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Changing semantic factors in case selection: Russian evidence from the last two centuries

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Abstract We present a corpus-based study of variation in case assignment of the direct object of negated verbs in Russian over the past 200 years. Superficially the system of case forms available over this relatively short period has remained largely the same, but the way in which certain cases are used has been radically altered. This is particularly apparent in the treatment of the direct object of negated verbs. We argue that various semantic factors have been involved in bringing about this change, and that the role and significance of these factors has been changing over the period under investigation. This has implications for our understanding of the role of semantics in case assignment.

1 Genitive/accusative variation in Russian

In modern Russian we observe variation in the case used to mark the direct object of a negated verb, either accusative (1a) or genitive (1b).

For items published in Russian we follow the international transliteration conventions for linguistics associated with the Slavic and East European Journal. In cases where authors give their names according to a different system, we give their preferred form first.

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(1a) *On   ne   kupil   **žurnal***
      he   not   bought   magazine[SG.ACC]
      'He didn't buy a/the magazine.'

(1b) *On   ne   kupil   **žurnal-a***
      he   not   bought   magazine-SG.GEN
      'He didn't buy a/the magazine.'

The corresponding sentence without negation, as in (2), requires the accusative for the direct object, with no other choice possible:

(2) *On   kupil   **žurnal***
     he   bought   magazine[SG.ACC]
     'He bought a/the magazine.'

In earlier periods, the distribution of the two cases with direct objects was clear-cut: the genitive marked the object of negated verbs, while the accusative marked the object of non-negated verbs. In other words, only constructions such as (2) and (1b) were allowed, while (1a) was ungrammatical.[1] This started to change in the late seventeenth–early eighteenth centuries, when isolated instances of accusative objects governed by transitive verbs under negation appeared (Taubenberg 1958, p. 6; Borkovskij 1978, p. 327), though it was not until the early nineteenth century that a noticeable number of examples started to appear (Bulaxovskij 1954, pp. 349–350). Even then the expansion of the accusative was rather slow. As our data from the early nineteenth century indicate (Fig. 1),[2] at that time only 11% of the constructions with a negated transitive verb had their direct object in the accusative case, while in the second half of the nineteenth century the frequency of the accusative in such constructions is only slightly higher (14%). In contrast, by the end of the twentieth century the split between accusative and genitive use was more or less equal: 49% of the constructions with a negated transitive verb have their direct object in the accusative case.

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[1] Borkovskij (1978, p. 347) argues that up to the late seventeenth century Russian very consistently followed this rule which traces its roots to Common Slavonic. This view is also supported by Vlasto (1986, p. 209). Huntley (1993, p. 172) points to the same phenomenon in Old Church Slavonic: "The basic rule for a direct object of a negated word is stand in the genitive". Negative pronouns (e. g., *ničto* 'nothing') were an exception: they typically took the accusative both with negated and non-negated governing verbs (Borkovskij 1978, p. 347, Buslaev 1959, p. 462).

[2] The research is based on the corpus compiled and kindly provided to us by Adrian Barentsen (University of Amsterdam). The corpus consists of Russian literary texts written between the late eighteenth and the late twentieth centuries (about 10 million words in total), from which texts created between 1801 and 2000 were selected for analysis. Texts from 28 authors distributed between four 50-year periods (1801–1850, 1851–1900, 1901–1950 and 1951–2000) were analysed. Sub-corpora sizes used for this study are as follows (in number of words per period): 1801–1850—684,549; 1851–1900—431,325; 1901–1950—419,775; 1951–2000—997,352. The corpus itself is unannotated; to extract relevant examples, we used a DDC-concordance (http://www.ddc-concordance.org). The samples were then manually disambiguated and indexed with respect to morphological, syntactic and semantic parameters.

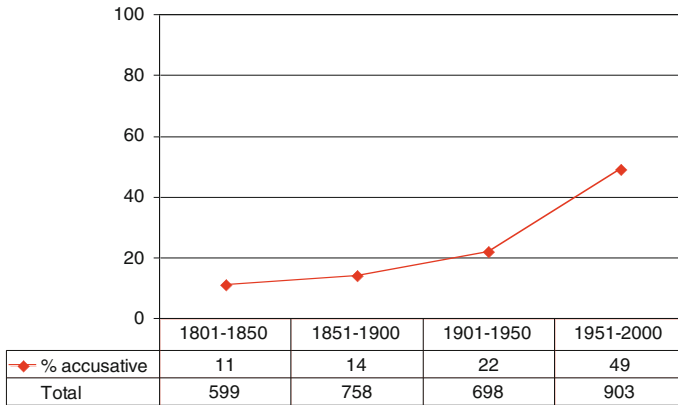|	1801-1850	1851-1900	1901-1950	1951-2000
% accusative	11	14	22	49
Total	599	758	698	903

Fig. 1 Change over time in frequency of accusative for the direct object of a negated verb

In contemporary Russian we find three different types of construction with a negated transitive verb: one in which the genitive is still obligatory, as in (3), one in which it is optional, as in (4), and one in which it is ungrammatical (5b).

(3a) *Ja voobšče ne imeju privyčk-i govorit' nepravdu.*
     I   at.all   not   have   habit-SG.GEN   tell   lie
     'I am not in the habit of telling lies.'

(3b) **Ja voobšče ne imeju privyčk-u govorit' nepravdu.*
     I   at.all   not   have   habit-SG.ACC   tell   lie
     'I am not in the habit of telling lies.'

(4a) *On ne kupil bilet-ov*
     he   not   buy.PST   ticket-PL.GEN
     'He did not buy tickets.'

(4b) *On ne kupil bilet-y*
     he   not   buy.PST   ticket-PL.ACC
     'He did not buy tickets.'

(5a) *On svo-ju nevest-u nikogda ne provožaet*
     he   his-SG.ACC   fiancée-SG.ACC   never   not   sees.home
     'He never sees his fiancée home.'

(5b) **On svo-ej nevest-y nikogda ne provožaet*
     he   his-SG.GEN   fiancée-SG.GEN   never   not   sees.home
     'He never sees his fiancée home.'

