Derivational account of gender in deverbal nominals in Russian

Evgenia Markovskaya
University of Groningen

1. Introduction

The current paper develops a derivational analysis of gender in event-denoting deverbal nominals (henceforth DNs) in Russian. The dominant view in the literature on gender in Russian holds that the gender of non-derived inanimate nouns is predicted from their phonological shape (cf. Corbett 1982, 1991); and the gender of derived words is determined by nominalising affixes, which are associated with a particular gender value (cf. Köpke and Zubin 1984, Salmons 1993 for German).

The latter view is contested by the existence of nominalizing affixes that are not specified for a particular gender value. In Russian such affixes include the zero suffix and the suffix -k- (as illustrated by the examples in (1-2)):

(1) a. žar-k-a       grib-ov
     fry-NMZ-FEM mushroom-PL.GEN
     ‘an act of frying mushrooms’
  b. pin-o-k
     kick-o-NMZ.MASC
     ‘a kick’

(2) a. dač-a     pokazan-ii
     give-FEM testimony-GEN.PL
     ‘an act of giving testimony’
  b. taneć     det-ei
     dance.MASC children-GEN.PL
     ‘an act of kids’ dancing’

It has been suggested by Manova (2005) that the feminine gender of DNs derived by the zero suffix is a result of the preservation of the thematic vowel of the corresponding verb by the nominalized verbal root, as illustrated by the examples in (3). This hypothesis, however, cannot be correct, as is evidenced by the existence of numerous counterexamples; some of them are shown in (4).
Instead it is argued here that the gender distribution in such DNs in Russian is not an arbitrary phenomenon, but can be accounted for in terms of a structural analysis. Based on statistical and distributional evidence, it is shown in the current paper that the gender of event-denoting DNs, derived by the -k- and zero suffixes, correlates strongly with the argument structure of the corresponding verbs. Thus, DNs formed from transitive simplex VPs and transitive prefixed VPs that do not project PathP strongly tend to occur as feminine; whereas DNs derived from simplex unergative DNs and prefixed DNs that project PathP, tend to realize the default gender value - masculine. This distribution of gender corresponds to the general tendency in Russian to use masculine as a default gender value on nominals, and feminine as a marked member of the gender opposition (cf. Corbett & Frazer 1999).

The syntactic analysis of the distribution of gender in event-denoting DNs proposed here takes the feminine marker on DNs to be a reflex of the assignment of the postnominal structural Case by the head of a nominalising projection nP, under Agree (Chomsky 2000, 2001). Accordingly, if n cannot find a suitable Goal to check its unvalued Case feature, for instance, in case of unergative verbal roots, or, alternatively, if the internal argument of a prefixed DN originates as an argument of PathP and checks its Case feature against the head of ResultP, a projection intervening between VP and PathP (see section 3.2 for a discussion of PathP and ResultP and their role in the syntactic structure of prefixes and directional prepositions in the Slavic, as proposed by Svenonius 2004 and developed further in much related work) the derivation remains unaffected and the derived DN receives the default masculine value.

Furthermore, it is posited here that the technique of spelling out the trace of the case assignment by n is used as a head marking strategy (in the sense of Nichols 1986), employed when the standard means of marking the dependency relation, such as Case and word order, fail to disambiguate the grammatical function of the arguments of DNs. Moreover, it will be shown that with the neuter DNs in –nie/-tie the necessity to disambiguate the grammatical function
of the arguments does not arise for independent reasons, which also explains why such DNs do not demonstrate variation in the gender selection.\footnote{1}

The paper is structured as follows. Section 2 establishes novel generalizations about the gender distribution in Russian DNs. Section 3.1 is devoted to a discussion of the properties of Case assignment to the postnominal Genitive arguments of event-denoting DNs and the mechanism of dependency marking in such DNs. Section 3.2 lays out a structural account of the observed distribution of gender in DNs. Finally, section 4 presents the general conclusions.

2. The distribution of gender in event-denoting DNs

The data concerning the distribution of gender in eventive DNs, derived by the suffix -k- and the zero suffix, has been obtained in the form of a sample. The sample consists of two parts: the first part deals with the distribution of gender in simplex DNs, while the second part examines the distribution of gender in prefixed DNs. In total 415 event-denoting DNs have been surveyed.

