the start of the survey.

2.2 MATERIALS

Timberlake (1975) suggests that case-assignment under negation is sensitive to a number of discourse and (lexical) semantic factors. For instance, mass nouns are more likely to be genitive-case marked than count nouns (Timberlake, 1975, 125). Direct objects of imperfective verbs are more likely genitive case-marked than objects of perfective verbs (*ibid.* p. 128). It means that there is a necessity to control for possible external influences on the case alternation that are not related to the predictions being tested in this experiment. Only having controlled for these external factors, we can more readily attribute any potential differences in the acceptability of the two cases to the effects of definiteness and/or existential commitment.

For the creation of the stimuli, the 5 perfective verbs listed in (6) were chosen. All verbs were realized in the past tense.

- (6) *uvidet* ‘to see’, *najti* ‘to find’, *kupit* ‘to buy’, *ugnat* ‘to steal’, *vyigrat* ‘to win’

Each verb in (6) was combined with two object nouns each. The 10 object nouns were inanimate, concrete, singular and masculine. Target sentences were created with both accusative and genitive case-marked direct objects. This procedure thus resulted in 20 target sentences. All target sentences had the same form: pronominal subject, negated transitive verb and a direct object as shown in (7) for the verb *kupit* ‘to buy’ and the direct object *braslet* ‘bracelet’.

- (7) a. On ne kupil braslet.
 he.NOM NEG buy.SG.3.MASC bracelet.ACC
 ‘He didn’t buy a/the bracelet.’
 b. On ne kupil brasleta.
 he.NOM NEG buy.SG.3.MASC bracelet.GEN
 ‘He didn’t buy a/the bracelet.’

The 20 target sentences were embedded in contexts that differed in definiteness and existential commitment of the direct object. For the purposes of this experiment, a nominal was considered to be definite if it satisfied weak uniqueness (compatible with Coppock & Beaver, 2015; Roberts, 2003), i.e. there was a corresponding unique discourse referent in the relevant context. A nominal was considered to carry existential commitment if it took wide scope over negation. Conversely, a nominal was considered not to carry existential commitment if negation took wide scope over the nominal.

Definiteness was manipulated in the linguistic context preceding the target sentence. In definite contexts, a unique discourse referent with the property in question was explicitly introduced prior to the target sentence. In indefinite contexts, no discourse referent with the property in question was introduced prior to the target sentence. Existential commitment was manipulated in the continuation that followed the target sentence. In the continuation, the existence of a discourse referent with the property in question was explicitly asserted or negated. The stimuli for the pair of target sentences in (7) are provided in (8); the target sentences are underlined.

- (8) Sample stimuli (in English)

- a. +definite +existential commitment
Pasha forgot to buy a birthday gift for his wife. He went to the closest jewelry store. There he saw a beautiful bracelet. He didn't buy the bracelet.ACC/GEN. He could not afford it.
- b. +definite –existential commitment
Pasha forgot to buy a birthday gift for his wife. He went to the closest jewelry store. He thought that he saw a beautiful bracelet. He didn't buy the bracelet.ACC/GEN. It turned out that he was mistaken and this store didn't sell any bracelets.
- c. –definite +existential commitment
Pasha forgot to buy a birthday gift for his wife. He went to the closest store. He didn't buy a bracelet.ACC/GEN, even though he was planning to. He couldn't afford the only bracelet that he liked.
- d. –definite –existential commitment
Pasha forgot to buy a birthday gift for his wife. He went to the closest store. He didn't buy a bracelet.ACC/GEN, even though he was planning to. This store didn't sell any bracelets.

The stimuli as well as the data and the R code for generating the figures and analyses of the experiment are available at (<https://github.com/elena-vaiksnoraite/genitive-of-negation-Russian>).

2.3 PROCEDURE

The stimuli were divided into 4 experimental lists of 10 discourses each so that each list included each target sentence with either accusative or genitive case-marked nominal only once. In other words, each participant provided a judgement for each target sentence in only one experimental condition. 4 control stimuli were included in each list as 1, 2, 9 and 12 questions. The controls were included to assess whether the participants were paying attention.

