Morphosyntax of Gender in Russian Sex-Differentiable Nouns

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Abstract: This paper investigates the morphosyntax of gender in Russian sex-differentiable nouns within the framework of Distributed Morphology (Halle and Marantz 1993; Halle 1997; Marantz 1997), which, to the best of my knowledge, has not been studied before. Distributed Morphology differentiates between word formation from √roots and from syntactic categories; this distinction enables us to analyze syntactic processes that happen within words. The paper argues that grammatical gender in sex-differentiable nouns can be determined from a combination of the declension class and the natural gender of the referent. Thus there is no need to posit grammatical gender features in the syntax of such nouns. This work is a revision and development of the earlier Distributed Gender Hypothesis (Steriopolo and Wiltschko 2010). This research will be of interest to Russian specialists, language typologists, and theoretical linguists, as well as to anyone interested in the Russian language and gender.[1]

Key words: Morphosyntax, gender features, noun class, declension, sex-differentiable nouns, Russian.

0. Introduction

The category of gender has been the focus of much research. In languages with sex-differentiable nouns, the following sets of gender features have been discussed: (i) [masculine], [feminine]; and (ii) [male], [female]. The first set is often referred to as grammatical gender, while the second set is referred to as natural/biological gender. In lexicalist frameworks such features were considered part of the lexicon. In non-lexicalist frameworks, as in Distributed Morphology (Halle and Marantz 1993; Halle 1997; Marantz 1997, among others), there is no lexicon in the traditional sense. √Roots have no category and no features in syntax, and the terminal nodes are bundles of features which lack any kind of morphophonology. The question arises as to whether both sets of gender features (grammatical and natural) are universally present in sex-differentiable nouns. This paper proposes that there is no need to posit grammat-
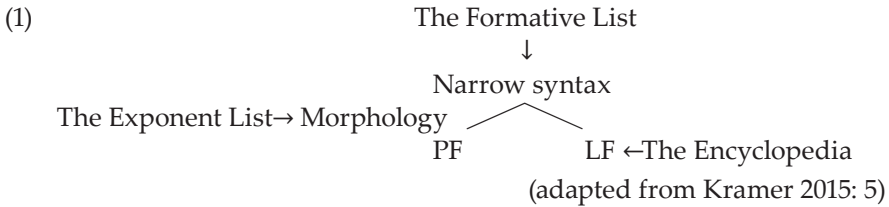
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ical gender features in the syntax of Russian sex-differentiable nouns, as their grammatical gender can be determined from a combination of declension class and the natural gender features [male] or [female].

1. Background

1.1. Distributed Morphology

Distributed Morphology (DM) (Halle and Marantz 1993; Halle 1997; Marantz 1997, among others) adopts the basic organization of a principles-and-parameters grammar (Chomsky 1995, 2000, 2001), adding the level of Morphology as the interface between syntax and phonology, as shown in (1).

(1)   The Formative List
↓
Narrow syntax

The Exponent List→ Morphology

                   PF   LF ←The Encyclopedia

                   (adapted from Kramer 2015: 5)

The central claim of DM is that there is no division between syntax and morphology. The relationships between morphemes are structurally identical to the relationships between words. In DM there is no centralized Lexicon. The Lexicon, in the traditional sense, is "distributed" across the grammar in various lists: (i) the Formative List (bundles of features), (ii) the Exponent List (vocabulary items), and (iii) the Encyclopedia. Items from these lists enter the derivation at various stages. The Formative List is the input for syntax and includes bundles of features that lack any kind of morphophonology in syntax (the phonology-free syntax). Once a syntactic derivation is complete, it is sent to PF and LF. At PF, vocabulary insertion takes place when the syntactic feature bundles are given morphophonological content (exponed via Vocabulary Insertion). Vocabulary items compete for insertion into the terminal nodes. Competition for insertion is governed by the Subset Principle (Halle 1997), which indicates that if several vocabulary items meet the condition for insertion, only the item matching the greatest number of features specified in the terminal node can be used. The vocabulary item that wins is most highly specified for the specific features present in a certain terminal node. At LF, the Encyclopedia contains instructions to interpret terminal nodes in a given context.

DM differentiates between word formation from √roots and from syntactic categories (Josefsson 1995, 1997; Marantz 2001; Embick and Marantz 2006;

Embick and Noyer 2007; Matushansky and Marantz 2013, among others).[2]
√Roots are category neutral, but can never appear "bare": they must be cate-
gorized by combining with a category-defining head (lexical decomposition),
such as "little" *n*, *a*, or *v*, to form nouns, adjectives, or verbs, respectively. A
single √root can be assigned to more than one category; for example, *the break
(noun) in the glass* and *John breaks (verb) the glass*. The category-defining func-
tional heads are determined either by phonologically realized or zero affixes,
as in (2).

(2)   n   'dog'
            ╱╲
         n   √dog-
        -Ø
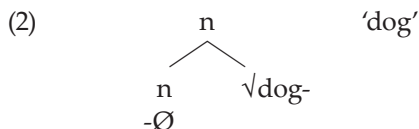
In more recent developments of DM, √roots have no features (Borer 2005;
Acquaviva 2009; Embick and Noyer 2007; Embick 2012; Kramer 2015). Accord-
ing to Acquaviva (2009), gender features are specific to a particular category
(nouns), and putting category-specific information on roots undermines the
idea that √roots are category neutral.

1.2. Distributed Gender Hypothesis

Steriopolo and Wiltschko (2010) proposed the Distributed Gender Hypothesis,
in which gender does not instantiate a uniform morpho-syntactic category.
Instead, it is distributed across three distinct syntactic positions: D-GENDER,
n-GENDER, and √root-GENDER, as shown in (3).

(3)   D   ← DISCOURSE GENDER
            ╱╲
     D-GENDER   n   ← GRAMMATICAL GENDER
                ╱╲
         n-GENDER   √root   ← SEMANTIC GENDER
                     △
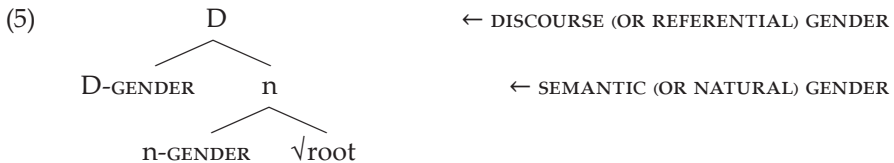   √root-GENDER

The three distinct types of associations between gender and nouns reflect a
difference in the locus of gender association, as in (4).

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[2]   The notation √root is from Pesetsky (1995).

(4) (i) Semantically determined gender is analyzed as an instance of √root-GENDER

(ii) Grammatically determined gender is analyzed as n-GENDER

(iii) Gender that is dependent on the discourse referent is analyzed as D-GENDER

Here, I present a revision of the Distributed Gender Hypothesis. First, I argue that Russian sex-differentiable nouns have no grammatical gender features present in syntax. The only gender features are the natural features [male] and [female], specified on *n*. Second, in accordance with the recent developments of Distributed Morphology, √roots are acategorial and featureless (Acquaviva 2009; Embick and Noyer 2007; Embick 2012; Kramer 2015, among others). If this is correct, semantic gender cannot be on the √root (contrary to Steriopolo and Wiltschko 2010).

Thus, the structure proposed in Steriopolo and Wiltschko (2010) is modified in (5). Notice that the distributional idea of the earlier analysis still holds. Gender is distributed across two distinct syntactic positions: D-GENDER and n-GENDER.

