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На тему Русские фразеологизмы и обязательный контроль: экспериментальное исследование

Тема на английском Idioms and Obligatory Control in Russian: an Experimental Investigation

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Idioms and Obligatory Control in Russian: an Experimental Investigation

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Abstract

Idioms are often employed to distinguish between movement and base generation (Postal 1976, Salzmann 2006, Chomsky 1995, 1965, Vergnaud 1974, Bhatt 2002, Adger & Ramchand 2005, Kwon, Polinsky & Kluender 2006). However, the validity of this test has been questioned by some researchers (Nunberg, Sag & Wasow 1994, Ruwet 1991). A detailed investigation of the problem is lacking for Russian. There is no agreement as to which Russian predicates exhibit control and which do not, and idioms are still used in syntactic argumentation (Burukina 2020). I provide experimental data showing that the acceptability of idioms in control-raising environments is not determined by the predicate type, thus proving the idiom test unreliable.

1 Introduction

1.1 Idioms in syntactic argumentation

Idioms have long been used as a syntactic test meant to differentiate between movement and base generation in the realm of both A and A'-dependencies (Postal 1976, Salzmann 2006, Chomsky 1995, 1965, Vergnaud 1974, Bhatt 2002, Adger & Ramchand 2005, Kwon, Polinsky & Kluender 2006). As the following examples from English featuring the idiom *the shit hit the fan* indicate, idioms are grammatical in cases of raising to subject, like example (1a), but not control, like example (1b).

(1) a. They believe the shit *t* to have hit the fan yesterday. (raising to object = movement)
b. *They convinced the shit PRO to hit the fan yesterday. (control; no movement) (Postal 2004)

The idiom part *shit* in example (1a) is base-generated in the embedded clause and is not occupying a thematic position in the matrix clause, so the sentence is acceptable. In example (1b), however, *shit* is base-generated as a matrix object, separately from the rest of the idiom in the embedded infinitival clause, which renders the sentence unacceptable.

The test presupposes that all constituent parts of an idiom are base-generated together, so they must be adjacent at some point of the syntactic derivation. Thus, movement of an idiom part is possible, because it can proceed out of an idiom that was base-generated as a whole. Control or pronominal anaphora, on the other hand, require a part of an idiom to be base-generated outside of it, which prevents the idiomatic reading.

However, other researchers have taken issue with this test. Ruwet (1991) and Nunberg, Sag & Wasow (1994) have shown that idioms actually can participate in control. Examples of pronominal anaphora and control with idioms in English abound on the Internet (2a–2b), as shown in Bruening (2015) .

(2) a. I thought I would *miss the boat*, and miss **it** I did.
b. The *plug* is waiting to be *pulled* once all the 5600 stock is gone... (Bruening 2015)

In the present paper, I will focus on the syntax of Russian infinitival clauses, namely, whether the idiom test can predict the predicate type correctly (control against raising or ECM).

1.2 Control and raising in Russian

Control, raising and ECM are different syntactic configurations of subordinate clauses, typically non-finite, with an embedded argument that is mandatorily coreferent with a matrix argument (see Polinsky 2013 for detailed discussion of raising and control). Raising is a phenomenon of there being no theta-role to fill in the matrix clause, like in example (3a). That is why the matrix subject can be an expletive, as shown in example (3b).

(3) a. John seems [*t* to be upset.]
b. It seems (that) [John is upset.]

John in example (3a) has a single theta-role – it is the only argument of the embedded predicate *to be upset*. The matrix verb *seem* does not assign any theta-roles other than the proposition, so *John* can be located in the matrix clause, like in example (3a), as well as in the embedded clause, like in example (3b), since there is only one theta-role for it to occupy.

Control results from there being two thematic positions occupied by the same participant of the situation: in the matrix clause and in the embedded clause. Since it is not possible for one argument to fill two theta-roles, according to the theta-criterion (see Chomsky 1981 for details), a silent pronoun appears in the embedded clause, whose reference is determined by an argument in the matrix clause, like in example (4).

(4) Kim_i wants [PRO_i to buy a house.]

Kim in example (4) receives the 'wanter' role from the matrix verb *want* and the 'buyer' role from the embedded verb *buy*. One participant cannot have two theta-roles at once, so PRO appears in the embedded subject position.

Exceptional case marking (ECM) is different from both raising and control. The subject of the embedded clause receives its case from the matrix predicate (see Chomsky 1981 for details). Despite being non-nominative, it occupies the embedded subject position rather than an argument position in the matrix clause, like in example (5) below.

(5) Kim wants [**me** to buy a house.]

Me is the subject of the embedded clause in example (5). However, it receives accusative case from the matrix predicate *wants*. Note that one and the same verb

(*want*) can participate in two different structures: control, like in example (4), and ECM, like in example (5).