A variety of factors account for the direct object case in this construction. Thus in (3) the use of the genitive (the older type of case assignment) is still strongly

favoured in the modern language with particular lexico-semantic classes of verbs, for example with verbs of possession.[3] In contrast to this, with animate objects, as in (5), the genitive has been almost completely ousted by the accusative forms. However the majority of direct objects governed by negated verbs may take both cases, as in (4), and the choices are subject to a variety of conditioning factors.

2 Research background: between obligatory distribution and optionality

In contemporary Russian the choice between the two cases is determined by multiple factors, which either work in the same direction or conflict with each other (Restan 1960; Safarewiczowa 1960; Timberlake 1986; Mustajoki and Heino 1991; Bailyn 1997; Padučeva 2006). The question arises as to which extent each of the alternative case forms can be predicted on the basis of these factors.

A restrictive approach, making use of a single factor, is taken by Bailyn (1997), working from a generative perspective. Bailyn argues that the difference between accusative and genitive objects reflects a difference in syntactic structure: negated arguments in the genitive fall within existential closure, accounting for their "non-individuated", or existential reading, while accusative objects have "individuated, topical, or definite interpretation" and occupy a higher position in the syntactic tree. Thus, (6a) refers to the behaviour of the subject (*Saša*) in general and has an existential reading (the object *knig* is generic), while (6b) describes an actual process in which a particular object (*knigi*) is involved. This difference is reflected in the English translation: *Sasha doesn't buy (any) books* (never, existential reading) in (6a) and *Sasha isn't buying books* (now, individuated, definite reading) in (6b).

(6a) *Saša*   ***ne***   *pokupaet*   *knig*.
      Saša   not   buys   book[PL.GEN]
      'Sasha doesn't buy (any) books.'

(6b) *Saša*   ***ne***   *pokupaet*   knig-i.
      Saša   not   buys   book-PL.ACC
      'Sasha isn't buying books.'

However, this clear-cut distribution of case forms does not necessarily hold in contemporary Russian. Though Bailyn's analysis appears to capture the restrictions on the genitive, the range of the accusative is in fact broader, in some instances overlapping with the genitive. According to Bailyn, (6b) can have only one interpretation ("individuated, topical, or definite"), which is reflected in the translation: *Sasha isn't buying books.* A situation that would make for such an interpretation could be in a bookshop, where Sasha is buying something, such as postcards, but not books. At the same time it has been shown in other studies that the accusative objects of negated verbs may be understood non-referentially (for example, that

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[3] There are, however, differences in the extent to which verbs associated with possession are required to use the genitive, as discussed by Desyatova [Desjatova] (2008).

Sasha is not in the habit of buying books), in which case (6b) gets an existential reading. Thus, a VP with the genitive has a single reading, while a VP with accusative objects may have two different readings. Consider examples from our corpus (1951–2000 time period):

Referential accusative object:
(7)   *Xejfec   daže   ne   opublikoval   **svo-ju**   **rabot-u**,*
      Xejfec   even   not   published   his-SG.ACC   work-SG.ACC
      a   ego   . . .posadili.
      but   him   (they) imprisoned
      'Xejfec did not even publish his work, but he was imprisoned all the same.'
      (Dovlatov)

(8)   *Rozalinda   pytaetsja skryt'sja   ot   presledovatelej tak,*
      Rozalinda   tries   hide.herself.INF   from   persecutors   so
      *čtob   oni   ne   našli   **naš-i**   sled-y.*
      in.order   they   not   found   our.PL.ACC   tracks-PL.ACC
      'Rozalinda tries to hide from her persecutors, so that they could not find our tracks.' (Strugackie)

Non-referential accusative object:
(9)   *Evsej   Rubinčik   tak i   ne   kupil   žene   **mutonov-uju**   **šub-u***
      Evsej   Rubinčik   just   not   bought   wife   mouton-SG.ACC   fur.coat-
                                                                    SG.ACC
      'Evsej Rubinchik just did not buy a mouton fur coat for his wife.' (Dovlatov)

(10)   *Ja   lično   ne   p'ju   **punš**.*
       I   personally   not   drink   punch[SG.ACC]
       'I personally do not drink punch.' (Petruševskaja)

Non-referential genitive object:
(11)   *. . .gangstery   ne   vorujut   **čas-ov**,   daže   **tak-ix***
       gangsters   not   steal   clock-PL.GEN   even   such-PL.GEN
       starinn-yx   ***i***   ***massivn-yx***
       ancient-GEN.PL   and   massive-PL.GEN
       '. . . gangsters don't steal clocks, even such ancient and massive ones.'

(12)   *My   ne   byli   kar'eristami,   ne   pokupali   **avtomašin**. . .*
       we   not   were   careerists   not   bought   cars[PL.GEN]
       'We were not careerists; we didn't buy cars. . .' (Dovlatov)

Babby (1980) recognizes that the accusative may overlap with the genitive in contexts which have a generic reading ('existential' in Bailyn's terms), and suggests an analysis based on two factors: the scope of negation and the referential status of the object, i.e. whether the object noun receives referential or

non-referential reading.[4] Babby argues that in order for the object to be in the genitive, both the verb and the object should be within the scope of negation; direct objects outside the scope of negation will have accusative case assignment. Thus, in (13a) both the verb and the object are negated, which is reflected by the genitive case on the object. The accusative however is much less restricted: it may appear both within and outside the scope of negation. In (13b) the accusative gives no indication of whether the object is in or outside the scope of negation. To prove that the object is not in the scope of negation (i.e. only the verb is negated), it is necessary to show that the sentence has a contrastive reading and that the object is topicalized, as for example in the following dialogue: *Does he drink milk?—No, he does not **drink** milk himself, he only **buys** it for his children*; the existence of milk is not denied, only the verbs are contrasted. As (13b) does not have a contrastive interpretation under normal sentence stress and intonation, there is no semantic evidence for claiming that the object in this sentence is not in the scope of negation (Babby 1980, p. 156).

(13a) *Brat*   *ne*   *p'ët*   *molok-a.*
       brother   not   drinks   milk-SG.GEN
       '(My) brother doesn't drink milk.'