(5)
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              D              ← DISCOURSE (OR REFERENTIAL) GENDER
            /   \
    D-GENDER     n           ← SEMANTIC (OR NATURAL) GENDER
               /   \
        n-GENDER   √root
```

1.3. Gender and Declension Class in Russian

According to Aronoff (1994), declension is a set of lexemes whose members each select the same set of inflectional morphemes, while gender is a nominal agreement class. The gender of the head noun determines agreement patterns, while declension is not relevant for the purpose of agreement.

1.3.1. Gender

Russian nouns are divided into three genders: feminine, masculine, and neuter. The gender of Russian nouns is determined on the basis of agreement with other words: attributive modifiers, pronouns, and predicates (past and conditional) (Doleschal and Schmid 2001: 256–57). The choice of head noun determines the inflection, as shown in (6).

(6) a. Èta   strannaja   kniga   porazila   nas.
         this*FEM* strange*FEM* book*FEM.NOM.SG* impress*PAST.FEM* we*ACC*
         'This strange book impressed us.'

     b. Ètot   strannyj   roman   porazil
         this*MASC.NOM.SG* strange*MASC* novel*MASC.NOM.SG* impress*PAST.MASC*

         nas.
         we*ACC*
         'This strange novel impressed us.'

     c. Èto   strannoe   proizvedenie porazilo
         this*NEUT.NOM.SG* strange*NEUT* work*NEUT*   impress*PAST.NEUT*

         nas.
         we*ACC*
         'This strange work impressed us.'   (Matushansky 2013a: 4, 6, 8)

The Russian gender system has been described as having a semantic core (natural gender): sex-differentiable nouns denoting male human beings are masculine, and nouns denoting female human beings are feminine (Shvedova 1982; Corbett 1982, 1991; Fraser and Corbett 1995; Matushansky 2013b), as shown in (7).[3] Exceptions are female hypocoristics, as in *Lizok*, *Ol'čik*, etc. (see Doleschal and Schmid 2001). Natural gender can be seen in kinship terms and personal names, as in Table 1.

(7) a. xorošij   muž
         good*MASC*   husband*MASC.NOM.SG*
         'good husband'

     b. xorošaja   žena
         good*FEM*   wife*FEM.NOM.SG*
         'good wife'

Table 1. Kinship terms and personal names

Male				Female			
otec	'father'	Ivan	'Ivan'	mat'	'mother'	Anna	'Anna'
syn	'son'	Pavel	'Pavel'	doč'	'daughter'	Olga	'Olga'
djadja	'uncle'	P'ëtr	'Petr'	tëtja	'aunt'	Marija	'Maria'

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3 Data without references are my own.

Most nouns that denote animals, birds, and insects refer to members of the species in general and have no natural gender (such nouns are called non-sex-differentiable [Corbett 1982, 1991). For example, the nouns *kit* 'whale' (8a) and *myš'* 'mouse' (8b) denote both male and female members of the species. Although these nouns are non-sex-differentiable, they have grammatical gender, which is seen in their agreement with an adjective.

(8) a. bol'šoj   kit
         big*MASC*   whale*MASC.NOM.SG*
         'big whale (member of the species)'

     b. bol'šaja   myš'
         big*FEM*   mouse*FEM.NOM.SG*
         'big mouse (member of the species)'

If it is necessary for the speaker to differentiate between male and female animals, the words *samec* 'male' and *samka* 'female' are used, followed by the species in the genitive case (9).

(9) a. samec   kita
         male   whale*MASC.GEN.SG*
         'male of (the) whale'

     b. samka   kita
         female   whale*MASC.GEN.SG*
         'female of (the) whale'

For a few domesticated animals, however, there are different nouns to denote the species in general, and male and female individuals, as in Table 2.

Table 2. Nouns for species, male, and female domesticated animals

Species	Male	Female
lošad' 'horse'	žerebec 'stallion'	kobyla 'mare'
sobaka 'dog'	kobel' 'male dog'	suka 'bitch'

1.3.2. Animacy

Russian has animate and inanimate nouns. Animate nouns are of two types: (i) nouns that have natural gender (sex-differentiable) and (ii) nouns that do not have natural gender (non-sex-differentiable), as shown in (10).

(10)   Animate   Inanimate

Sex-differentiable   Non-sex-differentiable   Non-sex-differentiable
kobel' 'male dog'   *zver'* 'animal'   *pis'mo* 'letter'
sestra 'sister'   *sobaka* 'dog'   *zdanie* 'building'

Russian animate and inanimate nouns are distinguished not only semantically but also grammatically (Corbett 1982). The grammatical distinction is expressed in the inflectional paradigm of the masculine declension class I nouns in the singular and all nouns in the plural. In the singular, masculine animate class I nouns have the same grammatical endings in accusative and genitive cases (ACC = GEN syncretism). In contrast, masculine inanimate class I nouns have the same endings in accusative and nominative cases (ACC = NOM syncretism), as illustrated in Table 3. The exact same syncretism patterns hold for all nouns in the plural.

Table 3. Masculine animate and inanimate nouns (class I)

Singular	Masculine Animate	Masculine Inanimate
Nominative	zver' 'animal'	zakon 'law'
Accusative	zver**ja** (ACC = GEN)	zakon (ACC = NOM)
Genitive	zver**ja**	zakon**a**
Dative	zver**ju**	zakon**u**
Instrumental	zver**em**	zakon**om**
Locative	zver**e**	zakon**e**

1.3.3. Declension Classes

In Russian , there is no 1:1 correspondence between declension class and gender, as nouns of different genders can belong to the same declension class. I assume that there are four declension classes in Russian (Corbett 1982, 1991; Fraser and Corbett 1995; Matushansky 2013a; Müller 2004, among others). Most Russian nouns are in one of these four declension classes. Each class has its own paradigm in the six cases (nominative, accusative, dative, genitive, instrumental, and locative), as illustrated in Table 4 on the following page.[4]

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[4] Russian has a group of indeclinable nouns, such as *pal'to* 'coat.NEUT', *kenguru* 'kangaroo.MASC', *attaše* 'attaché.MASC', and *ledi* 'lady.FEM' Such nouns can take different gender agreements, but they do not decline (see Corbett 1991: 40).

Table 4. Declension classes in Russian (modified from Corbett 1982: 203)

Gender	Class I	Class II	Class III	Class IV
	Masc (majority) **Fem** (certain female professions)	**Fem** (majority) **Masc** (certain male kinship terms) **Common Nouns**	**Fem** (majority) **Neut** (10 nouns ending in -mja) **Masc** (put' 'way')	**Neuter** (majority) **Masc** (nouns ending in -iško/ -uško/ -išče)
SINGULAR				
Nominative	zakon 'law'	škol**a** 'school'	kost' 'bone'	vin**o** 'wine'
Accusative	zakon	škol**u**	kost'	vin**o**
Genitive	zakon**a**	škol**y**	kost**i**	vin**a**
Dative	zakon**u**	škol**e**	kost**i**	vin**u**
Instrumental	zakon**om**	škol**oj**	kost'**ju**	vin**om**
Locative	zakon**e**	škol**e**	kost**i**	vin**e**
PLURAL				
Nominative	zakon**y** 'laws'	škol**y** 'schools'	kost**i** 'bones'	vin**a** 'wines'
Accusative	zakon**y**	škol**y**	kost**i**	vin**a**
Genitive	zakon**ov**	škol	kost**ej**	vin
Dative	zakon**am**	škol**am**	kost**jam**	vin**am**
Instrumental	zakon**ami**	škol**ami**	kost**jami**	vin**ami**
Locative	zakon**ax**	škol**ax**	kost**jax**	vin**ax**

According to Corbett (1982, 1991) and Fraser and Corbett (1995), the grammatical gender of a noun can be predicted from its declension class: class I nouns are masculine, class II and class III nouns are feminine, and class IV nouns are neuter, as shown in (11).

(11)   Grammatical gender can be predicted from a declension class
    a.   declension class I ⇒ masculine agreement
    b.   declension class II ⇒ feminine agreement