2.1 Simplex DNs

Out of 169 simplex DNs in the sample, the majority of unergative event-denoting DNs, i.e the DNs which do not take an internal argument, surface as masculine (89%). Examples of unergative simplex DNs are provided in (5).

(5) a. taneč (*vals-a)  pin-o-k (*golov-y)
    danse.MASC  waltz-GEN   kick-O-NMZ.MASC  head-GEN

1 Other nominalizing affixes, such as -b-, -v-, and -stvo- (illustrated by the examples in (i)), have not been included into the study. These suffixes do not show a variation in gender selection and do not demonstrate any sensitivity to the argument structure of nominals they derive. This suggests that such nominalizing suffixes may be best analyzed as being lexically specified as feminine. However, as the dischronical research indicates, the nominalizers -b-, -v-, and -stvo- entered the lexicon prior to the time when the originally masculine nominalizing suffixes -k- and zero started to be used to derive feminine DNs (cf. Schupbach 1984). This, I think, may indicate that the correlation between the gender distribution and the argument structure of DNs is a later development in Russian. After the new constraints on the assignment of gender in DNs became established, the old nominalizing suffixes -b- and -v- lost their morphological productivity, as they came in conflict with these new constraints. Nowadays, only a handful of DNs still contain the nominalizing suffixes -b- and -v-.

(i) a. xod’-b-a  b. kos’-b-a  c. žat-v-a
    walk-NMZ-FEM  mow-NMZ-FEM  reap-NMZ-FEM
    ‘walking’  ‘mowing’  ‘harvesting’
b. xrap (*THEME/PATIENT) zevo-k (*THEME/PATIENT)
   snore.MASC               yawn-O-NMZ.MASC

On the other hand, transitive event-denoting DNs in the sample appear to be predominantly feminine (95%). Examples of transitive DNs are given in (6).

(6) dač-a pokazan-ii prob-a vin-a
    give-FEM testimony-GEN taste-FEM wine-GEN
    ‘an act of giving testimony’ ‘an act of wine testing’

Furthermore, the simplex DNs derived from unaccusative verbs also select feminine. The unaccusative status of the underlying verbs was determined on the basis of the ability of the arguments of such DNs to come in the scope of the cumulative prefix *na- and the distributive prefix *pere-. This technique of diagnosing the unaccusativity is familiar from the literature on the topic (cf. Schoorlemmer 1995, Harves 2002) and has been shown to offer the most reliable diagnostic of the unaccusativity in Russian by Romanova (2007). According to Romanova, the aforementioned prefixes can scope only over the internal arguments of the verb, due to their structural position mediating between *vP and VP. These prefixes, due to their aspectual nature, obligatorily require the presence of a DP in their scope and, in addition, impose selectional restrictions on such DPs. Thus, only plural and mass nouns can occur in the scope of such prefixes. Furthermore, the DPs in the scope of the prefix *na-receive Genitive. Therefore, the impossibility of an intransitive predicate to combine with the cumulative *na- and distributive *pere- can be taken to indicate the unergative status of such a predicate. This is illustrated by the examples in (7a). In the case of intransitive verbs of motion, the availability of a singular count noun in the argument position of such verbs, when modified by the cumulative *na- and distributive *pere-, should indicate their unergative status, as depicted in (7b). On the other hand, the Genitive case on the arguments of intransitive verbs prefixed by the cumulative *na- must signify the unaccusative status of such predicates, as shown in (7c). 

2 The case of the DN *rost ‘growth’ must be given special attention here. Its corresponding verb *rasti ‘grow’ is two-way ambiguous: it may be used to denote either (a) a process of gradual increase in certain physical properties of an object; or (b) a process of coming into existence. Under the interpretation in (a), this verb behaves as unergative in Russian, according to the test for unaccusativity explicated above (as demonstrated in (i)); whereas under the interpretation in (b), *rasti patterns as unaccusative (as illustrated in (ii)).