The distinction between control and raising is not entirely clear for Russian. Different analyses have been proposed by Burukina (2020) and Minor (2013) for mandative verbs with dative arguments. Such predicates as *velet'* 'order', *razrešit'* 'allow', *pomogat'* 'help', *mešat'* 'hinder', which appear to assign a thematic role in the matrix clause, and hence to exhibit control, have been claimed by Burukina (2020) to actually produce an ambiguity. The two possible structures are shown in example (6). In particular, the dative argument can either denote the Holder of the obligation and be coreferent with the embedded PRO (i.e. traditional object control) or be located in the embedded clause itself, similarly to the ECM structures of English and other languages. The first reading of example (7) results when *Voldemort* is the Holder (see the schema in example 6a), and the second is derived when *Voldemort* is the embedded subject (see the schema in example 6b).

(6) a. [*pomoč/pomešat'* DP.DAT$_i$ [PRO$_i$ *infinitive*]]
b. [*pomoč/pomešat'* [DP.DAT *infinitive*]] (Burukina 2021: 5)

(7) Direktor prikazal Voldemortu ubit' mal'čika.
director.NOM ordered Voldemort.DAT kill.INF boy.ACC
'The director ordered Voldemort that he should kill the boy'.
'The director ordered that Voldemort should kill the boy'. (Burukina 2020: 9)

One argument Burukina (2020) provides in support of her analysis is based on the interpretation of idiom chunks. Her reasoning goes as follows: sentences with a mandative verb and an idiom, such as example (8), can keep the idiomatic reading. Thus, the constituent parts of the idiom must have been base-generated together, so there must be some option other than control, she presupposes that it is ECM.

(8) Ja ne velel čërnoj koške probegat' meždu nimi.
I NEG ordered black cat.DAT run.INF between them
Literally: 'I did not order the black cat to run between them.'
Idiomatic reading available: 'I did not order them to quarrel.' (Burukina 2020: 8)

Burukina (2020) contrasts Russian mandative predicates with 'proper' object control predicates such as *zastavit'* 'force' that do not create such an ambiguity and also disallow idiomatic readings.

Letuchiy & Viklova (2020) suggest, on the other hand, that *pomogat'* 'help', *mešat'* 'hinder' behave like control predicates according to such tests as thematic role assignment, the interpretation of negative and indefinite pronouns and the availability of substitution of the embedded clause with the demonstrative pronoun *eto* 'this, it'. *Zastavit'* 'force' is cited in Letuchiy & Viklova (2020) as a prototypical control predicate, just like in Burukina (2020) .

1.3 The aim of the paper

This study aims to investigate the relationship between predicate type (control, raising or ECM) and the acceptability of idioms in their non-finite sentential complements. The idiom test described in Section 1.1 will fare well for Russian if idioms are unacceptable in control environments, that is, their constituent parts must be base-generated together. To check whether this assumption is actually correct, I have conducted a linguistic experiment.

2 Experimental evidence

Since idioms have been employed as a test to distinguish control from movement, it would be sensible to test the hypothesis that Russian control verbs are unacceptable with idioms empirically. Apart from that, from what Burukina (2020) suggests, control verbs with dative arguments, that is, alternating between control and ECM, should be more acceptable with idioms. This is another hypothesis to check: because such verbs can exhibit ECM as well as control, the idiom parts that act as subjects in their clausal complements can be base-generated either together or separately, thus they must be more acceptable with idioms than the proper control verbs.

Based on the discussion above, I have formulated the following two hypotheses:

i. Object control predicates are unacceptable with idioms;

ii. Predicates with dative arguments are more acceptable with idioms in their subordinate clause.

If there is no statistically significant difference in scores between test items with the object control predicate *zastavit'* 'force' and ungrammatical fillers, Hypothesis i. will be correct. We will prove that idioms are not acceptable in control environments and can thus be used as a test to differentiate between control and raising/ECM.

Hypothesis ii. will be proven if the parameter of predicate type (control vs. control/ECM) will significantly influence the acceptability scores. This would imply that the ability of predicates to exhibit ECM is connected with idioms being more acceptable in clausal complements of these predicates, the idioms' subjects occupying the embedded subject position.

2.1 Selecting the predicates

Four predicates were selected: three verbs with dative arguments and one with an accusative argument, presented in Table 1. All of the verbs take infinitive clauses as complements, the dative/accusative arguments being coreferent with the infinitive clauses' subjects.

Verb	**Translation**	**Argument case**
pomogat'	'help'	DAT
mešat'	'hinder'	DAT
pozvolit'	'allow'	DAT
zastavit'	'force'	ACC

Table 1: Control predicates used to produce test items.