    c.   declension class III ⇒ feminine agreement
    d.   declension class IV ⇒ neuter agreement

However, certain semantic groups of nouns in declension classes I and II do not directly correspond to the system in (11), as shown in (12) below.

(12) a. Class I: most nouns are masculine (exceptions: hybrid nouns denoting female professions such as *doktor* 'doctor', *professor* 'professor', *rukovoditel'* 'manager', *direktor* 'director')

    b. Class II: most nouns are feminine (exceptions: (i) masculine kinship nouns such as *mužčina* 'man', *djadja* 'uncle', *papa* 'dad'; (ii) masculine hypocoristics such as *Kolja* 'Kolia', *Vanja* 'Vania'; and (iii) common gender nouns such as *plaksa* 'cry-baby', *vorjuga* 'thief', *sirota* 'orphan')

1.3.4. Hybrid and Common Gender Nouns

Although most class I nouns are masculine, there is a large group of so-called hybrid nouns that denote female professions. They can optionally trigger masculine or feminine gender agreement, as in (13a, b). When referring to a man, only masculine agreement can be used, as in (13a). However, when referring to a woman, both masculine (13a) and feminine agreements (13b) can be used.

(13) a. Naš   vrač   prišël.
          our$_{MASC}$ doctor$_{NOM.SG}$ come$_{PAST.MASC}$
          'Our doctor has arrived.'

    b. Naša   vrač   prišla.
        our$_{FEM}$ doctor$_{NOM.SG}$ come$_{PAST.FEM}$
        'Our doctor has arrived.'

                                    (modified after Matushansky 2013a: 13)

Most class II nouns are feminine. However, there are masculine nouns that denote male kinship terms and male short first names (or male hypocoristics). Such nouns can only trigger masculine agreement. In addition there is a large class of so-called common gender nouns that, like hybrid nouns, can trigger either masculine or feminine gender agreement, as shown in (14). Common gender nouns mostly denote human beings, but they can also denote animals (unlike hybrid nouns, that can only denote human professions). When referring to a woman, feminine agreement is used, as in (14a). However, when referring to a man, both feminine (14a) and masculine (14b) agreements can be used.

(14) a. takaja   plaksa
     such$_{FEM}$ cry-baby$_{NOM.SG}$

     'such a cry-baby'

  b. takoj   plaksa
     such$_{MASC}$ cry-baby$_{NOM.SG}$

     'such a cry-baby'   (Doleschal and Schmid 2001: 258)

To summarize, both hybrid and common gender nouns can trigger either masculine or feminine agreement, depending on their referents: hybrid nouns are feminine if referring to a female referent but are otherwise masculine, while common gender nouns are masculine if referring to a male referent but are otherwise feminine.

There are additional differences between hybrid and common gender nouns. First, hybrid nouns allow for so-called mixed agreement, as in (15), while common gender nouns could allow for mixed agreement only in certain Russian dialects (Matushansky 2013a: 37).

(15) U   nas byla   očen' xorošaja zubnoj   vrač.
     by us was$_{FEM}$ very good$_{FEM}$ dental$_{MASC}$ doctor$_{NOM.SG}$

     'We had a very good dentist.'

Second, common gender nouns can trigger referential gender agreement in oblique cases (Matushansky 2013a: 36), as in (16), which hybrid nouns cannot do, as in (17).[5]

(16) *Common gender noun*

  a. Ne obraščaj vnimanie na ètogo   zanudu!
     not pay   attention on this$_{MASC.GEN.SG}$ bore$_{GEN.SG}$

     'Do not pay attention to this bore!'

  b. Ne obraščaj vnimanie na ètu   zanudu!
     not pay   attention on this$_{FEM.GEN.SG}$ bore$_{GEN.SG}$

     'Do not pay attention to this bore!'

(17) *Hybrid noun*

  a. Ne obraščaj vnimanie na ètogo   vrača!
     not pay   attention on this$_{MASC.GEN.SG}$ doctor$_{GEN.SG}$

     'Do not pay attention to this doctor!'

---

[5] Further differences between common gender and hybrid nouns with respect to their non-referential uses are discussed in Lyutikova (2015: 56).

(17) b. *Ne obraščaj vnimanie na ètu vrača!
 not pay attention on this$_{FEM.GEN.SG}$ doctor$_{GEN.SG}$

 [Intended] 'Do not pay attention to this doctor!'

2. Proposal

2.1 The Projection *n*

Since all sex-differentiable nouns in Russian belong to a particular declension class, and two groups of nouns (hybrid and common gender) can trigger more than one gender agreement, I propose that Russian sex-differentiable nouns are specified for declension class rather than grammatical gender (cf. Kihm 2005), as shown in (18).

(18) *Russian* n[class]
```
          n[class]
         /      \
    n[class]   √root
```

Evidence can be drawn from category-changing nominal suffixes that can change declension class in Russian, such as *-ag, -ak, -al, -an, -ar, -ax, -il, -in, -ob, -ot, -ox, -ug, -uk, -ux, -an', -aš, -on, -ul', -un', -ur, -us'*, and *-uš*, among others. Steriopolo (2008) argued that such suffixes are specified for declension class and not for gender. For example, in (19b), the suffix *-ux*, which is used productively in colloquial Russian, is a nominalizer that attaches on top of the adjectival stem *grjaz-n-* 'dirty' (as evidenced by the adjectival suffix *-n*), as in (19a). The resulting noun *grjaz-n-ux-a* 'a dirty person' belongs to declension class II and can trigger either feminine or masculine gender agreement (a common gender noun),[6] as diagrammed in (19c).

(19) a. grjaznyj   b. grjazn**ux**a
        dirt$_{ADJ.MASC.}$ dirt$_{ADJ.SUFF.NOM.SG}$ (masc/fem; class II)

      'dirty'   'dirty person (colloq.)'

 c. n[class II]   *grjaznuxa* 'a dirty person'
```
        n[class II]
       /        \
  n[class II]    a
    -ux(a)      / \
              a    √grjaz-
             -n
```

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6 The noun *star-ux-a* 'old woman' is an exception, as it can only trigger feminine agreement, in contrast to *star'-ik* 'old man', which triggers masculine agreement.

In (20), the same suffix *-ux* attaches to a masculine inanimate stem, *golod* 'hunger', which belongs to declension class I (-Ø-ending in NOM.SG). The resulting noun, *golod-ux-a* 'hunger (colloq.)', belongs to declension class II (*-a*-ending in NOM.SG) and can trigger only feminine agreement.

(20) a.   golod   b.   golod**ux**a
           hunger*~NOM.SG~* (masc; class I)   hunger*~NOM.SG~* (fem; class II)

           'hunger'   'hunger (colloq.)'

In (21), the suffix attaches to the male name Pavel, which belongs to class I. The resulting noun is in declension class II and can trigger only masculine gender agreement.

(21) a.   Pavel   b.   Pavl**ux**a
           Pavel*~NOM.SG~* (masc; class I)   Pavel*~NOM.SG~* (masc; class II)

           'Pavel (male name)'   'Pavel (male name; colloq.)'

We can observe that the suffix *-ux* consistently forms nouns of declension class II, while the gender agreement of the resulting nouns varies. This allows us to deduce that the suffix cannot be specified for gender, otherwise there would have been no gender variation in examples (19–21). Instead, *-ux* is specified for declension class II, as diagrammed in (19c) above. The suffix *-ux* is not unique in that regard. All nominal suffixes listed above (except for the suffix *-an*) form class II nouns whose gender may vary. The suffix *-an* consistently forms class I nouns.

   I propose that there is no need to posit grammatical gender features in Russian sex-differentiable nouns, since their grammatical gender agreement can be determined from a combination of declension class and the natural gender features [female] or [male]. Natural gender, however, is a relevant syntactic feature, since Russian, like many other languages, has a semantic core where all male nouns are masculine and all female nouns are feminine (Aikhenvald 2004; Corbett 1982, 1991; Fraser and Corbett 1995; Matushansky 2013b, and others). In Russian, this semantic core is restricted to humans and higher animates.

