Mixed gender agreement in the case of Russian hybrid nouns
Olga Steriopolo

ABSTRACT This work presents a study of mixed gender agreement in the case of hybrid nouns in Russian. Examination of a number of approaches which seek to account for the category “gender” shows that these approaches are problematic when trying to explain mixed gender agreement in hybrid nouns. It is proposed here that the multiple-layer DP-hypothesis by Zamparelli (1995 and subsequent work) is best suited to analyze the Russian data. However, this rests on the crucial assumption that Russian demonstratives can occupy multiple positions within the DP, something that must still be verified by future work.

Keywords: mixed gender agreement, hybrid nouns, common gender, agreement/gender mismatch, Russian

1 Introduction

Russian nouns that belong to the first declension (or ø-declension) and denote human professions consistently show masculine gender agreement when referring to males. However, in reference to females, they can show different kinds of gender agreement: (i) masculine agreement, as in (1a); (ii) feminine agreement, as in (1b); and (iii) mixed agreement, as in (1c). Such profession-denoting nouns (e.g., vrach ‘doctor’, professor ‘professor’, jurist ‘lawyer’, rukovoditel ‘supervisor’, fotograf ‘photographer’, avtor ‘author’, agent ‘agent’) are often referred to as “hybrid nouns”, as they can take more than one type of gender agreement. Gender agreement in Russian occurs with predicative and attributive adjectives, personal, demonstrative, and relative pronouns, as well as with verbs in the past tense.

(1) a. Новый врач пришел вовремя. Nov-yj vrach prish-el vovremja.
nov-MASC doctor come-PAST.MASC on.time
‘New (MASC) doctor came (MASC) on time.’
nov-FEM doctor come-PAST-FEM on.time
‘New (FEM) doctor came (FEM) on time.’
c. Новый врач пришла вовремя. Nov-yj vrach prish-l-a vovremja.
nov-MASC doctor come-PAST-FEM on.time
‘New (MASC) doctor came (FEM) on time.’

(Pesetsky, 2013, p. 16)

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In the sentence (1a), we observe two instances of morphological (also termed “grammatical”, “formal”, or “syntactic”) agreement, while in the sentence (1b), we observe two instances of semantic agreement. The latter form depends on the natural gender of a human referent, in this case – feminine. In this work, I will focus on a third kind of agreement, so-called “mixed” agreement, as in (1c). In this case, we observe one instance of morphological and one instance of semantic agreement. In the literature, this kind of agreement is also referred to as “agreement/gender mismatch” (e.g., Smith, 2015; Wurmbrand, 2017), the terminology also adopted in this paper.

Gender mismatches are possible among multiple attributive adjectives in Russian, as in (2a), where the rightmost adjective nov-ya ‘new-MASC’ shows masculine agreement and the leftmost adjective interesn-aja ‘interesting-FEM’ shows feminine agreement. However, the opposite is ungrammatical, as in (2b).

(2) a. ?у меня очень интересная новый врач.

b. *у меня очень интересный новая врач.

Pesetsky (2013, p. 37) notes that certain adjectives in Russian only take morphological gender agreement, for example, klassn-yj ‘class-MASC’, glavn-yj ‘head/main-MASC’, zubn-oyj ‘dental-MASC’, as in (3). Pesetsky analyzes them as structurally low in the language.

(3) Классный / *классная руководитель сообщила, что...

Agreement mismatches are not possible in any agreement configuration. For example, in (4), the adjective nov-aja ‘new-FEM’ takes semantic agreement, while the predicate prish-el ‘came-MASC’ takes morphological agreement. The resulting data are ungrammatical. Compare this with the grammatical example (1c) above.

(4) *Новая врач пришел вовремя.

With respect to the data above, several questions arise. First, how can we account for the Russian data? Second, why are agreement mismatches in Russian hybrid nouns only possible in certain agreement configurations?

Corbett (1979, p. 204; 2006, p. 207) proposes the cross-linguistic Agreement Hierarchy, which shows that the further right an element is on this hierarchy, the more likely it is to allow for semantic agreement, as shown in (5).
According to (5), the likelihood of semantic agreement increases rightward. If semantic agreement is possible for one slot on the hierarchy, then all slots to its right on the scale will also show semantic agreement. If a slot shows morphological (or grammatical) agreement, all slots to its left will also show morphological agreement.