(13b) *Brat*   *ne*   *p'ët*   *molok-o.*
       brother   not   drinks   milk-SG.ACC
       '(My) brother doesn't drink milk.'

Therefore, the genitive case appears only in the scope of negation. However on its own, this condition is insufficient. Babby suggests further that when the object occurs in the scope of negation, then the choice between the genitive and accusative depends on the referential status of the object. Only indefinite objects may be in the genitive, while definite objects will be in the accusative. Outside the scope of negation the genitive may not occur, and objects will be in the accusative irrespective of definiteness/indefiniteness (Babby 1980, pp. 157–158). On this interpretation, case is predictable if two factors, the scope of negation and referential status, are taken into account.

   Padučeva (2006) argues however that even consideration of referential status may not fully account for case assignment, and in any event examples like (13b) are ambiguous in contemporary Russian. She considers two famous examples (14a,b) from Tomson (1903), which are similar to (13a,b), and points out that while in (14a) the genitive object may be interpreted only as non-referential (*v rodovom smysle*),

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[4] Following Lyons (1999), we apply the term "referential" to noun phrases which denote a particular entity or entities that a speaker has in mind (e.g. *He didn't like the oranges I bought yesterday*), and the term "non-referential" is applied to noun phrases which characterize the whole class of entities but not any one in particular (*He hates oranges*). In other words, the notion of referentiality as it is used here similar to the notion of specificity: referential implies specific, non-referential implies non-specific (Lyons 1999, pp. 168–169). For the purpose of this paper we find it more appropriate to use the terms "referential" and "non-referential" as they are traditionally used in the literature on the genitive of negation (see the discussion in Babby 1980, pp. 12–13).

the accusative object in (14b) may be understood referentially (*v konkretno-referentnom smysle*), i.e. as this particular piece of food related to this particular action. But equally the accusative may have a non-referential reading similar to the genitive in (14a). Hence there is an overlap where the genitive and accusative co-occur, as the accusative allows two different readings.

(14a) *Koška   ne   est   vetčin-y.*
   cat   not   eats   ham-SG.GEN
   'A/the cat doesn't eat ham.'

(14b) *Koška   ne   est   vetčin-u.*
   cat   not   eats   ham-SG.ACC
   'A/the cat doesn't eat ham.'

This overlap, as Paducheva claims further, is a very recent innovation and is attested only with some speakers. In fact, in contemporary Russian there is no single unified semantic rule which would account for this variation. Instead, she proposes that there are three coexisting semantic rules, each reflecting a particular diachronic stage in the genitive–accusative shift, and speakers may have different preferences with respect to these rules. According to the first rule (which Paducheva assumes is the default), case assignment is linked to referential properties of the object in a straightforward way: referential noun phrases take the accusative and non-referential ones take the genitive. The second rule is an archaic one, according to which the genitive is used as a default case irrespective of the object noun phrase's referential properties, and the accusative is reserved only for referential objects.[5] The third rule is an innovation, and is the mirror-image of the archaic one. As discussed above with respect to (14a) and (14b), according to this rule the accusative is a default case and marks objects irrespective of their referential status, while the genitive is restricted to non-referential objects.

 Paducheva's treatment is generally in accord with a number of analyses that indicate the use of the accusative in contemporary Russian has been increasing (Safarewiczowa 1960; Restan 1960). Given that the rate of change has been increasing over the last several decades (see Fig. 1), the coexistence of several semantic rules that currently account for case assignment but are historically related to different periods and different language states is not surprising. It may be a difficult task, however, to pin these rules down on the basis of synchronic usage, as fluctuation and inconsistency is usually observed where an ongoing change is involved. To tease apart the different factors influencing case assignment we apply

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[5] The *Russkaja Grammatika* of 1980 (so far the latest edition of the Russian Grammar by the Russian Academy of Sciences) still uses this rule in its own accounts of the distribution of the two cases in contemporary Russian. (Švedova 1980, §2671). This highlights the fact that more recent morphosyntactic patterns of direct object case marking have not been sufficiently recognized in grammars. The issue of the old norm remains a complicating factor, however, as Borschev et al. [Borščev et al.] (2008, p. 155) also recognize in their treatment of the genitive as of type <e,t> in such constructions.

our analysis to data from several successive time periods and investigate them in detail using exhaustive corpus data. Approaching genitive/accusative variation from a diachronic perspective we show below that there is a relationship between the spread of the innovation in question and the continual change both in the number of conditioning factors, and in the role each factor has to play. We investigate the impact and interaction of three types of factors conditioning case assignment: verb-related, object-related and clause-related. The central point of the discussion is the relationship of verb aspect and referential properties of the object at different stages of the morphosyntactic change in question, and the interaction of semantic factors with structural conditions, such as the position of negation (direct vs. indirect) and the type of governing verb (finite vs. infinitive). We base our analysis on statistics derived from literary texts written between 1801 and 2000. These are divided into four 50-year periods, and presented separately for each of the conditioning factors under investigation.

3 Verb aspect

The relationship between direct object case assignment and the aspectual properties of the governing verb is well known and has been attested in a number of Slavonic and non-Slavonic languages. A famous example is Finnish, in which some transitive verbs allow variation in the case of direct objects, which are either accusative or partitive. Aspect in Finnish is not marked formally, so phrases get a particular aspectual reading from the case of the direct object: phrases with the accusative get a perfective reading and those with the partitive an imperfective reading (Comrie 1976, p. 8). Kiparsky (1998) argues that the partitive in Finnish is associated with aspectual unboundedness on the VP level, while the accusative indicates aspectually resultative, bounded events.