   In set theory (Cantor 1874, cited in Johnson 1972), the meaning of *male* is a set of entities which are male, and the meaning of *female* is the set of entities which are female, as defined in (22).

(22) a.   {x: MALE(x)}.

      b.   {x: FEMALE(x)}.

Man, then, is the intersection of MALE and HUMAN, and *woman* is the intersection of FEMALE and HUMAN. Thus, the natural gender features [male] and [female] can be defined as follows:

(23) a. If N is [male] then the set denoted by the N is a subset of the set {x: MALE(x)}.

b. If N is [female] then the set denoted by the N is a subset of the set {x: FEMALE(x)}.

Without the natural feature [male], the masculine nouns of declension class II (or *-a*-declension)—such as *mužčina* 'man', *djadja* 'uncle', *Kolja* 'Kolia', *Pavluxa* 'Pavel (colloq.)' (as in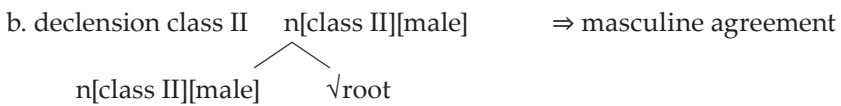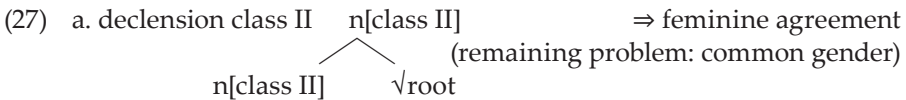 (21) above)—would acquire feminine agreement. This is not the case, as all male nouns have masculine gender agreement in Russian. For example, in (24a), the noun *mužik* 'man' belongs to class I (-Ø ending in NOM.SG) and in (24b), the noun *mužčina* 'man' belongs to class II (-*a* ending in NOM.SG). Although these nouns belong to different declension classes, they trigger masculine agreement, since they both denote a male individual.

(24) a. bol'šoj   mužik
          big$_{MASC.}$ man$_{NOM.SG}$ (masc; class I)
          'big man'

b. bol'šoj   mužčina
          big$_{MASC.}$ man$_{NOM.SG}$ (masc; class II)
          'big man'

Previous works on gender in different languages have proposed that gender is a feature on *n* (Lecarme 2002 in Somali; Ferrari 2005 and Kihm 2005 in Bantu and Romance; Lowenstamm 2008 in French and Yiddish; Acquaviva 2009 in Italian; Kramer 2012 in Amharic). Kramer (2012) argues that in Amharic, both gender features—grammatical (or uninterpretable) and natural (or interpretable)—are specified on *n*. Here, I propose that in Russian sex-differentiable nouns, only natural gender features are present in the syntax. I assume that [male] and [female] are natural gender features specified on *n*, thus positing a minimum feature bundle on *n* as [class][male] or [class][female], as diagrammed in (25a, b). The feature [animate] is another relevant feature on *n*, because of animacy syncretism in Russian, as described in section 1.3.2. This feature will not be discussed here.

(25) a.   n[class][male]   b.   n[class][female]

   n[class][male]   √root   n[class][female]   √root

Assuming that the minimum feature bundle on *n* consists of declension class and natural gender, grammatical gender agreement can be determined in Russian sex-differentiable nouns. (Hybrid and common gender nouns are the exceptions, which will be discussed in section 2.2.) I propose the structures for Russian nouns of declension classes I–IV shown in (26–28). In (26), the √root is licensed by *n*[class I], which produces a masculine noun (all class I nouns are masculine in Russian with the exception of hybrid nouns, which can trigger two different gender agreements).

(26)   declension class I   n[class I]   ⇒ masculine agreement
                                                              (remaining problem: hybrid nouns)
                      n[class I]   √root
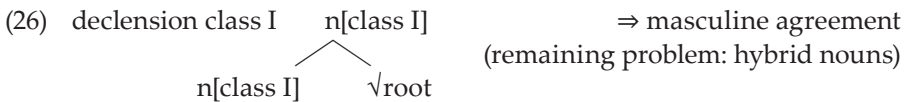
In (27a), the √root is licensed by *n*[class II], which produces a feminine noun (except common gender nouns, which can trigger two different agreements). When the natural gender feature [male] is specified as part of the feature bundle on *n*, as in (27b), the noun is masculine, as governed by the Subset Principle (Halle 1997).

(27)   a. declension class II   n[class II]   ⇒ feminine agreement
                                                              (remaining problem: common gender)
                      n[class II]   √root

       b. declension class II   n[class II][male]   ⇒ masculine agreement

                n[class II][male]   √root

In (28), the √root is licensed by *n*[class III], which produces a feminine noun (most class III nouns are feminine, as in Table 4).

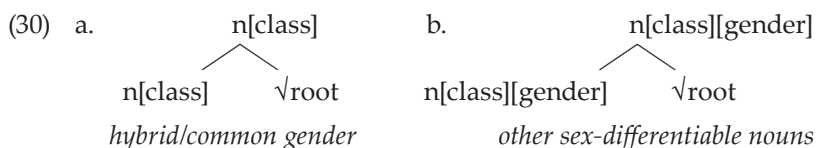(28)   declension class III   n[class III]   ⇒ feminine agreement

                      n[class III]   √root
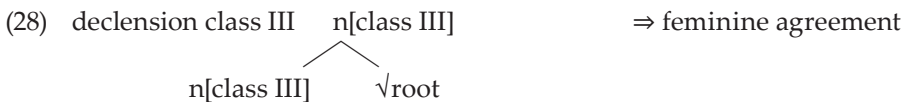
In (29), the √root is licensed by *n*[class IV], which produces a neuter noun (most class IV nouns are neuter, as in Table 4).

(29)   declension class IV   n[class IV]   ⇒ neuter agreement

                      n[class IV]   √root
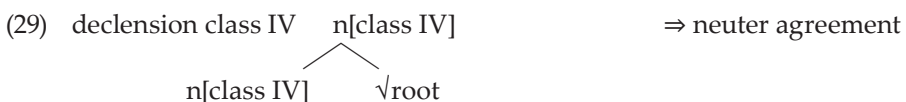
It has been proposed in the literature that hybrid and common gender nouns are different from other nouns in Russian because they have two gram-

matical genders (Doleschal and Schmid 2001; Zaliznjak 1967), because they are unmarked (Matushansky 2013a), or because they are underspecified for gender (Arsenijević 2016). Here I propose that all sex-differentiable nouns are without grammatical gender features in Russian. This proposition gives rise to the following question: How can we account for the difference between hybrid and common gender nouns on the one hand and other sex-differentiable nouns in Russian on the other? I propose, following Matushansky (2013a) and Arsenijević (2016), that hybrid and common-gender nouns differ from other sex-differentiable nouns in having no natural features [female] or [male] in contrast to other sex-differentiable nouns that have natural gender featues, as shown in (30a, b).

(30) a.   n[class]   b.   n[class][gender]

        n[class]   √root   n[class][gender]   √root
   *hybrid/common gender*   *other sex-differentiable nouns*

I further propose that grammatical gender in hybrid and common-gender nouns can (but need not) depend on the biological gender of the referent (see Pesetsky 2013b and Steriopolo and Wiltschko 2010 on Russian; Alexiadou 2004 on other languages).
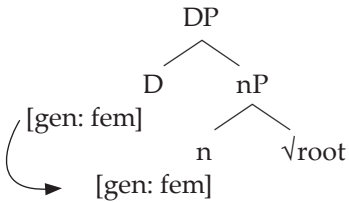
2.2. The Projection *D*

There has been debate as to whether articleless languages, such as Russian, have a *D*-projection. Bošković (2005) suggests that articleless languages do not project a DP. Pesetsky (2013a) subscribes to the DP-analysis and argues that nominative case comes from *D* in Russian, which is why nominative is the default case for Russian nominals. According to Franks (1995), Franks and Pereltsvaig (2004), and Pereltsvaig (2006), articleless languages have so-called small nominals, which are NPs without a *D* projection. Stowell (1991) suggests that in articleless languages, the determiner position is optional. A small nominal is simply a saturated predicate with no referential function, while demonstrative DPs are clearly referential. As referentiality is tied to the *D*-head, is it possible that most Russian nouns are small nominals and have only an *n*-projection, while hybrid and common-gender nouns project a referential *D*-projection? I wish to leave this question for further research.

Kučerová (2018) proposes that gender feature valuation can be determined from the context (e.g., from the biological gender of the referent in the discourse) and that contextually determined gender is assigned on *D*. In (31a,b,c), *D*[gen_] is valued by the context, and *n* is further valued via the link between *D* and *n*.

(31) a. Matching of unvalued gender features