Three of the verbs, based on what Burukina (2020) suggests, must be alternating between control and ECM (*pomogat'* 'help', *mešat'* 'hinder', *pozvolit'* 'allow'). There is also one predicate – *zastavit'* 'force' – which exhibits object control, according to Burukina (2020). I explain the reason behind creating an imbalance in the sample by including three control/ECM verbs and only one object control verb in the next subsection.

2.2 Selecting the idioms

Idioms can be semantically compositional, if the verb and the object have separate metaphorical references (Nunberg, Sag & Wasow 1994). The more compositional an idiom is, the more amenable it will be to syntactic transformations such as control or raising, so for the purpose of our study we should choose the more syntactically transformable idioms. The criterion for such idioms has been formulated by Benjamin Bruening:

> [T]he only requirement on idioms is that a chunk of an idiom not receive an interpretation that is inconsistent with its idiomatic interpretation. Once this constraint is satisfied, idiom chunks can participate in pronominal anaphora and control in addition to movement. (Bruening 2015)

Bruening demonstrates with numerous examples from the Internet that English idioms can be completely acceptable in contexts of control and pronominal anaphora. The requirement is that they are compositional enough for their parts not to combine in a way that produces a non-idiomatic interpretation. To illustrate, example (9a) features an idiom consisting of two separable parts, whereas the idiom in example (9b) cannot be split into parts with separate meanings. The lack of the idiomatic reading in example (9b) is caused by the idiom chunk *cat* receiving a theta-role from the matrix verb *tried*. *Cat* thus can no longer be interpreted as part of the idiom: the *cat* that is out of the bag is metaphorical, which is incompatible with being the agent of the verb *try*. In example (9a), on the other hand, *plug* the idiom part and *plug* the experiencer of *is waiting* are both metaphorical, so the idiomatic reading persists.

(9) a. The plug is waiting to be pulled once all the 5600 stock is gone... (Bruening 2015)
b. The cat tried to be out of the bag. (*idiomatic) (Davies & Dubinsky 2008)

Object control predicates that would be semantically felicitous with idiom parts are rather sparse. Most object control verbs require their accusative argument to be animate and/or agentive. For this reason I have only included one object control verb that imposes minimal semantic requirements on its argument – *zastavit'* 'force'. Its direct object can be inanimate, as shown in example (10).

(10) Ya zastavil dver' otkryt'sja.
I forced door.ACC yield.PASS
'I forced the door to open'.

For the present experimental study, idioms were judged according to the following criteria. I have only used the idioms that conformed to every one of them.

i. The idiom has a fixed subject;

ii. The idiom is semantically compositional;

iii. The idiom does not have a fixed temporal or aspectual interpretation;

iv. The idiom does not have a mandatory '*u*-argument'.

I will discuss these criteria in more detail below.

2.2.1 Subject

Since I am investigating control and ECM, the idioms tested should have a subject that would be a fixed part of the idiom and either reside in the embedded clause or control PRO from the matrix clause. It is important to note that very few Russian idioms have a fixed subject. However, many Russian idioms can be passivised (Baranov & Dobrovolsky 2017), as shown in example (11). In order to take into account the effect of passivisation, a pair of passivised idioms was included in the sample for each predicate.[1]

(11) Zavarila-s' malo-pomalu kaša na počve antisemitizm-a... (NKRJa)
cook-REFL bit by bit porridge on ground antisemitism-GEN
'Things were escalating on the ground of antisemitism...'

After an idiom is passivised, its subject position is filled with its own part, so the adjacency of idiom parts is not violated. However, passivisation might affect the acceptability of idioms in control environments. It has been shown experimentally by Dąbrowska (2012) that passivisation hinders comprehension. Although this does not necessarily mean that passive has an effect on acceptability judgements, I will check the passive/active distinction as a parameter that can potentially influence the acceptability score.

2.2.2 Tense and aspect

Different perspectives exist on the question of temporal and aspectual compositionality of idioms. The problem arises because of the fact that idioms can have changeable or fixed tense and aspect. Some researchers argue for systematic literal compositionality (Marantz 1997, McGinnis 2002), while some others claim that only idiom meanings allow for compositionality, whereas their aspectual properties can differ between their literal and idiomatic readings (Glasbey 2003, 2007). Finally, there have been some attempts to reconcile the two views by stating that the aspectual interpretation of an idiom is computed post-syntactically (Leivada 2017).

The idiom *zakrutit' gajki* 'to increase control' (literally 'to screw the nuts tight') can have both the perfective aspect, like in example (12a), and imperfective aspect, like in example (12b). Thus, the idiom's temporal-aspectual interpretation is not fixed but follows compositionally from the properties of the verb involved.