On the other hand, in languages with formally marked aspectual distinctions, the aspect of a transitive verb may trigger a particular case on direct objects. One such language is Old High German: perfectives took both accusative and genitive objects, while imperfectives could only govern objects marked for accusative (Abraham 1997).[6]

In Russian, a number of studies have shown that the case of a direct object is sensitive to the aspect of the governing verb in negated VPs (see, for example, Safarewiczowa 1960; Restan 1960; Mustajoki and Heino 1991; for an alternative view see Dončeva 1962, p. 31). Generally speaking, objects of negated transitive verbs are more likely to appear in the accusative if the governing verb is perfective

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[6] Abraham, following Leiss (1992), argues further for the strong correlation between verb aspect and case in OHG. Weakening of aspectual distinctions in late OHG, according to this view, caused the decay of the verbally governed genitive in later periods (in Middle High German): the genitive was no longer used to mark objects of perfective verbs once the formally marked aspectual distinction disappeared. Abraham refers to the dichotomy of simple (durative) verbs and verbs with perfectivizing verbal prefixes and prepositions in OHG. Apart from prefixed verbs, there were also "inherently perfective verbs". With both groups of perfective predicates genitive objects co-occurred "with more than arbitrary frequency" (Abraham 1997, p. 35). Abraham however does not support this claim with statistical data.

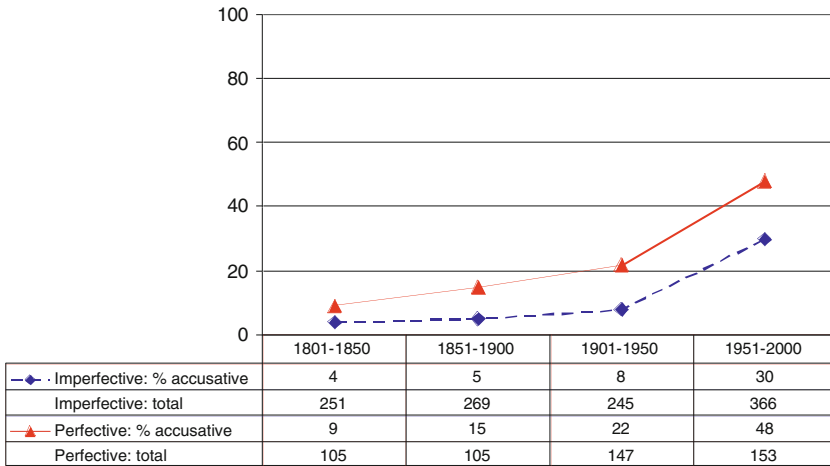|	1801-1850	1851-1900	1901-1950	1951-2000
Imperfective: % accusative	4	5	8	30
Imperfective: total	251	269	245	366
Perfective: % accusative	9	15	22	48
Perfective: total	105	105	147	153

Fig. 2 Frequency of accusative direct objects of negated transitive verbs with respect to verb aspect (finite forms)

(15a), while the frequency of genitive objects increases if the governing verb is imperfective (15b).

(15a) *Ja   ne   pro-čita-l   gazet-y.*
       I   not   PFV-read-PST   paper-PL.ACC
       'I did not read papers.'

(15b) *Ja   ne   čital   gazet.*
       I   not   [IPFV]read-PST   paper[PL.GEN]
       'I did not read papers.'

An explanation for this is suggested by Timberlake (1986), who analyzes this phenomenon according to the relationship between aspect and the scope of negation. In constructions with imperfective verbs the scope of negation covers the verb and the object ("the whole event, including the object participant", Timberlake 1986, p. 348); with perfective verbs the scope of negation is "the end point of the action, not the whole event". Accordingly, objects of negated perfective verbs are more likely to take the accusative, just as in affirmative constructions, showing that negation does not affect them.[7]

This sensitivity to aspectual semantics emerged at the early stage of the genitive–accusative shift and increased as use of the accusative spread. Data from our corpus show that in the early nineteenth century, perfective verbs already had a slightly stronger preference for accusative objects than imperfectives (9% and 4% respectively). Note that percentages given in Fig. 2 are for objects of finite verbs only. Since infinitival constructions show different frequencies for genitive/accusative object case assignment (see Sect. 4), the two types of governors, finite verbs and

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[7] For an alternative view see Partee and Borschev (2002), Padučeva (2006).

infinitives, should be considered separately. In the second half of the nineteenth century the sensitivity of case assignment to aspectual semantics became more pronounced, and increased still further in the twentieth century (Fig. 2).[8] However, if we look separately at perfective and imperfective verbs, we find two radically different scenarios across the two hundred year period. Until the middle of the twentieth century aspectual distinctions had an overwhelming effect on the shape of change: the accusative spread with perfective verbs, while imperfectives had very little tolerance for the innovation, and retained the genitive more than 90% of the time. Data from the nineteenth and first half of the twentieth century indicate that there was a strong correlation between verb aspect and direct object case: perfectives triggered the accusative, imperfectives gave the genitive, as in (16) and (17).

(16) *Esli   davali   emu   pervyj   tom,   on   po   pročtenii*
      if   (they)gave him   first   volume   he   after reading
      *ne **prosi-l**   **vtor-ogo**... *Potom   už*
      not [IPFV]ask-   second-   later   PARTICLE
           PST   SG.ACC
      *on   ne   **osil-iva-l**   i   **perv-ogo**   **tom-a**.*
      he   not manage-IPFV-PST and   first-SG.GEN volume-SG.GEN
      'If he was given the first volume, on reading it he never asked for the
      second... Later on he could never get through the first one.' (Gončarov)

(17) *Kak   ni   gorjačis',   èto   ne   **vy-suš-it** **naš-i**   **plat'-ja***
      how   PARTICLE get.angry   this   not   PFV-DRY-   our-   clothes-
                                                FUT   PL.ACC   PL.ACC
      'However angry you get, this will not dry our clothes.' (Bestužev)

In the second half of the twentieth century the situation changed dramatically. The frequency of the accusative rose, with both aspects showing a similar rate of change (use of the accusative increased 22% with imperfective verbs and 26% with perfectives from the period 1901–1950 to 1951–2000). From a diachronic perspective, it is obvious that aspect was no longer a crucial factor shaping the change. Until the middle of the twentieth century it severely constrained the spread of the accusative, restricting it to the objects of perfective verbs. In late twentieth century Russian, the imperfectivity of the governing verb stopped being a "disfavouring context" (Kroch 1989) for the accusative. This is contrary to what might be assumed on the basis of synchronic analysis, which points to the increasing gap between objects of perfective and imperfective verbs in terms of their preferences for case; from a historical perspective it is clear that the accusative in the second half of the twentieth century was spreading actively with both aspects. The fact that the imperfectives appear to lag behind is a consequence of the previous state of the language. In the next section we show that this had a dramatic effect on morphosyntax, as it left

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[8] Thus, Tomson (1903) indicated the relevance of aspectual distinctions for the genitive/accusative variation in the language of his time.

space for the operation of other semantic categories, whose influence on the variation increased sharply. As a result, aspect and the noun's lexical semantics at that time became two equal players in determining case variation.