```
                DP
              /   \
           D        nP
        [gen_]     /  \
          ⌐      n     √root
          └──→ [gen_]
```
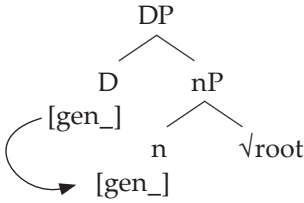
b. D cannot get valued, it is valued from the context

```
                DP
              /   \
           D        nP
     [gen: fem]    /  \
        ⌐        n     √root
        └──→  [gen_]
```
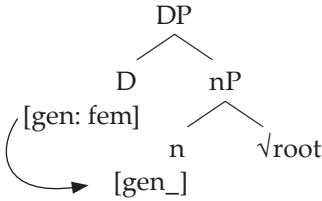
c. The gender feature on *n* gets valued via the matching link with *D*

```
                DP
              /   \
           D        nP
     [gen: fem]    /  \
       ⌐         n     √root
       └──→  [gen: fem]
```
                                        (modified after Kučerová 2018: 819)

According to Kučerová (2018: 827), contextual gender valuation is dependent on the feature [person] (or [± participant] in Nevins' 2007 terms),[7] which is licensed by the syntax-semantics interface and is associated with an index as part of the labelling of the DP.

Sauerland (2004) and Matushansky (2013a) propose that the valuation of context-dependent gender features is driven by the semantic component as presupposition associated with an assignment index (like a pointer to the actual referent). A semantic denotation of masculine/feminine genders in Italian from Kučerová (2018) is given in (32). A feminine feature associated with the index *i* will denote a female if the referent is female, as in (32a). A masculine feature with the index *i* will denote a person if the referent is a person, as in (32b). Thus, masculine gender is compatible with both natural genders.

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[7] It has been repeatedly argued in the literature that the feature [person] is located on the category *D* (the category of personal pronouns) (see Ritter 1995; Carstens 2000; Baker 2008; Danon 2011; Landau 2016).

(32) Semantic denotation of MASC/FEM

    a. $[[\text{GEN:f}_i]]^{w,g} = \lambda x_e.$ $g(i)$ is a **female** in w: x

    b. $[[\text{GEN:m}_i]]^{w,g} = \lambda x_e.$ $g(i)$ is a **person** in w: x

                        (Kučerová 2018: 828, modelled after Heim 2008)

Although (32) accounts for Italian data, it does not seem to account for Russian common-gender nouns because in such nouns, feminine gender is compatible with both natural genders, as shown in (33), but masculine gender is not, as shown in (34).

(33) Male or female referents ⇒ [FEM]

    a. On — takaja   grjazn**ul**ja.
        he   such*FEM.*   dirt*ADJ.NOM.SG*   (CLASS II)

        'He is such (FEM) a dirty person (AFFECT).'

    b. Ona — takaja   grjazn**ul**ja.
        she   such*FEM.*   dirt*ADJ.NOM.SG*   (class II)

        'She is such (FEM) a dirty person (AFFECT).'

(34) Male referents ⇒ [MASC]

    a. On — takoj   grjazn**ul**ja.
        he   such*MASC.*   dirt*ADJ.NOM.SG*   (class II)

        'He is such (MASC) a dirty person (AFFECT).'

    b. * Ona — takoj   grjazn**ul**ja.
        she   such*MASC.*   dirt*ADJ.NOM.SG*   (class II)

        [Intended] 'She is such (**MASC**) a dirty person (AFFECT).'

I propose a modification of the semantic denotations in (32) to account for Russian nouns of common gender. A feminine feature associated with the index *i* will denote a person if the referent is a person. A masculine feature with the index *i* will denote a male if the referent is male. Thus, feminine gender is compatible with both natural genders in Russian nouns of common gender.

(35) Semantic denotation of MASC/FEM (modified to account for Russian nouns of common gender)

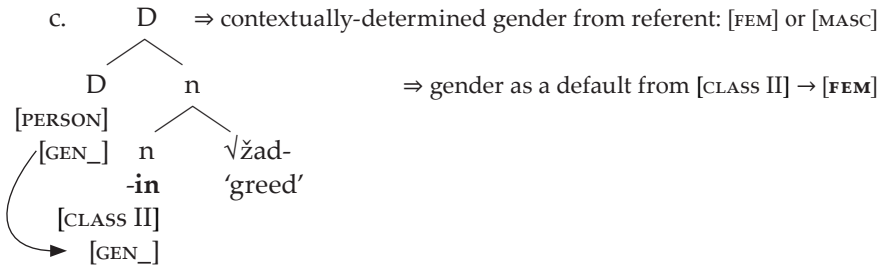   a. $[[\text{GEN:f}_i]]^{w,g} = \lambda x_e.$ $g(i)$ is a **person** in w: x

    b. $[[\text{GEN:m}_i]]^{w,g} = \lambda x_e.$ $g(i)$ is a **male** in w: x

Below I propose analyses of Russian common-gender (section 2.2.1) and hybrid nouns (section 2.2.2).

2.2.1. An Analysis of Common-Gender Nouns

In (36), *D* [gen_] cannot be valued by *n*, because *n* has no gender feature. There are two possibilities: (i) either feminine gender is a default, determined from declension [class II], as shown in (37), or (ii) it is valued from the context depending on the biological gender of the referent, as in Kučerová (2018), as diagrammed in (36c).

(36)   a.   žadnyj   b.   žadina

         greed$_{ADJ.MASC.}$ greed$_{SUFF.NOM.SG}$ (MASC/FEM; CLASS II)

         'greedy'   'greedy person'

     c.   D   ⇒ contextually-determined gender from referent: [FEM] or [MASC]

       D   n   ⇒ gender as a default from [CLASS II] → [FEM]

  [PERSON]

  [GEN_]   n   √žad-

         -in   'greed'

    [CLASS II]

       [GEN_]

(37)   n, [class II] ↔ -a