(i) a. *Stol’ko za leto na-roslo teljat!
   how.much in summer CUM-grew calves
   Intended reading: ‘What a lot of calves have been born this summer’
   b. *Ceny na-rosli na sto rublei!
   prices CUM-grew on hundred roubles
(7) a. *na-spal-o /i *pere-plakal-o/i
   CUM- sleep-SG/PL DISTR-cry-SG/PL

   b. Taksi na-ezdil-o na sto rublei.
      taxi.SNG CUM-rode-SG on hundred roubles
      ‘The taxi has travelled the distance equivalent to 100 roubles’

   c. Skol’ko šišek na-padal-o!
      how.many cones.GEN CUM-fallen-SG
      ‘What a lot of cones have fallen down!’

The table in (8) represents the results of the conducted survey.

(8) Simplex DNs sample: N= 169 DNs

<table>
<thead>
<tr>
<th></th>
<th>Fem</th>
<th>Masc</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive DNs</td>
<td>89(95%)</td>
<td>6(5%)</td>
<td>95(100%)</td>
</tr>
<tr>
<td>Unergative DNs</td>
<td>8(11%)</td>
<td>63(89%)</td>
<td>71(100%)</td>
</tr>
<tr>
<td>Unaccusative DNs</td>
<td>3(100%)</td>
<td>0</td>
<td>3(100%)</td>
</tr>
</tbody>
</table>

2.2 Prefixed DNs

Prefixed DNs show a slightly different pattern of gender selection than their simplex counterparts. Similar like the simplex DNs, the prefixed DNs in the sample are classified according to the type of their argument structure; and, in addition, are further subcategorized into structures that project PathP and those that don’t.

The notion of PathP as well as the general syntactic structure of prefixed verbs has been adopted here from the analysis of lexical prefixes in Slavic languages, proposed by Svenonius (2004) and developed further in much related work. According to this account, lexical prefixes form a head of a small clause – ResultP. The semantic contribution of ResultP is to indicate the presence of a

---

Intended reading: ‘The growth in prices has ammounted to 100 roubles!’

(ii) Skol’ko zdes’ na-rosló travy!
   how.much here CUM-grew grass
   ‘What a lot of grass has grown here! (There’s a lot of grass here now)’

The corresponding DN *rost* (growth) can have only the non-existential interpretation in (a). Hence, I conclude that the DN *rost* can have the unergative structure only, and the fact that it surfaces only as masculine in Russian conforms to my generalization that the femine gender is assigned to structures with internal arguments only.
result subevent in the event structure of the verb. The result subevent may come into being as a consequence of the transition of the main participant(s) of the event from one state into another, or, alternatively, as a consequence of the change of location undergone by the main participant(s) of the event. In the former case, the event structure will include ResultP that will introduce as its subject a DP denoting the holder of the result state (or Resultee); and in the latter case in addition to ResultP the event structure will contain PathP, a projection the head of which refers to the trajectory traversed by one of the participants of the event, also termed as the Figure, with respect to a certain location, also designated as the Ground. The DP interpreted as the Figure originates as a subject of PathP and further remerges in the SpecResultP in order to be interpreted as the holder of the Result state also. The syntactic configuration of these two types of prefixed structures is schematically depicted in (9a) and (9b) correspondingly.

(9) a. \[ VP V[ ResultP \ DP \ [PREFIX \]] ]
   b. \[ VP V[ ResultP \ DP_{Figure} \ [PREFIX] \ PathP \ [PREFIX] \ [PLACE] \ ] \]

It appears that the gender distribution in prefixed and unaccusative DNs shows sensitivity as to whether their argument structure contains PathP or not. Thus, only 16% of feminine transitive prefixed DNs in the sample contain PathP; whereas among the masculine transitive DNs the majority (76%) contain PathP. The examples of masculine and feminine prefixed DNs are given in (10) and (11) correspondingly.

(10) ob-xod      dom-a          pere-vod      tekst-a
    PREF-walk.MASC house-GEN  PREF-lead-MASC text-GEN
    ‘a tour round a/the house’ ‘translation of a/the text’

(11) ob-rabet-k-a material-a  po-kras-k-a  okon
    PREF-work-NMZ-FEM material-GEN  PREF-paint-NMZ-FEM window.GEN.PL
    ‘processing of the material’ ‘painting of windows’

Furthermore, most of the unaccusative prefixed DNs in the sample surface as feminine (82%) and the majority of them (95%) do not contain PathP. On the other hand, only one masculine unaccusative prefixed DN in the sample takes PathP as its complement.