4 Verb aspect and lexical semantics of the object

As has been pointed out in previous studies on the genitive of negation in Russian [for a bibliography up to 1982 see Corbett (1986)], the case of the object is conditioned by the properties both of the governing verb and of the object. Timberlake (1986, p. 342) classes these two groups of conditions as event hierarchies and participant hierarchies, respectively. Conditions that fall within each of these hierarchies affect referential properties of the object, in particular, the degree of its individuation. The degree of individuation for its part accounts for case assignment preferences: the genitive is normally used with non-individuated (or less individuated) objects, while the accusative is used where there is a higher degree of individuation. Thus, animates are more individuated than inanimates, concrete nouns more than abstract, count more than non-count, and objects of perfective verbs more than those of imperfectives. Consequently the first member in each of these pairs is more likely to be in the accusative, while the second is more likely to appear in the genitive. Babby (1980) and Padučeva (2006) also discuss case assignment for direct objects from the perspective of definiteness and referentiality. Indefinite/non-referential noun phrases are marked genitive, while definite/referential ones occur with the accusative (Babby 1980, pp. 154–158, Padučeva 2006, pp. 31–32; however, Padučeva points to the fact that this distribution is found only with some speakers, while others have generalized the accusative as a default case for both types of objects).

Relevant as the notions of referentiality, individuation and definiteness are to case assignment, in a language like Russian, which has a very limited number of means to show an NP's referential properties (thus, there are no dedicated definiteness or specificity markers), they are impractical in their raw state for use in a corpus study. Therefore, we will restrict our investigation to the contrast between concrete and abstract nouns; we know that concrete nouns are more likely to have a referential reading, and abstract nouns more likely to be used non-referentially. That is, the concrete/abstract distinction will serve as a practical stand-in for the related but more nebulous referential/non-referential distinction. It has been shown in particular that concrete nouns are located higher in the individuation hierarchy than abstracts (Hopper and Thompson 1980, p. 253; Timberlake 1986, p. 345). There is also a strong relationship between animacy and referentiality [see for example the Extended Animacy Hierarchy suggested by Dixon (1979, p. 85), which includes the referentiality hierarchy as one of its dimensions]. For several reasons it would be problematic, however, to investigate the impact of referentiality on direct object case assignment in Russian using animacy distinctions. First, animates (both humans and non-humans) have a very low frequency in the constructions in question, which would give a very small sample. Second, such a sample would include only constructions with feminine nouns, as most masculine animate nouns do not overtly

distinguish genitive and accusative forms. The concreteness/abstractness distinction therefore provides more tractable samples.

Data from our corpus indicate the significance of these two factors, verb aspect and concreteness/abstractness, in nineteenth and twentieth century Russian. However, the relative magnitude of these factors has changed radically over time. Until the second half of the twentieth century, the effect of the semantic contrast between concrete and abstract nouns was constrained by verb aspect. Imperfective verbs strongly disfavoured the accusative, regardless of the object noun's semantics: concrete nouns governed by imperfectives take the accusative only 8% of the time in the period 1801–1850, 5% in the period 1851–1900, and 9% in the first half of the twentieth century. With abstract nouns governed by imperfective verbs the accusative is attested in 2, 3 and 6% of the instances, respectively (Fig. 3). Significant variation within these three periods appeared only in conjunction with perfective verbs (Fig. 4): concrete nouns take the accusative 17, 28 and 37% of the time in the first three periods, while abstract nouns take the accusative 2, 9 and 12% of the time. To see the effect of concreteness/abstractness on case selection we have excluded instances with mass and collective nouns from these calculations. For this reason the totals in Figs. 3 and 4 taken together are lower than the totals in Fig. 2.

In nineteenth and early twentieth century Russian, verb semantics (aspect) and noun semantics (concrete/abstract) consistently play a role in object case assignment. The accusative is allowed with concrete objects and is much less favoured for abstract objects. However until the middle of the twentieth century, this split is observed only with perfective verbs: the accusative is rather frequent on concrete objects, as in (18) and (19), while abstract objects show strong preference for the genitive (20).

	1801-1850	1851-1900	1901-1950	1951-2000
concrete, % accusative	8	5	9	49
concrete, total	72	72	93	59
"abstract, % accusative"	2	3	6	21
abstract, total	175	179	138	280
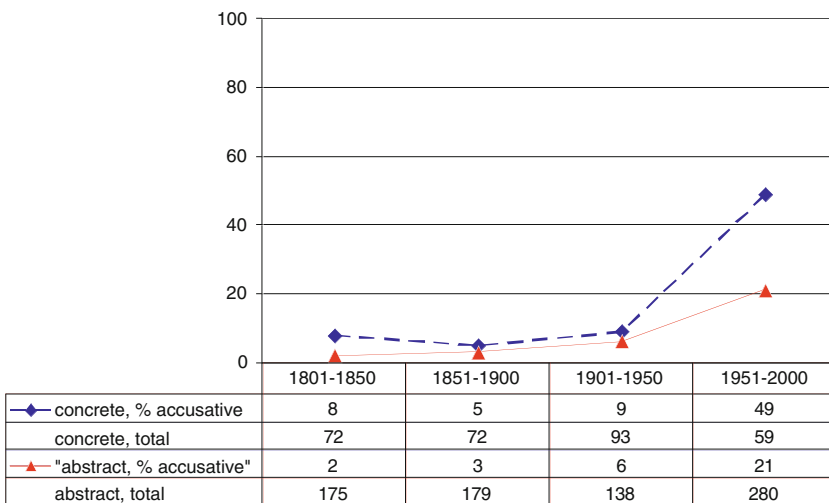
Fig. 3 The role of the noun's lexical semantics with imperfective verbs