(12) a. V ètom godu načal'stvo ešče sil'nee zakrutilo gajki.
in this year management PTCL more has screwed nuts
'The management have increased control over things even more this year'.

b. Poka načal'stvo zakručivalo gajki, vozmuščenie moix kolleg roslo.
while management was screwing nuts indignance my colleagues was growing
'While the management were enforcing control, my colleagues were slowly losing temper'.

The idiom *(na nëm) budto svet klinom sošëlsja* 'everyone likes (someone) for some reason' (literally '(someone) is in the spotlight') has fixed temporal-aspectual meaning

[1]The use of the *s'* particle in Russian is not limited to passive constructions. It can also act as a reflexive, producing, for example, *myt's'a* 'to wash oneself' from *myt'* 'to wash'. That is why the REFL gloss is used in example (11).

(past tense and perfective aspect), which is not changeable, as shown in example (13b). This idiom is therefore not semantically compositional.

(13) a. Na nëm budto svet klin-om sošëlsja.
on him as though light wedge-INS gathered
'For some reason, everybody thinks he is so special'.

b. #Svet sojdëtsja klin-om na kom ugodno, kto ponravitsja Kole.
light will gather wedge-INS on whoever who will please K.
Expected, idiomatic: 'Anybody who is liked by Kolya will be so special (according to everyone else)'.
Literal: 'Anybody Kolya likes will be in the spotlight'.

For the purpose of our study it would therefore be sensible to select idioms that are more compositional, that is, that are subject to temporal and aspectual transformations without the loss of the idiomatic reading.

2.2.3 *U*-argument

Many Russian idioms with a subject have a mandatory argument that is introduced with the preposition *u* and a genitive NP, as in example (14) below. Shushurin (2021) calls this argument a *u*-possessor. This argument denotes a usually animate participant, which also very often bears the experiencer role.

(14) On igraet na saksofone uže čas – u menja golova raskalyvaetsja.
he plays on saxophone already hour by me.GEN head is bursting
'He's been playing the saxophone for an hour – my head's about to burst'.

I suspect that the *u*-possessor can interfere with the phenomena at hand. It has some properties of the syntactic subject, and some researchers have argued that it can occupy [Spec, TP] (Bailyn 2004, Livitz 2006, Shushurin 2021). I leave this issue for further investigation, however, for the present study, idioms with a *u*-possessor will be excluded.

2.3 Experiment design

I have conducted an online acceptability judgement study on PCIbex Farm (Zehr & Schwarz 2018). Source code containing the stimuli and the results of the experiment can be found on GitHub (https://github.com/poisongrapevine/idioms). Eight pairs of test sentences featured idioms with control/raising/ECM predicates; there were also 16 pairs of grammatical and ungrammatical fillers. Every participant was offered 26 sentences to rate on a scale from 1 to 7, including two training sentences (one grammatical and one ungrammatical). The training sentences introduced the participants to the scale and were not included in the sample. Examples (15)–(16) represent some of the test items.

(15) Naprjažennoe molčanie zastavljalo atmosferu sguščat'sja sil'nee i sil'nee.
tense silence was making atmosphere.ACC get dense more and more
'The heavy silence was making people in the room feel more and more uneasy'.
(Literally: 'The heavy silence was making the atmosphere more and more dense')

```
data['answer'] = data.groupby('ip')['answer'].transform(lambda x: (x - x.
    mean()) / x.std())
```

Figure 1: Python code for converting the answers to z-scores

(16) ... iskrennie izvinenija ... pomogli gnevu smenit'sja na milost'.
sincere apologies helped anger.DAT be superceded on mercy
'Sincere apologies had made her stop being angry'.
(Literally: 'Sincere apologies helped the anger be superceded by mercy')

A total of 82 people participated in the experiment, of which four had to be left out due to unreliable judgements. They either rated grammatical fillers lower than 4 or ungrammatical fillers higher than 4 (on average), which indicates that their judgements about the test items are not to be trusted. For data analysis and visualisation I am using the *sklearn*, *matplotlib* and *seaborn* packages for Python.

Answers on the scale from 1 to 7 were converted to z-scores – the number of standard deviations from the mean of each participant's scores (see code snippet in Figure 1). By doing this we ensure that, even though people can treat the scale differently, we interpret their answers correctly and can run comparisons on them.

2.4 Results

On average, test items were rated fairly well (see Figure 2). Most of the items have scored above average.