As for the rest, the prefixed DNs pattern in a similar way as their simplex counterparts. Namely, the majority of unergative prefixed DNs occur as masculine (81%), and the availability of PathP in their argument structure does not affect the gender distribution, as is evident from the fact that the number of
masculine unergative prefixed DNs which contain PathP almost equals the number of those that do not do so (52% vs. 48%).

The overall distribution of gender in prefixed DNs is represented schematically in (11) and (12).

(11) Distribution of gender in prefixed DNs wrt to their argument structure

<table>
<thead>
<tr>
<th></th>
<th>Fem</th>
<th>Masc</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive DNs</td>
<td>110(61%)</td>
<td>71(39%)</td>
<td>181(100%)</td>
</tr>
<tr>
<td>Unergative DNs</td>
<td>11(19%)</td>
<td>44(81%)</td>
<td>55(100%)</td>
</tr>
<tr>
<td>Unaccusative DNs</td>
<td>8(82%)</td>
<td>1(18%)</td>
<td>9(100%)</td>
</tr>
</tbody>
</table>

(12) Distribution of gender in prefixed DNs wrt to the availability of PathP in their argument structure

a. Transitive prefixed DNs

<table>
<thead>
<tr>
<th></th>
<th>select PathP</th>
<th>do not select PathP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>feminine</td>
<td>18(16%)</td>
<td>92(84%)</td>
<td>110(100%)</td>
</tr>
<tr>
<td>masculine</td>
<td>55(76%)</td>
<td>16(24%)</td>
<td>71(100%)</td>
</tr>
</tbody>
</table>

b. Unergative prefixed DNs

<table>
<thead>
<tr>
<th></th>
<th>select PathP</th>
<th>do not select PathP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>feminine</td>
<td>0</td>
<td>11(100%)</td>
<td>11(100%)</td>
</tr>
<tr>
<td>masculine</td>
<td>23(52%)</td>
<td>21(48%)</td>
<td>44(100%)</td>
</tr>
</tbody>
</table>

c. Unaccusative prefixed DNs

<table>
<thead>
<tr>
<th></th>
<th>select PathP</th>
<th>do not select PathP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>feminine</td>
<td>1(5%)</td>
<td>6(95%)</td>
<td>7(100%)</td>
</tr>
<tr>
<td>masculine</td>
<td>1(100%)</td>
<td>0</td>
<td>1(100%)</td>
</tr>
</tbody>
</table>

2.3 Exploration of data

As is evident from the sample, the distribution of gender in event-denoting DNs in Russian is sensitive to the presence of the internal argument in the derivation: DNs that project an internal argument, such as transitive and unaccusative DNs, pattern consistently as feminine; whereas those DNs that occur in unergative
structures only, tend to select the masculine gender value. The pattern of gender distribution in DNs is further complicated by the variation in the place of origination of the internal argument in the structure of ResultP. If the internal argument of a DN originates as a subject of PathP, the derived DN is masculine; on the other hand, if the internal argument merges the derivation as a subject of ResultP, the DN surfaces as feminine.

However, this does not exhaust the whole range of the variation in the distribution of gender in DNs. Two patterns of gender distribution that deviate from the established generalizations can be distinguished. First, the relatively large number of feminine transitive prefixed DNs that select PathP (16%) (e.g. perevozka ‘transportation’, vygruzka ‘unloading’) indicates that the generalization concerning the correlation between the presence of PathP and the masculine gender value should be refined further. In a similar vein, the relatively large number of masculine transitive prefixed DNs that do not select PathP (24%) (e.g. podzog doma ‘burning the/a house’, poisk kvartiry ‘search for a flat’) poses another serious problem for the proposed correlation between the masculine gender and the presence of PathP in the structure of DNs. I will leave these two problematic cases for further research.