	1801-1850	1851-1900	1901-1950	1951-2000
◆ concrete, % accusative	17	28	37	73
concrete, total	35	32	52	44
▲ abstract, % accusative	2	9	12	37
abstract, total	61	68	82	104
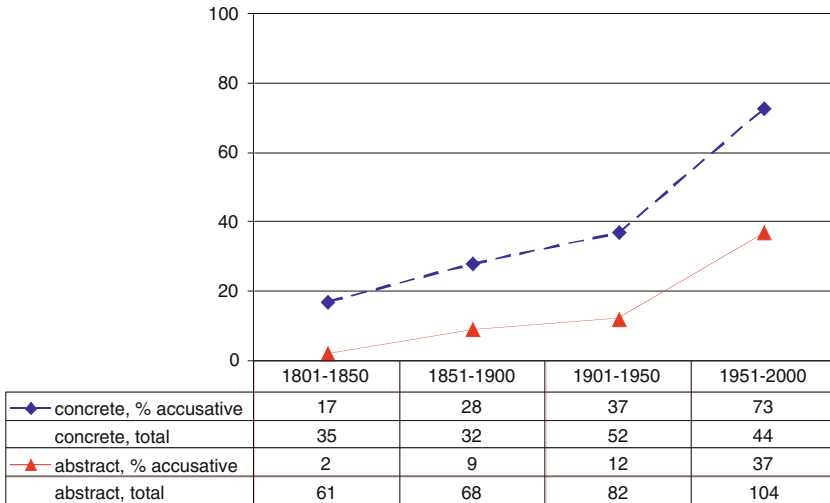
Fig. 4 The role of the noun's lexical semantics with perfective verbs

Concrete (animate) object

(18) *Moi*   *p'janicy*   *ne*   **po-ščadi-l-i**   *by*
       my   drunkards   not   PFV-spare-PST-PL   PARTICLE.SBJV
       bedn-uju   **devušk-u**.
       poor-SG.ACC   girl-SG.ACC
       'My drunkards would have no mercy on the poor girl.' (Puškin)

Concrete (inanimate) object

(19) *ona*   *umerla,*   *i*   *ja*   *ne*   **za-kry-l**   *ej*   **oč-i**!
       she   died   and   I   not   PFV-close-PST   her   eye-ACC.PL
       'She died and I did not close her eyes.' (Bestužev)

Abstract object

(20) ...*serdce*   *ne*   **za-bil-o**   **trevog-i**.
       heart   not   PFV-beat-PST-SG   alarm-GEN.SG
       '...(her) heart gave no alert.' (Pasternak)

Imperfectives, on the contrary, do not allow objects to contrast their semantic properties in the way perfectives do. That is, objects of imperfective verbs take the genitive whether they are concrete or abstract nouns.

Concrete (animate) object

(21) ...*ja*   *li*   *ne*   **ljubi-l**   **mo-ej**   **Dun-i**...
       I   PARTICLE   not   [IPFV]love-PST   my-GEN.SG   Dunja-GEN.SG
       '...didn't I really love my Dunja...?' (Puškin)

Concrete (inanimate) object

(22) *Vpročem,*   *nikto*   *tak*   *ne*   **naz-yva-l**   **èt-oj**   **šinel-i**
      however   nobody   this.way not   call-IPFV-   this-SG.   greatcoat-
                                                PST   GEN   SG.GEN

      pri   *samom*   *vladel'ce.*
      in.the.presence.of   himself   owner
      'However, no one referred to this greatcoat as that in the presence
      of its owner.' (Kuprin)

Abstract object

(23) *...ja*   *ne*   **zaščišča-ju**   **porok-a***!*
      ...I   not   defend\IPFV-1SG.PRS   vice-SG.GEN
      '...I do not defend vice.' (Dostoevskij)

The interdependence of the aspectual semantics of the verb and referential prop-
erties of the object has been attested in a number of unrelated languages. Thus
Birkenmaier (1979, p. 115) shows that the definiteness contrasts implicit in the
choice of aspect in Russian correspond to overt definiteness in languages with
articles, such as German:

(24a) *On*   *kolo-l*   *drov-a*
       he   [IPFV]chop-PST   firewood-PL.ACC
       'Er hat **Holz** gespalten' (='He chopped firewood')

(24b) *On*   *ras-kolo-l*   *drov-a*
       he   PFV-chop-PST   firewood-PL.ACC
       'Er hat **das Holz** gespalten' (='He chopped the firewood')

As we have shown above, nineteenth and early twentieth century Russian was also
sensitive to referentiality contrasts: case marking of direct objects of negated verbs varied
according to whether the object was a concrete or an abstract noun. At first, this contrast
was only manifested with perfective verbs, since negated imperfectives assigned the
genitive case to (nearly) all objects, be they concrete or abstract. As the statistics in Figs. 3
and 4 show, this state lasted until the middle of the twentieth century. In the second half of
the twentieth century, the restrictions on direct object case assignment imposed by aspect
were dramatically weakened, and the accusative spread with both aspects and both lexical
classes. With imperfectives the frequency of the accusative increased from 9 to 49% for
concrete objects and from 6 to 21% for abstracts. With perfective verbs there was an
increase of 36 and 25%. Hence in the late twentieth century Russian genitive/accusative
variation with respect to the concreteness/abstractness of the object became much less
dependent on the verb's aspectual properties.