Participants were randomly assigned to one of the four lists. Participants were instructed to read the short discourses and to answer the question presented with the discourse. The question was always of the same form: *Does the underlined sentence sound acceptable in the given context?*. The participants provided their responses on a 5-point Likert scale, so that the results of this experiment would be comparable to Cho 2013. The scale was labeled at two points: *not acceptable* (coded as '1') and *acceptable* (coded as '5') as shown in Figure 1.

Паша забыл купить подарок своей жене на её день рождения. Он побежал в ближайший ювелирный магазин. Там он увидел красивый браслет. Он не купил браслета. К сожалению, он был ему не по карману.

Не приемлемо Приемлемо

Приемлемо ли звучит подчеркнутое предложение в данном контексте?

○ ○ ○ ○ ○

Figure 1: A sample trial

At the end of the experiment, participants filled out a questionnaire about their age, gender, place of birth, place of residence and native language(s).

2.4 DATA ANALYSIS

The statistical analyses reported in this paper used mixed-effects models predicting acceptability rating from fixed effects. The fixed effect(s) that were included in a given model depended on the

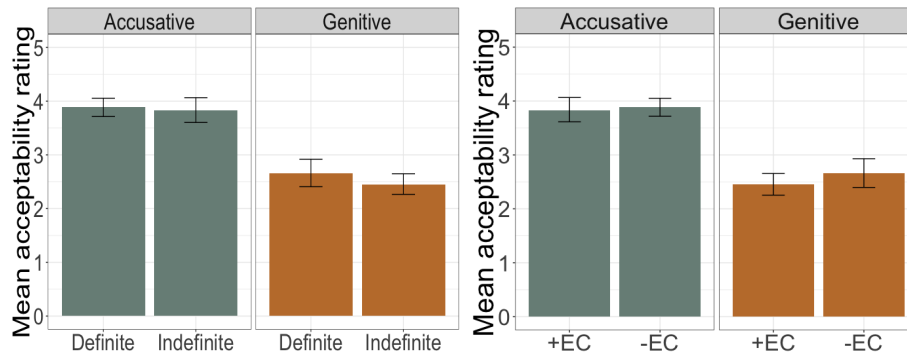


Figure 2: Mean responses (with 95% confidence intervals) to accusative and genitive case-marked stimuli in definite and indefinite contexts (left panel) and in contexts with existential commitment (+EC) and without existential commitment (-EC) (right panel)

prediction that was being tested: definiteness (P₁), existential commitment (P₂), and the interaction between definiteness and existential commitment (P₃). All models included the following random effects structure: random by-participant (capturing participant's variability in responses), random by-verb and random by-noun intercepts (both capturing variability introduced by lexical items). Results were obtained using the *ordinal* package (Christensen 2015) in R (v. 3.4.0).

3 RESULTS

In this section, I discuss the findings of the experiment.

3.1 TESTING THE PREDICTIONS

Prediction 1 was that definiteness influences the acceptability of genitive and accusative cases. The mean responses to the target stimuli in the definite and indefinite contexts are shown in the left panel of Figure 2. The mixed-effects model revealed no statistically significant effect of definiteness on the acceptability of either accusative or genitive case-marked stimuli.

Prediction 2 was that existential commitment influences acceptability of genitive case, while accusative case is judged as acceptable across the board. The mean responses to the target stimuli in the contexts with existential commitment and without existential commitment are shown in the right panel of Figure 2. The mixed-effects model revealed no statistically significant effect of existential commitment on the acceptability of either the accusative or genitive case-marked stimuli.

Prediction 3 was that both existential commitment and definiteness play a role in the acceptability of accusative and genitive cases. The prediction is not borne out: the mixed-effects model revealed no statistically significant effect of the interaction between existential commitment and definiteness on the acceptability of either the accusative or genitive case-marked stimuli.

The experiment thus did not provide empirical support for the three predictions laid out in (5): definiteness, existential commitment and their interaction did not influence the acceptability of accusative and genitive case-marked stimuli.

3.2 SOURCES OF VARIABILITY IN THE ACCEPTABILITY OF THE GENITIVE CASE

While the results did not provide empirical support for the predictions in (5), the experiment found that the accusative case is overall more acceptable than genitive case. Furthermore, it identified three sources of variability that influence the acceptability of genitive case: i) by-age; ii) by-participant; iii) by-verb variability. I will discuss each of these findings in turn.