3 Analysis of the distribution of gender in Russian event-denoting DNs

3.1 Case assignment and dependency marking in event-denoting DNs

To account for the above-established distribution of gender in Russian event-denoting DNs, I suggest that the feminine gender marker in such DNs is the morphological manifestation of the assignment of structural Genitive Case by the head of a nominalising projection nP. Since Chomsky (2000, 2001) it has been assumed that nominal phrases contain only one source of structural Case – a Determiner head (D). Under this view, D assigns structural Case to the prenominal DP argument of a noun, under Agree. The postnominal Genitive Case, on the other hand, has been usually analyzed as inherent Case, due to its association with θ-marking (cf. Chomsky 1986). However, in a recent study on nominalizations in Czech, Dvořák (2011) has shown that the assignment of the postnominal Genitive does not have to be accompanied by θ-assignment, provided that θ-roles can be assigned only under Merge (and not under Move), as argued in Hornstein et al. (2005), since an internal argument of a DN merges with V and has to move to get in the local relationship with the nominalising head. Following this reasoning, I assume that the postnominal Genitive in Russian is a structural case, assigned by n to the first DP with an unvalued case feature that it c-commands. Moreover, I posit that in contrast with the typical structural case assigners, such as T and v, n is defective, in that its phi-features, that trigger agreement and case assignment, remain phonologically unexpressed,
even after they become valued (see Koptjevskaja-Tamm 1993 for a cross-linguistic study of nominalizations, whereby it is shown that the overt object agreement is never found on non-sentential DNs). However, I suggest that under certain conditions, namely, in order to facilitate the disambiguation of the grammatical function of the arguments, \( n \) that agrees with the internal argument of a DN must receive a phonological expression in the form of a transitivity marker. This mechanism I believe is what underlies the occurrence of the feminine gender marker in the Russian DNs under consideration.

Now, consider the examples in (13), whereby it is shown that the gender marker is employed to disambiguate the grammatical function of the sole argument of the DN, as both the internal and external arguments of the DNs, derived from the typically transitive verbs *krast’* ‘to steal’, *udarjat’* ‘to strike’ and *celovat’* ‘kiss’ are marked Genitive and occupy the postnominal position:

(13) a. kraž-a det-ei
    steal-FEM child-GEN.PL
    i) an act of stealing children
    ii) ??an act of stealing performed by children

b. udar protivnik-a
    strike.MASC opponent-GEN.SG
    i) *an act of striking the/a opponent
    ii) an opponent’s strike

c. pocelui babočk-i
    kiss.MASC butterfly-GEN.SG
    i) *an act of kissing a/the butterfly
    ii) a kiss from a butterfly

Compare the examples in (13) with the constructions in (14), which feature the neuter DNs in –nie/-tie. The postnominal Genitive argument of the transitive DNs in –nie/-tie is unambiguously interpreted as an object:

(14) a. celova-nie babočk-i
    kiss.NMZ.NEUT butterfly-GEN.SG
    i) an act of kissing a/the butterfly
    ii) ??a kiss from a butterfly

b. čte-n-ie Majakovsk-ogo ??čte-n-ie Pet-i
    read- PRT.NEUT M.-GEN
    ‘reading of poems by Majakovsky’
    ‘Petja’s reading’
I suggest that one of the reasons as to why the DNs in –nie/-tie do not allow a pro-drop of the internal argument is that they do not have an option of using the gender marker to disambiguate the grammatical function of their postnominal argument, since such DNs invariably receive neuter. Note also that the option of moving the argument to the prenominal position is restricted to a subclass of proper names only, therefore the possibility of using word order to mark the grammatical function of the argument of the transitive DN is ruled out for independent reasons. Moreover, a well known fact that the DNs in –nie/-tie consistently retain the argument structure of their underlying verbs, in contrast to the non-neuter DNs, the argument structure of which often diverges from that of their corresponding verbs, as illustrated in (15) (see also Schupbach 1984 for more examples), can be regarded as a consequence of the assumption that the DNs in –nie/-tie lack all possible formal means of marking the dependency relation with their arguments.

(15) pin-at’ listja - pin-o-k (*list’-ev) - pin-a-n-ie list’-ev
    kick-INF leaves.ACC kick-O-NMZ leaves-GEN kick-TV-PRT-NEUT leaves-GEN
    ‘to kick leaves – a kick (*of leaves) – kicking the leaves’

3.2 Analysis

On a par with many other authors (Abney 1987, Alexiadou 2001 among others) I assume that the syntactic structure of DNs has a nominalising head n attached to the verbal projections VP or vP. The nominalizing head n is the reason why DNs have the nominal syntactic distribution.