According to the cross-linguistic Agreement Hierarchy (Corbett 1991: 226), shown in (38), the likelihood of semantic agreement (depending on the biological gender of the referent) increases rightward. If semantic agreement is possible for one slot in this hierarchy, then all slots to the right will also show semantic agreement. If a slot shows morphological (or grammatical) agreement, then all slots to the left will show morphological agreement (see Smith 2015).

(38)   Agreement Hierarchy

     attributive—**predicate**—relative pronoun—personal pronoun
     ← morphological agreement   semantic agreement →

I illustrate how the proposed system can account for the Agreement Hierarchy within a clause, focusing on clause-internal attributive and predicative agreements (in **bold** in (38)). According to the Agreement Hierarchy, if the predicate shows morphological agreement, then the attributive modifier (to the left on the scale in (38)) must also show morphological agreement, but cannot show semantic agreement. However, if the attributive modifier shows semantic agreement, then the predicate (to the right on the scale) must also

show semantic agreement but cannot show morphological agreement. The attributive modifier can show morphological agreement, while the predicate shows semantic agreement.

As discussed above, the default gender of common gender nouns is feminine ([class II] → [fem]). In (39a), the predicate shows morphological (feminine) agreement and the attributive modifier shows the same agreement. The sentence is grammatical. However, in (39b), the predicate shows morphological (feminine) agreement and the attributive modifier shows semantic (masculine) agreement, and the sentence is ungrammatical. In (39c), the attributive modifier shows semantic (masculine) agreement and the predicate shows the same agreement, and the sentence is grammatical. And in (39d), the attributive modifier shows morphological (feminine) agreement and the predicate semantic (masculine) agreement, which also produces a grammatical sentence.

(39)   Common gender nouns ([class II] → [fem])

    a.   Vredn**aja**   žadina   opjat' vse konfety
        harm*ADJ.FEM.*   greed*SUFF.NOM.SG* again all   sweet*PL*

        sprjatal**a**.
        hide*PAST.FEM*

        '(The) nasty (fem) greedy person has hidden (fem) all the sweets again.'

    b.   *Vredn**yj**   žadina   opjat' vse konfety
        harm*ADJ.MASC.*   greed*SUFF.NOM.SG* again all   sweet*PL*

        sprjatal**a**.
        hide*PAST.FEM*
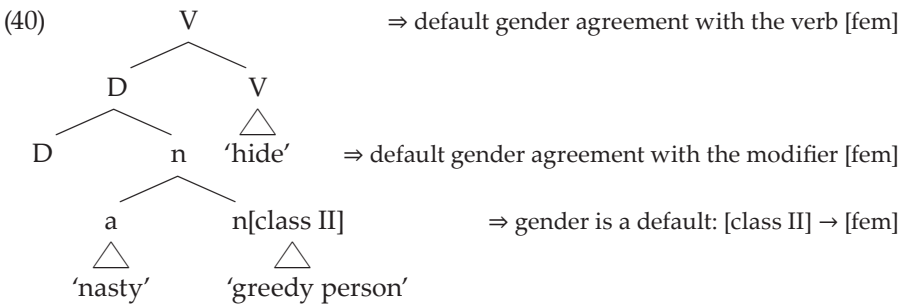
        [Intended] '(The) nasty (masc) greedy person has hidden (fem) all the sweets again.'

    c.   Vredn**yj**   žadina   opjat' vse konfety
        harm*ADJ.MASC.*   greed*SUFF.NOM.SG* again all   sweet*PL*

        sprjat**al**.
        hide*PAST.MASC*
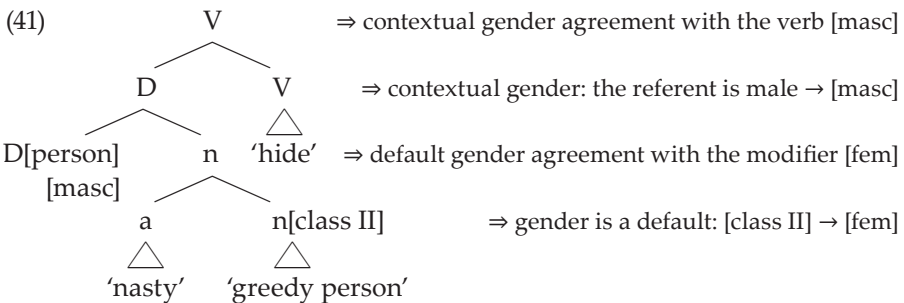
        '(The) nasty (masc) greedy person has hidden (masc) all the sweets again.'

(39) d. ?Vred**naja**   žadina   opjat' vse konfety
         harm*ADJ.FEM.*   greed*SUFF.NOM.SG* again all sweet*PL*

         sprjat**al**.
         hide*PAST.MASC*

         '(The) nasty (fem) greedy person has hidden (masc) all the sweets
         again.'[8]

In the diagram in (40), from which the feature [person] is absent, only default (feminine) gender agreement is possible with both the attributive modifier and the verb (as in the data (39a) above).

(40)   V   ⇒ default gender agreement with the verb [fem]

         D   V
                        △
D   n   'hide'   ⇒ default gender agreement with the modifier [fem]

         a   n[class II]   ⇒ gender is a default: [class II] → [fem]
        △   △
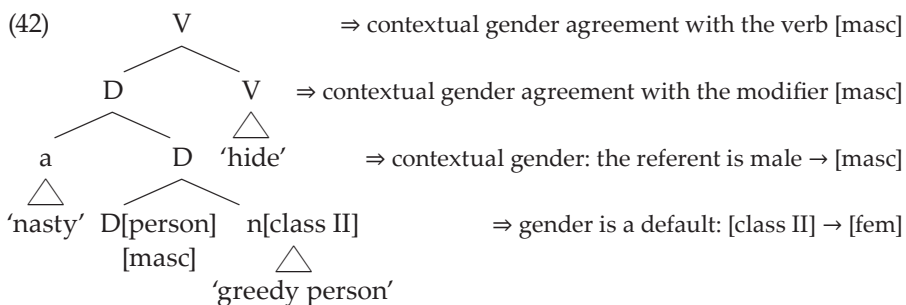   'nasty'   'greedy person'

Where the feature [person] is present, two options are possible. The first option, shown in (41), is contextually determined gender agreement with the verb, but default gender agreement with the attribute modifier (as in the data (39d) above).

(41)   V   ⇒ contextual gender agreement with the verb [masc]

         D   V   ⇒ contextual gender: the referent is male → [masc]
                        △
D[person]   n   'hide'   ⇒ default gender agreement with the modifier [fem]
  [masc]
         a   n[class II]   ⇒ gender is a default: [class II] → [fem]
        △   △
     'nasty'   'greedy person'

---

[8] Examples of mixed gender agreement in common gender nouns are subject to speakers' variation and are not accepted by some native speakers. Some examples of mixed-gender agreement in such nouns (e.g., mixed gender in multiple adjectives) are available from the Russian National Corpus http://ruscorpora.ru/.

The second option, (42), is contextually determined gender agreement with the verb and contextually determined gender agreement with the attribute modifier under the assumption that attributive adjectives can merge at different attachment sites (Ouwayda 2014; Pesetsky 2013b; Landau 2016; Arsenijević 2016)[9]. This is observed in (39c) above.

(42)