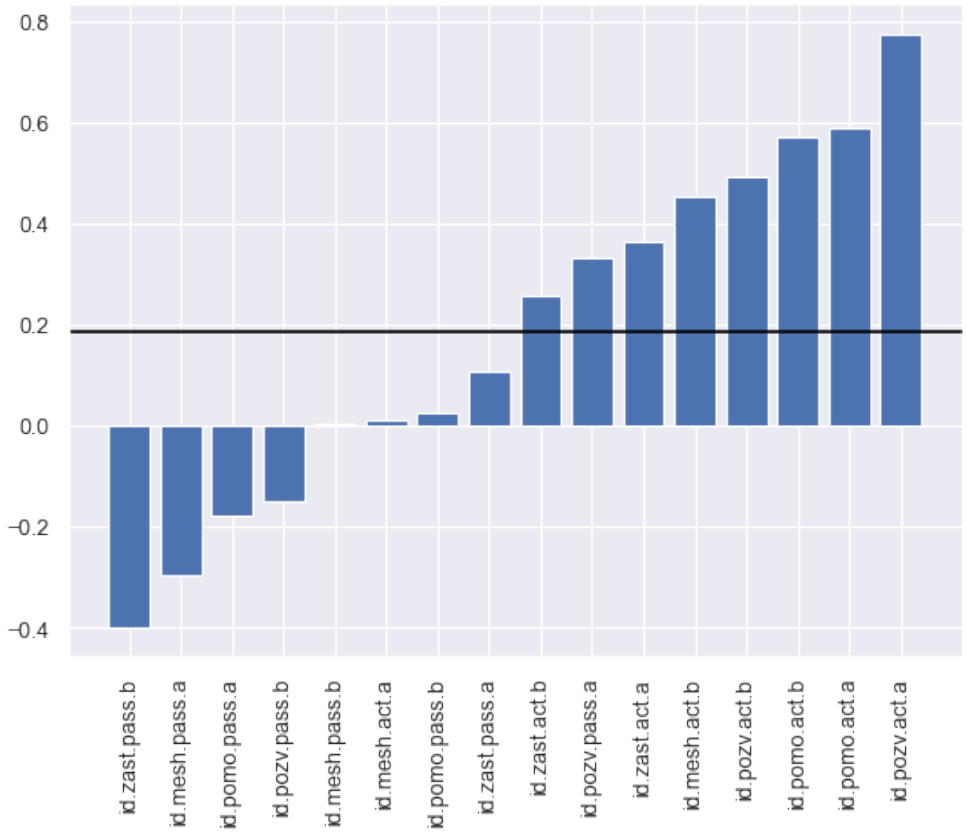


Figure 2: Average acceptability scores for all test items

Compared to filler items, test items show a distribution similar to that of the grammatical fillers and very different from that of the ungrammatical fillers, as shown in Figure 3.

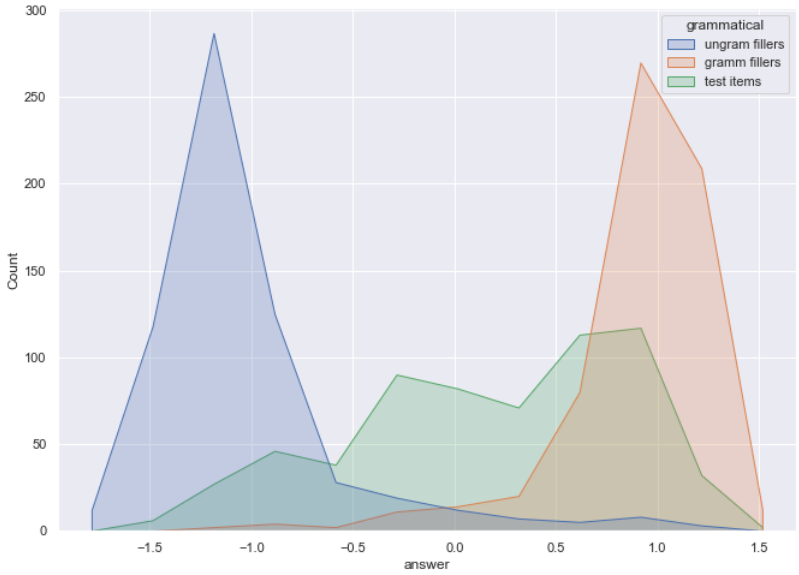


Figure 3: Test items compared

I have carried out a t-test to check the hypothesis that there is no statistically significant difference in scores between test items and ungrammatical fillers. The t-statistics and p-values of test items with different predicate types are presented in Table 2 below. Both object control and control/ECM alternating verbs are far from similar to the ungrammatical fillers: the statistics are high and the p-values are extremely close to zero, so the above mentioned hypothesis cannot be accepted with any confidence interval.

	object control	**control/ECM**
t-statistic	127.9826	98.5777
p-value	<0.001	<0.001

Table 2: T-statistics and p-values of test items with different predicate types compared to ungrammatical fillers.