---

3 I do not have a ready account for as to why the DNs in –nie/-tie uniformly receive neuter. A possible direction would be to investigate if the neuter is in general semantically determined in mass nouns in Russian. Evidence to support this claim can be adduced from the syntactic distribution of neuter eventive DNs and neuter mass nouns, which appears to have a lot in common: both neuter DNs and neuter mass nouns resist pluralization and do not combine with distributive predicates, singulative suffixes and quantizing diminutive suffixes. It seems attainable to postulate that the neuter gender is used to express a semantic feature [unindividuated]. If this reasoning is on the right track, then we can assume that the neuter feature in the DNs in –nie/-tie will be able to outrank the feminine feature on n because, by definition, the semantic feature referring to the individuating properties of referents can be computed only after the nominalization takes place. It is interesting that examples, whereby the neuter outranks the grammatical gender of non-derived nouns, do exist:

(i) bab-a - bab’-o
    woman- FEM woman-NEUT
    ‘a woman’ ‘women (collective)’
On the assumption that the feminine value in DNs is the reflex of the agreement of \( n \) with the argument contained in the VP, and the masculine value is a default option, employed when \( n \) does not find a suitable DP to value its Case feature, the derivation of simplex feminine and masculine DNs can be constructed in a straightforward fashion, as illustrated by the schematic representations in (16) and (17). While in transitive and unaccusative simplex structures, \( n \) agrees with the complement of \( V \), which, according to my proposal, triggers the assignment of the feminine gender; in the unergative structures, \( n \) cannot find an active goal suitable for agreement, since the argument of such DN is introduced into a derivation after the merge of \( n \), and therefore the derived nominal receives the default masculine gender.

(16) *Feminine simplex DNs*

```
nP
   \( n \)
(DP:Φ)
[masculine]

VP

V

DP
\( (n:\text{CASE}) \)
```

(17) *Masculine simplex DNs*

```
nP

\( n' \)

DP
\( (D:\text{CASE}) \)

\( n \)
[masculine]

VP
```

In order to account for the pattern of gender distribution in prefixed DNs, I assume that the head of ResultP is a structural Case assigner. This assumption goes along the lines of the agreement model proposed in Baker (2008), whereby it is argued that virtually any functional projection can be taken to be able to act as a structural Case assigner. Then, as was previously assumed for \( n \), in the similar vein, the checked phi-features on the head of ResultP also remain phonologically unpronounced. Under these assumptions, the gender distribution pattern, observed in prefixed DNs, follows immediately. First, consider feminine prefixed DNs. As was discussed in section 2, all types of the feminine prefixed DNs, i.e. as transitive, unergative and unaccusative DNs, do not in general
combine with PathP. The internal argument of such DNs is introduced in the SpecResultP, i.e. outside the reach of the Result head, and therefore it gets its Case feature checked by \( n \). The feminine gender marker on a DN then expresses the reflex of the case assignment by \( n \). The schematic representation of the syntactic derivation of feminine prefixed DNs is given in (18).

(18) *Feminine prefixed DNs*

In contrast, the structure of the masculine prefixed DNs involves \( n \) that cannot find an active nominal with an unchecked Case feature. This is because the single argument of such DNs - the *Figure* - gets its Case feature checked by the Result head, and as a consequence of that becomes inactive for further agreement with \( n \); hence the derived DN is assigned the default masculine gender. This is illustrated schematically in (19).
4 Conclusions

In this paper I have proposed a derivational analysis of gender distribution in event-denoting non-neuter DNs in Russian, according to which, the gender marker in such nominals is determined structurally and is used to facilitate the disambiguation of the grammatical function of the postnominal argument of DNs. More particular, the feminine gender marker is argued to be a reflex of the agreement triggered by the assignment of the structural Case by \( n \) to the argument of a DN; whereas the masculine gender marker is taken to be the default option, employed when no active DP is available to enter the probe-goal relationship with \( n \).

References