```
                V                    ⇒ contextual gender agreement with the verb [masc]
              /   \
          D         V                ⇒ contextual gender agreement with the modifier [masc]
        /   \       △
       a      D    'hide'            ⇒ contextual gender: the referent is male → [masc]
      △     /   \
  'nasty' D[person]  n[class II]     ⇒ gender is a default: [class II] → [fem]
          [masc]     △
                  'greedy person'
```

The attributive adjective 'nasty' can modify either the category *n*, as in (40) and (41), or the category *D*, as in (42). In the first case, it agrees with the default gender of the noun (feminine). In the second case, it agrees with the contextual gender of the referent (masculine).

If the feature [person] is present in the derivation, the verb must agree with it, hence the ungrammatical data in (39b) above, in which the features [person] and [masc] are present (as evidenced by masculine adjectival agreement).

This analysis predicts that hybrid and common gender nouns cannot show semantic gender agreement in the predicate position of copula sentences. In this usage, nouns do not refer to individuals but predicate a property to the subject.[10] If *D* is responsible for referentiality, as claimed here, only morphological and not semantic gender agreement should be possible in the predicate use of such nouns. To test this prediction, I conducted interviews with five native speakers of Russian (four females, one male; aged 38–73). I asked the speakers to judge the sentences in (43–45) with hybrid nouns in regard to their well-formedness. Four speakers judged the variant (a) with masculine gender agreement as well formed, and the variant (b) with feminine gender agreement as ill formed, which supports the current analysis. The fifth speaker, however, judged the variant (a) as well formed, and the variant (b) as possibly well formed, which shows possible speakers' variation (see also Matushansky 2013a, 2013b for the possibility of occurrence of the

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[9]   In accordance with Arsenijević (2016), I assume that adjectives can modify different levels of a DP: Kind-level and Instantiation-level (see Zamparelli 1995 on the the multiple-layer DP-hypothesis).

[10]   I thank one of the reviewers for this comment and the data in (43a).

hybrid noun *vrač* 'doctor' in the predicate position).[11] While a more extensive survey is needed, these findings are noteworthy, as they show potential variation among Russian speakers.

(43) a. Petrova — novyj   jurist.
          Petrov$_{FEM}$ new$_{MASC}$ lawyer

          'Petrova (fem) is a new (masc) lawyer.'

      b. *Petrova — novaja   jurist.
          Petrov$_{FEM}$ new$_{FEM}$ lawyer

          [Intended] 'Petrova (fem) is a new (fem) lawyer.'

(44) a. Mama — opytnyj   rukovoditel'.
          mama$_{FEM}$ experience$_{ADJ.MASC}$ supervisor

          'Mama (fem) is an experienced (masc) supervisor.'

      b. *Mama — opytnaja   rukovoditel'.
          mama$_{FEM}$ experience$_{ADJ.FEM}$ supervisor

          [Intended] 'Mama (fem) is an experienced (fem) supervisor.'

(45) a. Moja   podruga — xorošij   buxgalter.
          my$_{FEM}$ friend$_{FEM}$ good$_{MASC}$ book-keeper

          'My (fem) friend (fem) is a good (masc) book-keeper.'

      b. *Moja   podruga — xorošaja buxgalter.
          my$_{FEM}$ friend$_{FEM}$ good$_{FEM}$ book-keeper

          [Intended] 'My (fem) friend (fem) is a good (fem) book-keeper.'

2.2.2. An Analysis of Hybrid Nouns

The default gender of hybrid nouns is masculine ([class I] → [masc]).[12] In (46a), the predicate shows morphological (masculine) agreement and the attributive modifier shows the same agreement. The sentence is grammatical. In (46b), the predicate shows morphological (masculine) agreement and the attributive modifier shows semantic (feminine) agreement, and the sentence is ungrammatical. In (46c), the attributive modifier shows semantic (feminine) agreement and the predicate shows the same agreement; the sentence is grammatical. And in (46d), the attributive modifier shows morphological (masculine)

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[11]   See Lyutikova (2015) on differences between hybrid and common gender nouns in this position.

[12]   See Steriopolo 2018 for a more detailed analysis of hybrid nouns in Russian.
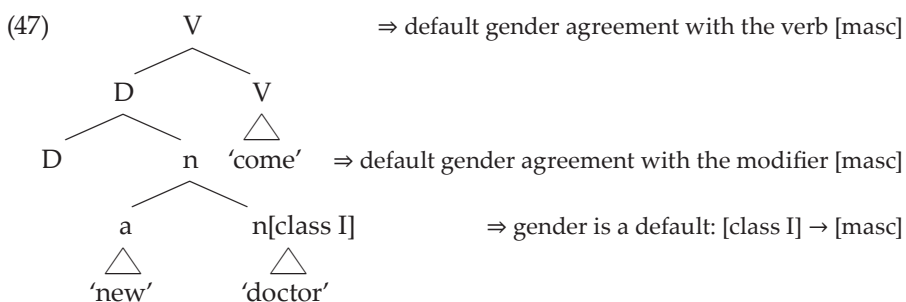
agreement and the predicate semantic (feminine) agreement, which results in a grammatical sentence.
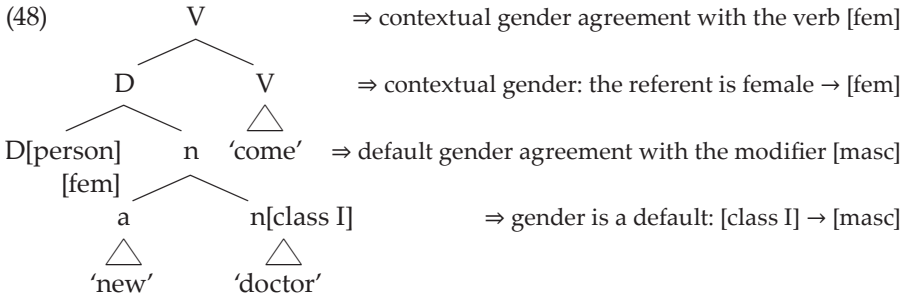
(46) Hybrid nouns ([class I] → [masc])

  a. Nov**yj**   vrač   priš**ël**   vovremja.
      new$_{MASC}$ doctor   come$_{PAST.MASC}$ on.time

      'New (masc) doctor came (masc) on time.'

  b. *Nov**aja** vrač   priš**ël**   vovremja.
      new$_{FEM}$ doctor   come$_{PAST.MASC}$ on.time

      [Intended] 'New (fem) doctor came (masc) on time.'

  c. Nov**aja** vrač   priš**la**   vovremja.
      new$_{FEM}$ doctor   come$_{PAST.FEM}$ on.time