Since Russian distinguishes between two kinds of adjectives, as discussed in Pesetsky (2013) (i) regular\footnote{“Regular adjective” is my term; “low adjective” is the term used by Pesetsky (2013).} adjectives that can take both morphological and semantic agreements with hybrid nouns, and (ii) low adjectives that can only take morphological agreement—we observe that a split between morphological and semantic agreements in Russian is between structurally low and high attributives, as shown in (6).\footnote{It is interesting to compare this with German gender mismatches, where the split is between relative and personal pronouns (Wurmbrand, 2017, p. 3): attributive — predicate — relative || personal pronoun.}

According to Sauerland (2004, 2009), interpretable features for person, number, and gender are purely presuppositional and can only occur in the projection φ, which is generated above a DP (DP is the complement of φ), as in (7).

\[(7)\]
\[
\begin{array}{c}
\phi P \\
\phi \\
[3,PL] \\
D \\
NP \\
the \\
books[PL]
\end{array}
\]

(Sauerland, 2004, p. 3)

This approach can be used to illustrate a variety of phenomena, such as agreement with coordinations, singular universal quantifiers, and mixed agreement of committee-nouns, among other things. It can also account for mixed predicate agreement with hybrid nouns, as it allows for more than one φ-head to be attached above a DP, as diagrammed in (8b).
In the structure (8b), the lower φ-head [MASC] is uninterpretable and only serves to license *vrach* ‘doctor’. The higher φ-head [FEM] is interpretable, which accounts for mixed predicate agreement.

A problem with this approach arises when mixed DP-internal agreement is considered. Since φ-features can only attach above a DP, how can we account for the Russian data, such as (9) below, with DP internal mismatches? In (9), there is a gender mismatch between two attributive adjectives (‘good-FEM’ and ‘dental-MASC’). In addition, in (10), the demonstrative pronoun *jet-a* ‘this-FEM’ is feminine and the low adjective *zubn-oj* ‘dental-MASC’ is masculine.

(9) У нас — очень хорошая зубной врач.
with us — very good-FEM dental-MASC doctor
‘We have a very good (FEM) dental (MASC) doctor.’

(10) Эта зубной врач умело поставила пломбу.
this-FEM dental-MASC doctor skillfully put-PAST-FEM filling
‘This (FEM) dental (MASC) doctor skillfully did (FEM) a filling.’
(modified from Matushansky, 2013, p. 16)

2.2 Steriopolo and Wiltschko (2010); Steriopolo (2018)

Steriopolo (2018) argues that there is a syntactic position, namely *D*, in which semantic gender features can be introduced via agreement with the natural gender of a discourse referent. She assumes the Distributed Gender Hypothesis (Steriopolo and Wiltschko, 2010), which proposes that gender does not instantiate a uniform morphosyntactic category; instead, it is syntactically heterogeneous and occupies different positions in a syntactic tree, as shown in (11).
According to (11), inherent semantic gender features are located on a √root, as, for example, in mat’ ‘mother (FEM)’, djadj ‘uncle (MASC)’. Semantic gender features that agree with the natural gender of a discourse referent are introduced higher in the structure, on D, as in profession-denoting female nouns vrach/professor/jurist ‘doctor/professor/lawyer (FEM)’. Grammatical gender features are located on n.

Steriopolo (2018) departs from the earlier analysis of √root-GENDER and assumes, following Kramer (2015, and references therein), that semantic (or “interpretable”) as well as grammatical (or “uninterpretable”) gender features are located in the same syntactic position, namely on n. Thus, according to Steriopolo (2018), there are two different kinds of semantic gender features that differ structurally: (i) inherent semantic features located on n (as in Kramer, 2015); and (ii) semantic features inserted in discourse that agree with the natural gender of a human referent and are introduced later in the derivation. Such features are located on D, as structured in (12).

To account for multiple adjectives with gender mismatches, as in (13a), Steriopolo (2018) proposes that a lower adjective modifies an n with an inherent semantic gender feature, while a higher adjective modifies a D with an inserted gender feature, as structured in (13b).

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<td><img src="image2" alt="Diagram" /></td>
</tr>
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(Steriopolo and Wiltschko, 2010, p. 157)

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(13) a. \[U \text{ nas – очень хороший зубной врач.}
U nas – ochen’ horosh-aja zubn-oj vrach.
with us very good-FEM dental-MASC doctor
We have a very good (FEM) dental (MASC) doctor.’
mixed gender agreement in the case of Russian hybrid nouns

b.  

```
D
  `good'
D[FEM] n
n
D
  `dental'
vrach
`doctor'
```

Here, a cyclicity analysis of agreement is assumed, as in Chomsky (2001). To account for low adjectives that can only show morphological agreement, such as zubn-oj ‘dental-MASC’, it is assumed that such adjectives can only modify an n, and thus, can never show agreement with a D-GENDER.

Here, I illustrate how the proposed system in Steriopolo (2018) can account for the Agreement Hierarchy in Russian hybrid nouns under two assumptions: (i) D-GENDER is dependent on the feature [PERSON] located on D (Kučerová, forthcoming); and (ii) a default gender of hybrid nouns in Russian is masculine (Corbett, 1979).

Consider now the data in (14), repeated from (1) and (4) for convenience.