To establish whether the distribution of answers was random and what it depended on, two parameters have been controlled for:

i. **Case:** the case of the matrix predicate's internal argument – accusative or dative. Accusative case corresponds to proper object control and dative – to the putative control/ECM alternation (see Section 1.2).

ii. **Voice:** whether the embedded idiom is passivised or not (see Section 2.2.1).

The distributions of acceptability scores by Voice and Case are represented by whisker plots in Figure 4. The mapping from categorial values to numerical values of Case and Voice is shown in Table 3. Active voice (voice = 1, plot on the left of each picture) raises the points slightly, while Case does not change the distributions much, since the two parts of the picture (case = 0 and case = 1) look similar.

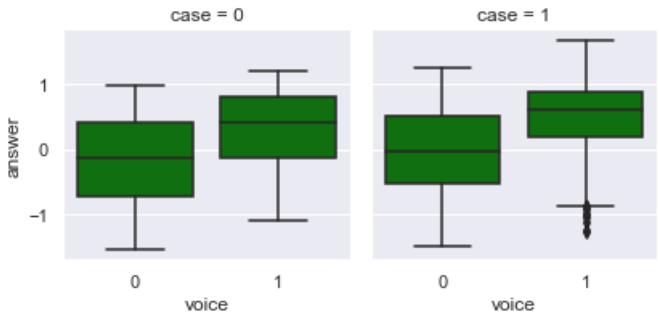


Figure 4: The distributions of acceptability scores by Voice and Case

numerical value	Case	Voice
0	ACC	PASS
1	DAT	ACT

Table 3: Mapping from categorial features to numerical values

In the following Sections 2.4.1–2.4.2 I will review two different approaches to modelling the results: linear regression and classification. In Section 2.4.3 I present the conclusions drawn from the empirical data.

2.4.1 Linear regression

In order to assess the significance of the input variables (i.e. Case, Voice) for the predicted results (acceptability scores), it is sensible to use linear regression. It can find linear dependencies between the input and the results, and the weight for a certain parameter can be interpreted as a measure of its significance. If the Case parameter receives a weight close to zero or much lower than the other weights in the model (for Case or Time), Hypothesis ii (repeated below) will be disproved, because predicate type will be deemed insignificant for the acceptability score.

(17) **Hypothesis ii**: Predicates with dative arguments are more acceptable with idioms in their subordinate clause.

A linear regression model was created, which took Case, Voice and response time as input variables and predicted the acceptability score of a sentence with said parameters. The code for creating and training the model is provided in Figure 5. The weights the model assigned to the variables are presented in Figure 6.

```
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_absolute_error

# input and output variables
X = data[['case', 'voice', 'time']]
y = data['answer']

# split the sample into the train and test parts
X_tr, X_te, y_tr, y_te = train_test_split(
    X, y, test_size=0.33, random_state=11)

# train the model
model = LogisticRegression(random_state=0).fit(X_tr, y_tr)

# make predictions
preds_tr = model.predict(X_tr)
preds_te = model.predict(X_te)

# get mean absolute error for test items
print(mean_absolute_error(y_te, preds_te))

# get the model's weights
print(model.coef_)
```

Figure 5: Python code for creating and training a linear regression model

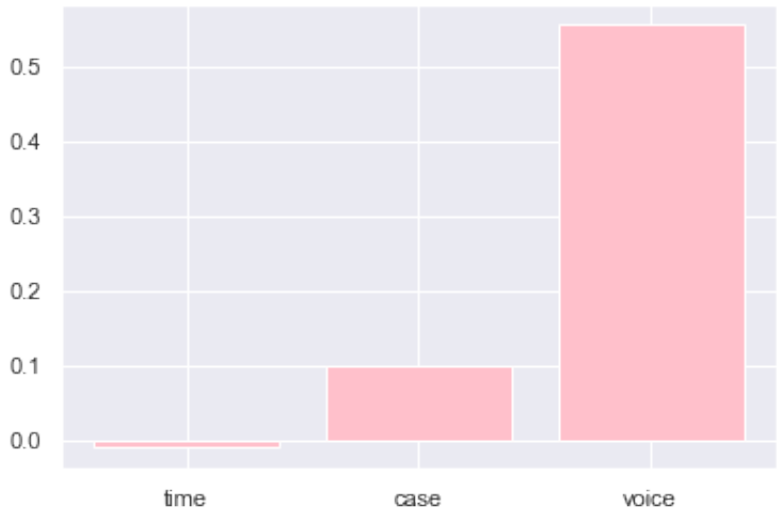
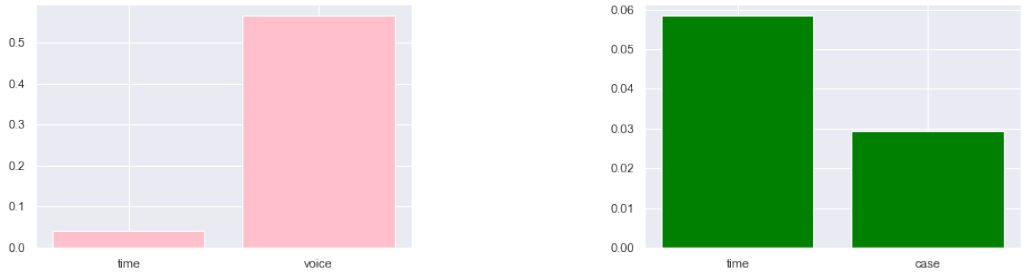