      'New (fem) doctor came (fem) on time.'

  d. Nov**yj**   vrač   priš**la**   vovremja.
      new$_{MASC}$ doctor   come$_{PAST.FEM}$ on.time

      'New (masc) doctor came (fem) on time.'

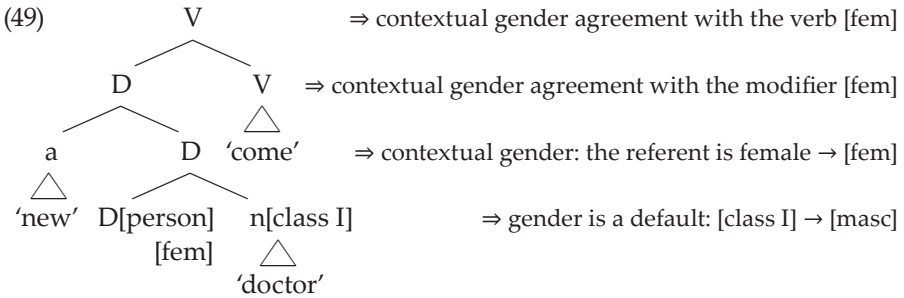   (modified after Matushansky 2013a: 13)

I propose the following analysis of Russian hybrid nouns: In (47), from which the feature [person] is absent, only default (masculine) gender agreement is possible with both the attributive modifier and the verb (as in (46a) above).

(47)   V   ⇒ default gender agreement with the verb [masc]
           ╱   ╲
       D   V
     ╱   ╲   △
   D   n   'come'   ⇒ default gender agreement with the modifier [masc]
         ╱   ╲
      a   n[class I]   ⇒ gender is a default: [class I] → [masc]
     △   △
   'new'   'doctor'

When the feature [person] is present on *D*, two options may be possible. The first option, shown in (48), is contextually determined gender agreement with the verb but default gender agreement with the attribute modifier (as in (46d) above).

(48)   V   ⇒ contextual gender agreement with the verb [fem]

        D   V   ⇒ contextual gender: the referent is female → [fem]

D[person]   n   'come'   ⇒ default gender agreement with the modifier [masc]
   [fem]

        a   n[class I]   ⇒ gender is a default: [class I] → [masc]

     'new'   'doctor'

The second option, shown in (49), is contextually determined gender agreement with the verb and contextually determined gender agreement with the attribute modifier (assuming two different attachment sites for attributive adjectives, as discussed in 2.2.1), as in (46c).

(49)   V   ⇒ contextual gender agreement with the verb [fem]

        D   V   ⇒ contextual gender agreement with the modifier [fem]

    a   D   'come'   ⇒ contextual gender: the referent is female → [fem]

 'new' D[person]   n[class I]   ⇒ gender is a default: [class I] → [masc]
           [fem]
                   'doctor'

If the feature [person] is present in the derivation, the verb must agree with it, hence the ungrammatical data in (46b) above, where the features [person] and [feminine] are present (as evidenced by feminine adjectival agreement), but the verb does agree with them.
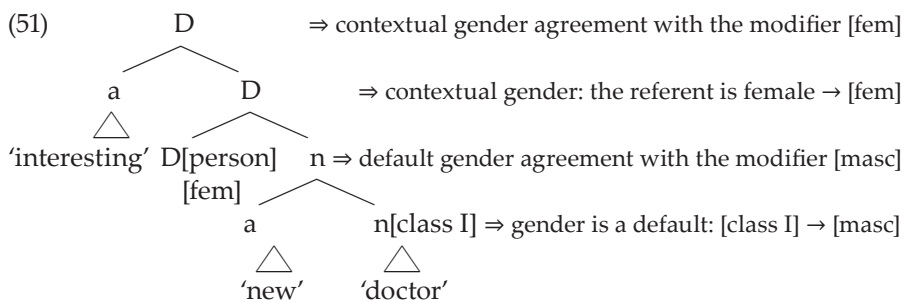
Russian hybrid nouns modified by multiple attributive adjectives can also show mixed gender agreement (Pesetsky 2013b: 18), as in (50).

(50) ?U   menja očen' interesn**aja**   nov**yj**   vrač.
       by   me   very   intersting$_{FEM}$ new$_{MASC}$ doctor

      'I have a very interesting (fem) new (masc) doctor.'

   (Pesetsky 2013b: 18)

In structure (51), the lower adjective 'new' (masc) is an *n*-modifier (modifying 'profession') and the higher adjective 'interesting' (fem) is a *D*-modifier (modifying 'female person') (see Landau 2016: 1004–08 for a detailed analysis of such multiple adjectives).
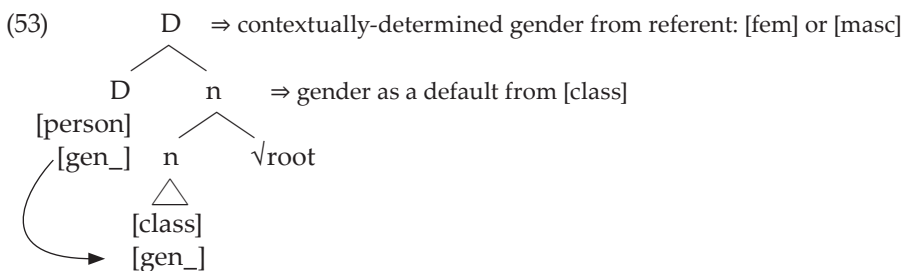
(51)   D   ⇒ contextual gender agreement with the modifier [fem]

        a   D   ⇒ contextual gender: the referent is female → [fem]
       △
 'interesting' D[person]   n ⇒ default gender agreement with the modifier [masc]
              [fem]
                      a   n[class I] ⇒ gender is a default: [class I] → [masc]
                     △   △
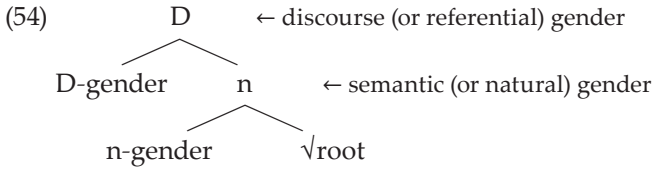   'new'   'doctor'

3. Conclusions

This paper has proposed that there is no need to posit grammatical gender features in the syntax of sex-differentiable nouns in Russian, as their gender can be determined from a combination of declension class and natural gender. I have argued that the minimum feature bundles on *n* of the majority of sex-differentiable nouns in Russian are [class][male] or [class][female], as diagrammed in (52).

(52)   a.   n[class][male]   b.   n[class][female]
                      △   △
     n[class][male]   √root   n[class][female]   √root
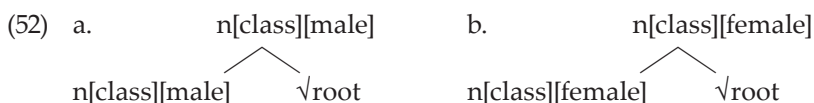
In addition, I have proposed that the morphosyntax of Russian common gender and hybrid nouns differs from that of other sex-differentiable nouns, as they are unspecified for the natural features [female] or [male] on *n*; they are only specified for declension class. Their grammatical gender arises either (i) as a default determined from the declension class or (ii) as contextually determined gender, in the sense of Kučerová (2018), as diagrammed in (53).

(53)   D   ⇒ contextually-determined gender from referent: [fem] or [masc]
             △
        D   n   ⇒ gender as a default from [class]
     [person]
      [gen_]   n   √root
                △
             [class]
             [gen_]

This paper presents a revision of the earlier Distributed Gender Hypothesis (Steriopolo and Wiltschko 2010), as in (54), where gender is distributed across two distinct syntactic positions: D-gender and n-gender.

(54)   D   ← discourse (or referential) gender

     D-gender   n   ← semantic (or natural) gender

          n-gender   √root

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