   A combination of two conditions, favourable for the innovation, i.e. a perfective
verb and a concrete noun, gives the highest percentage of the accusative (73%); if two
unfavourable conditions occur, the accusative may be expected only in 21% of
instances. Between these two extremes are instances with only one of the two

favourable conditions: either a perfective verb or a concrete noun. The presence of just one of them is sufficient now to increase the frequency of the accusative to a significant degree, as compared to the low value of 21%: we find 37% accusative with abstract objects of perfective verbs and 59% for concrete objects of imperfective verbs. Ueda (1993) whose data for twentieth century Russian prose are very much in accord with these statistics, explains this multi-graded effect as a result of the parallelism between nominal and predicate semantics. Concrete nouns are more likely to receive an individuating (referential in our terms) reading than abstract ones, as they are able potentially to single out one entity out of the class, i.e., to refer to one particular entity. Accordingly, negated perfective verbs contrast just one particular domain in which a given situation failed, to other domains in which this situation holds. If these two conditions co-occur, it gives the highest percentage of the accusative case on object nouns which is associated with individuating (referential) reading. Abstract nouns are unlikely to single out entities, just as negated imperfectives do not contrast any particular situation but rather indicate "the absence of any possible occasion … in which the given event might hold". Consequently the co-occurrence of these conditions triggers the highest percent of the genitive case associated with existential (non-referential) reading (Ueda 1993, pp. 239–244).

The increasing impact of the noun's lexical semantics on genitive/accusative variation with direct objects of negated transitive verbs in the twentieth century becomes particularly clear if we compare the two periods 1901–1950 and 1951–2000 in terms of the difference in the frequency of the accusative with concrete and abstract nouns. With imperfective verbs concrete nouns were used in the accusative only marginally more often than abstract nouns (3% more) in the period 1901–1950, but in the period 1951–2000 concrete nouns with imperfective verbs were used with the accusative more often than abstract nouns by a margin of 28%. With perfective verbs concrete and abstract nouns diverged even further: in the period 1901–1950 concrete nouns were used in the accusative more often than abstract nouns by a margin of 25%, while in the period 1951–2000 the gap between concrete and abstract nouns in terms of the frequency of the accusative increased to 36%. Hence the noun's lexical semantics rose in significance as a factor in determining case assignment. Correspondingly, verb aspect lost much of its significance as a determining factor in the second half of the twentieth century; compare, for example, the very close rates of change for concrete nouns with the two aspects in the twentieth century: 40 and 36%.[9]

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[9] Our statistics in Figs. 2, 3 and 4 indicate that imperfectives are generally more frequent than perfectives. This, as an anonymous reviewer pointed out, may account for the fact that the genitive is better preserved with imperfective verbs, since more frequent items are typically more likely to retain archaisms than less frequent items. Bybee (2001, p. 351) established that if two words which together provide a context for a change (in our case it is a verb and a governed noun) then the frequency of the combination matters rather than of individual words or words forms; frequent combinations of word forms are better stored in speakers' memory and less likely to undergo change than infrequent combinations. Whether Bybee's findings can be extended to semantic types in general (e.g. perfective or imperfective verbs, concrete or abstract nouns) is not clear. Thus the two combinations, imperfectives with concrete nouns on the one hand and abstract nouns on the other, vary dramatically in terms of their frequencies, but up to the middle of the twentieth century both display a similar degree of variation (Fig. 3). Also, more frequent "perfective + abstract noun" and less frequent "imperfective + abstract noun" combinations show a similar increase in the use of the accusative in 1951–2000, compared to 1901–1950.

5 Verb aspect, noun semantics and the type of the clause

Semantic factors conditioning case assignment are sensitive to the type of verb phrase, with infinitives much more likely to govern accusative objects than finite verbs are. Data for different periods of the twentieth century provided by different researchers indicate a clear difference in case preference with respect to the form of the governing verb (Table 1).

   Data from our corpus show that the frequency of accusative objects in infinitival constructions varies according to the position of negation [directly negated infinitive as in (25), or indirect negation, as in (26)], but in any case the frequency is certainly higher than with finite governing verbs (27). This relationship, as Fig. 5 indicates, holds for the whole period under investigation.

Table 1 Frequency of accusative with finite verbs and infinitives in twentieth century Russian (according to different sources)

Source	Period	% Accusative governed by infinitive	Total examples governed by infinitive	% Accusative governed by finite verb	Total examples governed by finite verb
Restan 1960	1918–1959	60.0	534	21	1585
Safarewiczowa 1960[a]	1948–1955	76.0	153	25	703
Mustajoki and Heino 1991	1953–1981	68.5	890	27	1832

[a] The figures were recalculated from Safarewiczowa's data

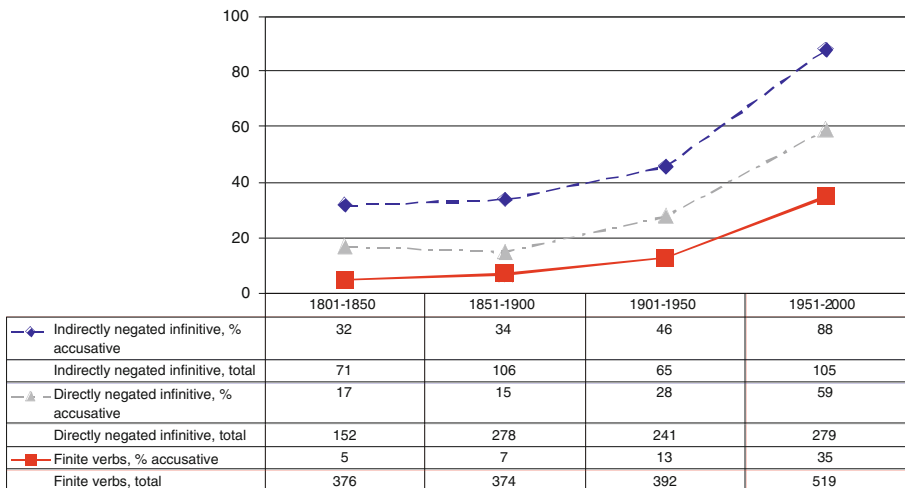|	1801-1850	1851-1900	1901-1950	1951-2000
Indirectly negated infinitive, % accusative	32	34	46	88
Indirectly negated infinitive, total	71	106	65	105
Directly negated infinitive, % accusative	17	15	28	59
Directly negated infinitive, total	152	278	241	279
Finite verbs, % accusative	5	7	13	35
Finite verbs, total	376	374	392	519

Fig. 5 Frequency of accusative with finite verbs and infinitives

Directly negated infinitive

(25) *On   rešil   ne   pokupat'   **bilet-y** / **bilet-ov***
    he   decided   not   buy.INF   ticket-PL.ACC / ticket-PL.GEN
    'He decided not to buy tickets'

(26) *On   ne   xotel   pokupat'   **bilet-y**/***bilet-ov***
    he   not   wanted   buy.INF   ticket-PL.ACC / ticket-PL.GEN
    'He did not want to buy tickets.'