The mean responses to the target stimuli bearing accusative and genitive case-marking collapsing across conditions are shown in Figure 3. Participants gave higher ratings to accusative case-marked stimuli (mean 3.87) than genitive case-marked stimuli (2.54). A mixed effects model predicting acceptability rating revealed a statistically significant effect of case ($\beta = -1.64$, $SE = 0.1387$, $z = -11.85$, $p < 0.001$). This result is in stark contrast with the results in Cho 2013. Specifically, Cho (2013) reported that genitive case was overall more acceptable than accusative regardless of the testing condition.

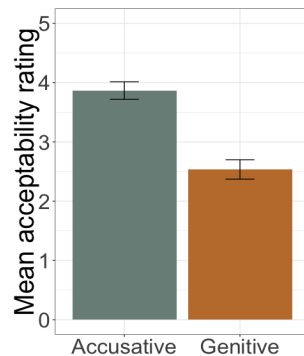


Figure 3: Mean acceptability ratings (with 95% confidence intervals) by case

With regards to the acceptability of genitive case: three sources of variability were identified.

First, the results revealed a considerable inter-speaker variation. 11 participants judged all stimuli with genitive case-marked nominals as unacceptable regardless of the condition that they were presented in. For these speakers, accusative case is the only case available under negation. This means that the phenomenon of genitive-accusative case alternation under negation is not present in the grammar of all speakers of Russian.

Second, there is a correlation between the participants' age and the rating of genitive and accusative cases, as shown in Figure 4. For the genitive case-marked stimuli, there is a positive correlation between the acceptability rating and the age of the participant ($r = .43$). This correlation survives even if we exclude the 11 participants that do not accept genitive case under negation. Older participants overall rated genitive case-marked stimuli as more acceptable than younger participants. For the accusative case-marked stimuli, there is a negative correlation between the acceptability rating and the age of the participant ($r = -.18$). It means that younger participants overall rated the accusative case-marked stimuli as more acceptable than older participants.

Third, the results revealed considerable variation introduced by the verbs themselves. Although, the verbs used in the target sentences were controlled for tense and aspect, considerable by-verb variability was identified. As shown in Figure 5, the acceptability of both genitive case differs across verbs. For example, genitive case-marked stimuli were rated higher with *najti* 'to find' and *uvidet* 'to see' than the other three verbs.

3.3 SUMMARY AND DISCUSSION

The experiment did not provide empirical support for the claims in the literature that the acceptability of accusative and genitive case under sentential negation is semantically conditioned. Namely, the experiment did not find that definiteness, existential commitment or interaction between the two influences the acceptability of the two cases.

However, the experiment revealed that accusative case is overall more acceptable than genitive case. This result is at odds with the results reported in Cho 2013, who found that genitive case was overall more acceptable. Cho (2013) suggests that it is possible that the overall high acceptability of genitive case could be the result of the prescriptive norms. Cho's (2013) experiment was conducted offline with university students. This experiment was conducted online in an informal setting and population sample was not limited to university students. Different population samples (of different

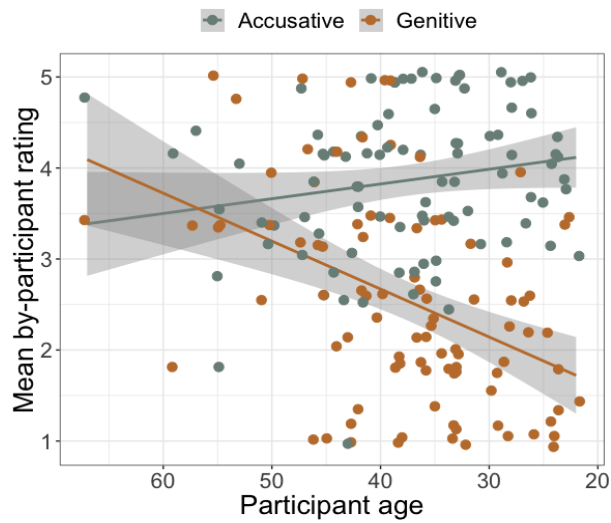


Figure 4: Participants’ mean rating of the accusative and genitive case-marked stimuli collapsing across conditions