Figure 6: Weights assigned to input variables by a linear regression model

As the weights in Figure 6 suggest, the effect of predicate type (i.e. the Case variable) is negligible. Even Voice has a much greater impact on the answer: passivised idioms are rated worse than non-passivised ones. This is not surprising, given the results of Dąbrowska's (2012) study on language comprehension that I mentioned earlier.

One way of further proving the insignificance of a parameter is removing it from the model altogether and checking the changes in the prediction quality. If the parameter



(a) No Case parameter

(b) No Voice parameter

Figure 7: Weights in linear regression models with removed parameters

is important, its removal would harm the predictions. If we remove the Case parameter from the input, the mean absolute error (MAE) of the model increases by approximately 0.01 (see Table 4), and the weights are as shown in Figure 7a. If we remove the Voice parameter, on the other hand, the model essentially drives itself to absurdity, giving Time a greater weight than Case (see Figure 7b).

The changes in MAE are presented in Table 4. The removal of Voice from the model affects the error by far more than the removal of Case.

Case, Voice, Time	**Voice, Time**	**Case, Time**
0.5503	0.5545	0.6227

Table 4: MAE of different linear regression models

Linear regression is a flawed method in that it overlooks non-linear dependencies. However, we are dealing with very few input variables that are also binary (0 or 1), so non-linear dependencies are equivalent to linear ones in our case. Thus, the big MAE indicates that the input variables we have chosen are not fit to predict the answer, but we can interpret the results anyway.

2.4.2 LinearSVC

Linear Support Vector Classification (LinearSVC) is a classifier, meaning that the target variable is a certain class. After a LinearSVC model is trained, it can place an object with certain properties on a hyperplane corresponding to one of the classes. Coordinates of the plane in a multidimensional space can be interpreted like this: if a coordinate is close to zero, then the plane is parallel to the parameter's axis and hence the parameter is not significant to the class.

For this study I divided the objects into two acceptability classes: Acceptable, where the standardised answer is greater than zero, and Unacceptable, where the standardised answer is negative.

The input variables stayed the same as for the linear regression model: Case, Voice and Time. The output of LinearSVC is a vector that is perpendicular to a hyperplane that separates the acceptable items from the unacceptable ones. As shown in Figure 8, the classifier can predict the item's class with an accuracy score of 0.6818, which is a

decent result for such a meagre input. The coordinates of Time and Case in the vector corresponding to the plane are next to zero (see Table 5), whereas Voice has received a much bigger one.

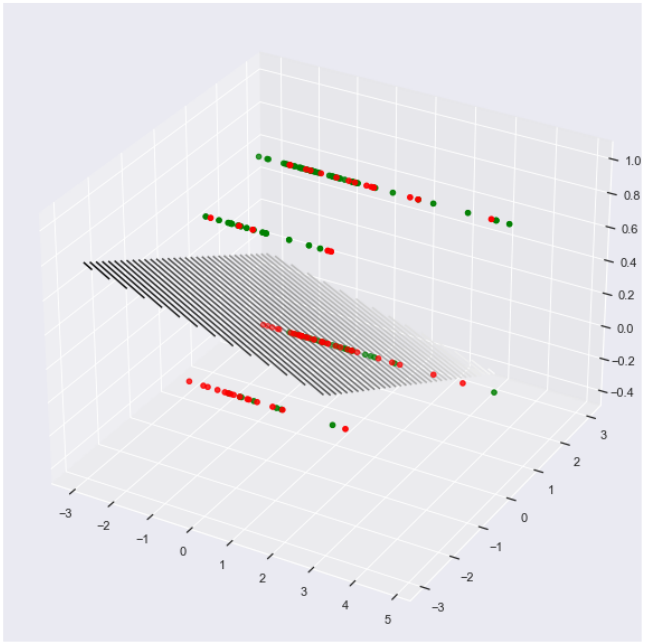


Figure 8: Test items in a 3-dimensional space separated by a plane created by LinearSVC

Time	Case	Voice
0.041	0.099	0.71

Table 5: Coordinates of a vector corresponding to the item-separating plane

The conclusions we can draw from implementing a classifier instead of a regression model are the same: the interpretation of LinearSVC can further corroborate the statement that Case (predicate type) plays a minor role in determining the answer. Voice is the most (and the only) significant parameter among the input variables.