Negated finite verbs

(27) *On   ne   kupi-l   **bilet-y**/**bilet-ov***
    he   not   buy-PST   ticket-PL.ACC/ticket-PL.GEN
    'He did not buy tickets.'

In the period 1951–2000 the frequency of the accusative reached a maximum of 88% in constructions with indirect negation, i.e. the morphosyntactic change here is close to completion. In the same period accusative objects governed by finite verbs appear only 35% of the time. This is, however, the average figure and does not reflect the impact of the verb's and noun's lexical semantics. We have shown above (Sect. 3) that if the sample with finite verbs is split further, according to perfectivity/ imperfectivity and concreteness/abstractness, we arrive at significantly different frequencies of genitive/accusative use under each of the four combined conditions (perfective plus concrete, perfective plus abstract, imperfective plus concrete, imperfective plus abstract). We have also shown the relative independence of semantic factors conditioning genitive/accusative variation in the period 1951– 2000: the noun's lexical semantics and the verb's aspectual properties both contribute to the object case assignment with finite negated verbs at this time, mutually restricting each other. The question arises as to what would be the impact of semantic factors at more advanced stages of the morphosyntactic change, such as in clauses with indirect negation. Given the numerical predominance of accusative forms observed in these constructions it may be assumed that some of the factors conditioning case assignment at earlier stages have become either less significant or redundant. This could indicate that semantics, being important at any given synchronic stage (in that it shapes the competition of alternative choices within each period), is not a prime mover in diachrony; as the change progresses a number of specific semantically-based restrictions lose their significance and give way to a unified model of case assignment.[10]

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[10] As an anonymous reviewer rightly points out, diachronic change may also result in narrowing the domain within which a particular form may be used, with semantic conditions on the use of this form becoming more specific in the course of time. This however is another side of the same process: a new usage is gradually generalizing across various contexts and the conditions on the old usage are becoming more selective, so that it may appear only under specific semantic conditions. We can best see this with a diachronic change at a very advanced stage, such as the spread of the instrumental and the decay of the nominative with predicate nouns in Russian. Until the middle of the twentieth century the choice between

Table 2 The use of the accusative with indirectly negated infinitives (1951–2000)	Imperfective		Perfective	
	% Accusative	Total	% Accusative	Total
	81	76	76	62

Table 3 Abstract and concrete accusative objects with indirectly negated infinitives (1951–2000)	Concrete nouns		Abstract nouns	
	% Accusative	Total	% Accusative	Total
	93	44	74	76

Our analysis of texts created between 1951 and 2000 has revealed dramatic differences between clauses with finite verbs and infinitives, and particularly indirectly negated infinitives, as in (11). This is due to differences in the semantic conditioning factors in the two clause types. Thus, as the statistics in Table 2 show, the aspect of a governing infinitive does not have any significant influence on object case assignment with indirectly negated infinitives. To obtain sufficient numbers for each of the two aspects and for different lexical classes of nouns, the sample has been expanded. Hence the total number of indirectly negated infinitives in Table 2 (=138) is higher than in Fig. 5 (=105). The percentages indicate that indirectly negated infinitives are close to generalizing the accusative, as aspect is no longer a factor. Restrictions, however, are imposed by the noun's lexical semantics, which constrains the spread of the innovation (Table 3). As in clauses with finite verbs, we can observe a significant difference in case preferences according to concreteness/abstractness. Abstract nouns used as the direct object of infinitives are generally behind concrete nouns in acquiring the accusative. Note that for the statistics in Table 3 mass and collective nouns are excluded, as has been done with statistics presented in Figs. 3 and 4 (finite verbs). This explains why the concrete and abstract nouns in Table 3 give a total of 120, which is less than the total number of indirectly negated infinitives in Table 2.

Conclusions

The history of the Russian genitive of negation reveals that there may be a subtle switch in the (relative weight of) semantic factors involved in case assignment,

Footnote 10 continued

the two cases (*On byl doktor* NOM vs. *On byl doktorom* INS 'He was a doctor') in these constructions was conditioned by a number of syntactic and semantic factors. By the end of the twentieth century the instrumental dominated in the majority of contexts, and semantic conditions on the nominative became more selective: the regular use of the nominative was narrowed to particular semantic types of nouns, such as nouns of nationality. The noun's lexical semantics however do not play a fundamental role in diachrony: although nouns of nationality show a much stronger preference for the nominative than other semantic types of nouns, they cannot block the change and the instrumental spreads with these nouns, although more slowly than in other contexts: from 4% in 1801–1850 to 56% in 1951–2000 (Krasovitsky et al. 2008, p. 111). In other words, semantics in such cases may be seen as a subsidiary factor in the morphosyntactic change.

showing that we cannot treat all instances of case assignment as reducible to one predictive semantic factor. The analysis of variation according to several conditioning factors within four time periods has shown that, as the innovative form expands, choices become more semantically specific. On the other hand, the fact that similar morphosyntactic choices are motivated by different semantic factors, if we contrast different periods, clearly indicates that these factors conditioning synchronic variation in case assignment are ephemeral from a diachronic perspective: they emerge as the change starts and have a role so long as there is a choice of case. They may be restricted or ousted by other factors, or even replaced by a general rule that eliminates variation altogether. Thus, semantics associated with the object noun is much more important for genitive–accusative variation now than it had been before the middle of the twentieth century, while the role of aspectual semantics, which had been a dominating factor in previous periods, has now been diminished under some syntactic conditions (with finite verbs) or reduced to insignificance under others (with indirectly negated infinitives). On the one hand, the direction of change remains constant, while on the other, some contributing factors become more prominent in the course of time, and some gradually decline in influence.

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