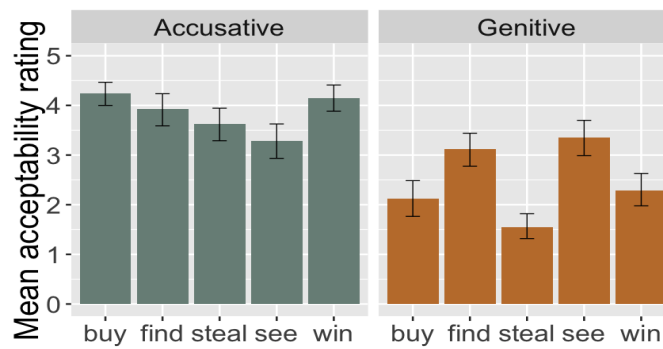


Figure 5: Mean ratings (with 95% confidence intervals) of accusative and genitive case-marked stimuli by verb

sociological and geographical backgrounds) and different experimental settings (offline vs. online) could explain the differences in these results. The high acceptability of accusative case reported in this paper is, however, in line with Kagan (2005, 2012), who suggests that accusative case is the default case under negation.

Furthermore, the experiment revealed three important sources of variability in the acceptability of the genitive case.

First, this experiment showed that for some speakers the case alternation does not exist anymore: the direct objects are obligatorily accusative case-marked even in the presence of sentential negation. This means that we have further evidence for an ongoing language change in Russian. The fact that genitive case is not available for some speakers indicates that Russian is moving in the same trajectory as Czech (Timberlake 1975). In modern Czech, accusative case is the only case available under negation. The data sample of 11 participants is too small to try to determine whether the loss of genitive case under negation is a feature of some (geographical) dialects of Russian. Nonetheless, the results indicate that the general discussion of the Genitive of Negation has to acknowledge the fact that the case alternation is not present in the grammar of all speakers of Russian.

Second, the participants' age correlates with the acceptability of genitive case: younger participants find genitive less acceptable than older participants. This result survives even when we only consider the participants that accept genitive case (i.e. the mean rating for genitive case is more than 1.0). This result is expected given that accusative case under negation is an innovation. In Russian (and other Balto-Slavic languages), genitive case is the historical case used under sentential negation. The accusative case did not become widely used in Russian until the end of the 20th century (Krasovitsky et al. 2011). This experiment thus provides evidence for an ongoing language change in Russian.

Third, genitive case was rated higher with *uvidet* 'to see' and *najti* 'to find' than the other three verbs. The pattern with *uvidet* 'to see' is compatible with the claim in Timberlake 1975, wherein verbs of perception take genitive case-marked nominals more often than other semantic classes of verbs. However, the fact that *najti* 'to find' patterns with *uvidet* 'to see' is puzzling. The data sample of 5 verbs is too small to try to determine whether there are some general patterns with regards to the effect of verbal semantics on the case alternation. Idiosyncratic properties of verbs have been discussed as a factor influencing the acceptability of genitive and accusative cases with intensional verbs (e.g. Kagan 2012). This experiment highlights the importance of verbal semantics (and possibly word frequency) in the discussion of the (Object) Genitive of Negation.

4 CONCLUSIONS

There is an intuition in the literature on Genitive of Negation that the genitive-accusative case is semantically conditioned. The aim of this experiment was to test predictions informed by the literature that definiteness and/or existential commitment influence the acceptability of accusative and genitive cases. These predictions were not borne out in the given population sample: the results provide no empirical support for a semantically conditioned case alternation.

The experiment, however, revealed considerable by-age and by-participant variability in the acceptability of the genitive case. These findings provide support for an ongoing language change in Russian, whereby accusative case is becoming the default case under negation. In further experiments, it could be tested whether the case alternation is semantically-conditioned in the older population. Furthermore, the experiment identified that verbs may influence the acceptability of the genitive case. This finding has implications for further investigations of Genitive of Negation: it highlights the fact that verbal semantics and lexical frequency need to be taken into account when constructing stimuli.

Lastly, the experiment revealed that accusative case is overall more acceptable than genitive case under negation. This result is in contrary to the result in Cho (2013). The present study thus raises some important issues regarding the choice of an experimental setting as it can influence the results.