2.4.3 Conclusions

Modelling with linear regression and LinearSVC disproves Hypothesis ii repeated below:

(18) **Hypothesis ii**: Predicates with dative arguments are more acceptable with idioms in their subordinate clause.

As I have shown, the Case parameter is given coefficients extremely close to zero, compared to the coefficients of, say, Voice. Even Time, which receives next-to-zero weights as well, can outweigh Case, if the Voice parameter is removed.

Based on the experiment's results, I conclude:

i. Idioms can be acceptable in control environments (on average, test items are closer to grammatical fillers in their acceptability score);

ii. Predicate type (control or the purported control/ECM alternation) has a negligible effect on acceptability, in fact, whether the idiom is passivised or not makes a greater contribution to the score;

iii. Passivisation negatively impacts the acceptability of idioms with control predicates.

3 Discussion

I have demonstrated with my experimental data that control environments are indeed compatible with idioms. In fact, whether a predicate exhibits control or alternates between control and ECM does not matter: acceptability scores are barely affected.

This carries some implications for analyses such as Burukina (2020) , which rely on the idiom test. Suppose that there are object control verbs and control/ECM-alternating verbs after Burukina (2020) . The idiom test then would not make a difference: both predicate types, as I have shown with the experimental data, can be acceptable with idioms. There are two ways out of this problem. The first one is to concede that, for instance, *zastavit'* 'force' behaves just like verbs with dative arguments and posit an additional, ECM-like, mechanism of accusative case assignment, which would not be found anywhere else in the grammar of Russian. The other option is to recognize that idioms are an unreliable diagnostic of NP position.

The property of control predicates that actually has an effect on the acceptability of idioms in Russian infinitives is whether it imposes any semantic restrictions on its arguments. For instance, *vynudit'* 'force' requires its direct object to be animate, see example (19) below.

(19) a. *Ya vynudil dver' poddat'sja.
I forced door.ACC yield.PASS
Expected: 'I forced the door to open'.

b. Ya vynudil Marka poddat'sja
I forced Mark.ACC yield.PASS
'I forced Mark to give in'.

Idioms differ, too. The more semantically compositional and transformable ones can appear in control environments, like example (20), and the more immutable ones can be unacceptable even with raising predicates, like in example (21) (bridge verbs like *načinat'* 'start' are raising predicates in Russian, according to Letuchiy & Viklova 2020).

(20) Naprjažennoe molčanie zastavljalo atmosferu sguščat'sja sil'nee i sil'nee.
tense silence was making atmosphere.ACC get dense more and more
'The heavy silence was making people in the room feel more and more uneasy'.
Literally: 'The heavy silence was making the atmosphere more and more dense'.

(21) Kosa načinala naxodit' na kamen'.
scythe was starting to meet on rock
Idiomatic reading (expected, not available): 'Problems were starting to appear'.
Literally: 'The scythe was starting to hit a rock'.

The matrix predicate in example (20) is the proper object control verb *zastavit'* 'force', and it is acceptable with an idiom part in the matrix subject position. In example (21), however, the matrix verb is *načinat'* 'to begin' – a raising predicate, according to Letuchiy & Viklova 2020. Nevertheless, the sentence is unacceptable: the idiom part *kosa* 'scythe' cannot be moved without losing the idiomatic interpretation. This is because the idiom *našla kosa na kamen'* 'problems started to appear' is not transformable. For instance, changing its tense or aspect would result in unacceptability (see example 22).

(22) Kosa často naxodila na kamen'.
scythe often met on rock
Idiomatic reading (expected, not available): 'Problems were occuring often'.
Literally: 'The scythe often hit a rock'.

Although many idioms cannot appear in control environments, there are acceptable examples of control verbs with idiom parts in the matrix subject position, as we have seen. The infelicity of some idioms with some control predicates is semantic in nature, not syntactic, thus the idiom test should not be trusted when trying to distinguish two syntactic structures. With the right choice of idiom and/or predicate it can yield any result.

The experiment I have conducted by no means provides exhaustive data on the subject. More predicates, namely raising and subject control verbs can be included in the sample. Idioms with *u*-possessors, which I discussed in Section 2.2.3, are yet to be explored. Future research on the validity of the idiom test can also cover languages other than Russian and English.

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