Given this state of affairs, further systematic large-scale experimental and corpora studies are necessary to document and establish the current patterns and tendencies in the Genitive of

Negation.

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REFERENCES

- Babyonyshev, Maria & Dina Brun. 2002. Specificity matters: A new look at the new genitive of negation in Russian. In Jindřich Toman (ed.), *Proceedings of Formal Approaches to Slavic Linguistics 10. The Second Ann Arbor Meeting 2001*, 47–66. Ann Arbor, MI: Michigan Slavic Publications.
- Bailyn, John F. 1997. Genitive of negation is obligatory. In Wayles Browne, Ewa Dornisch, Natasha Kondrashova & Draga Zec (eds.), *Proceedings of Formal Approaches to Slavic Linguistics 4. The Cornell Meeting 1995*, 84–114. Ann Arbor, MI: Michigan Slavic Publications.
- Bailyn, John Frederick. 2004. The case of Q. In Olga Arnaudova, Wayles Browne, María Luisa Rivero & Danijela Stojanović (eds.), *Proceedings of Formal Approaches to Slavic Linguistics 12. The Ottawa meeting 2003*, 1–35. Ann Arbor, MI: Michigan Slavic Publications.
- Brown, Sue. 1999. *The syntax of negation in Russian: A minimalist approach*. Stanford, CA: Center for the Study of Language and Information Publications – CSLI.
- Cho, Jacee. 2013. Case marking and referentiality in Russian Negation Constructions. In Steven Franks, Markus Dickinson, George Fowler, Melissa Witcombe & Ksenia Zanon (eds.), *Proceedings of Formal Approaches to Slavic Linguistics 21. The Third Indiana Meeting*, 40–48. Ann Arbor, MI: Michigan Slavic Publications.
- Christensen, Rune Haubo Bojesen. 2015. ordinal—regression models for ordinal data. *R package version 28*. 2015.
- Coppock, Elizabeth & David Beaver. 2015. Definiteness and determinacy. *Linguistics and philosophy* 38(5). 377–435.
- Franks, Steven & Asya Pereltsvaig. 2004. Functional categories in the nominal domain. In Olga Arnaudova, Wayles Browne, María Luisa Rivero & Danijela Stojanović (eds.), *Proceedings of Formal Approaches to Slavic Linguistics 12. The Ottawa Meeting 2003*, 109–128. Ann Arbor, MI: Michigan Slavic Publications.
- Harves, Stephanie. 2002. Genitive of negation and the syntax of scope. In Marjo van Koppen, Erica Thrift, Erik Jan van der Torre & Malte Zimmermann (eds.), *Proceedings of ConSOLE IX*, 96–110. Leiden: SOLE.
- Kagan, Olga. 2005. Genitive case: A modal account. In Yehuda N. Falk (ed.), *Proceedings of Israel Association for Theoretical Linguistics 21*, 1–21. Jerusalem: IATL.
- Kagan, Olga. 2012. *Semantics of genitive objects in Russian: A study of genitive of negation and intensional genitive case*, vol. 89. Springer Science & Business Media.

- Kim, Min-Joo. 2003. The genitive of negation in Russian: A relativized minimality account. In Wayles Browne, Ji-Yung Kim, Barbara H. Partee & Robert A. Rothstein (eds.), *Proceedings of Formal Approaches to Slavic Linguistics 11. The Amherst meeting*, 295–314. Ann Arbor, MI: Michigan Slavic Publications.
- Krasovitsky, Alexander, Matthew Baerman, Dunstan Brown & Greville G Corbett. 2011. Changing semantic factors in case selection: Russian evidence from the last two centuries. *Morphology* 21(3-4). 573–592.
- Partee, Barbara H, Vladimir Borščev, Elena Padučeva, Jakov Testeleš & Igor Yanovič. 2012. The role of verb semantics in genitive alternations: genitive of negation and genitive of intensionality. *Oslo studies in language* 4(1). 1–29.
- Roberts, Craige. 2003. Uniqueness in definite noun phrases. *Linguistics and philosophy* 26(3). 287–350.
- Timberlake, Alan. 1975. Hierarchies in the genitive of negation. *Slavic and East European Journal* 19(2). 123–138.