(14) a. Новый врач пришел вовремя.
   Nov-yj vrach prish-el vovremja.
   ‘New (MASC) doctor came (MASC) on time.’

b. *Новая врач пришла вовремя.
   *Nov-aža vrach prish-la vovremja.
   ‘New (FEM) doctor came (MASC) on time.’

c. Новая врач пришла вовремя.
   Nov-aža vrach prish-l-a vovremja.
   ‘New (FEM) doctor came (FEM) on time.’

d. Новый врач пришла вовремя.
   Nov-yj vrach prish-l-a vovremja.
   ‘New (MASC) doctor came (FEM) on time.’

(Pesetsky, 2013, p. 16)

In (14a), the predicate shows morphological (masculine) agreement; the attributive modifier shows the same agreement. The sentence is grammatical. However, in (14b), the predicate shows morphological (masculine) agreement and the attributive modifier shows semantic (feminine) agreement, and the sentence is ungrammatical. In (14c), the attributive modifier shows semantic (feminine) agreement; the predicate shows the same agreement, and the sentence is grammatical. Finally, in (14d), the attributive modifier shows morphological (masculine) agreement and the predicate semantic (feminine) agreement, which produces a grammatical sentence.
In the structure (15), the feature [PERSON] is absent on D and only the default masculine gender agreement is possible with both the attributive modifier and the verb (as in (14a) above).

(15) \[ V \rightarrow \text{default gender agreement with the verb [MASC]} \]
\[ D \quad V \]
\[ D \quad n \quad \text{‘come’} \rightarrow \text{default gender agreement with the modifier [MASC]} \]
\[ a \quad n \]
\[ \text{‘new’} \quad \text{‘doctor’} \]

When the feature [PERSON] is present on D, two options are possible. The first option, shown in (16), is D-GENDER agreement with the verb but default gender agreement with the attribute modifier (as in (14d) above).

(16) \[ V \rightarrow \text{discourse gender agreement with the verb [FEM]} \]
\[ D \quad V \rightarrow \text{discourse gender: the referent is female [FEM]} \]
\[ D\text{[PERSON]} \quad n \quad \text{‘come’} \rightarrow \text{default gender agreement with the modifier [MASC]} \]
\[ a \quad n \rightarrow \text{default gender [MASC]} \]
\[ \text{‘new’} \quad \text{‘doctor’} \]

The second option, shown in (17), is D-GENDER agreement with the verb as well as D-GENDER agreement with the attribute modifier (assuming two different attachment sites for attributive adjectives, as discussed above) (as in (14c) above).

(17) \[ V \rightarrow \text{discourse gender agreement with the verb [FEM]} \]
\[ D \quad V \rightarrow \text{discourse gender agreement with the modifier [FEM]} \]
\[ a \quad D \quad \text{‘come’} \rightarrow \text{discourse gender: the referent is female [FEM]} \]
\[ \text{‘new’} \quad D\text{[PERSON]} \quad n \rightarrow \text{default gender [MASC]} \]
\[ \text{‘doctor’} \]

If the feature [PERSON] is present in the derivation, the verb must be in agreement with it, hence the ungrammatical data in (14b), in which the features [PERSON] and [FEMININE] are present (as evidenced by feminine adjectival agreement), but the verb does not agree with them.

As shown above, Russian hybrid nouns modified by multiple attributive adjectives can show mixed gender agreement; consider the data in (18), repeated from (2).
In the structure (19), the lower adjective ‘new’ (MASC) is an $n$-modifier (modifying ‘profession’) and the higher adjective ‘interesting’ (FEM) is a $D$-modifier (modifying ‘female person’).

The approach in Steriopolo (2018) accounts for data with mixed adjectival agreement as well as mixed predicate agreement. A problem arises, however, when we consider mismatches in data with demonstrative pronouns, as in (20).

In (20), feminine gender agreement with the verb $\text{postav-il-a}$ ‘put-PAST-FEM’ indicates that the feminine semantic feature has been inserted in the derivation. However, the question arises as to where it is inserted. Assuming that demonstrative pronouns are $D$-heads, as in Abney (1987; following Postal, 1969), the feminine feature cannot be located on $D$, as the demonstrative pronoun $\text{jet-ot}$ ‘this-MASC’ shows masculine gender agreement.

Thus, if $D$ is the only position where a semantic gender feature can be inserted, then the data in (20) above cannot be accounted for, as shown in (21).
2.3 Towards a possible solution: The three-layer DP-hypothesis (Zamparelli, 1995; Cheng, Heycock, and Zamparelli, 2017)

Zamparelli (1995) explores the syntax and semantics of noun phrases. He argues that noun phrases have multiple structural layers and that each layer is endowed with a different semantic function. Thus, the DP is a layered structure, in which the three topmost layers correspond to referential, predicative, and kind interpretation. The two topmost projections of the structure constitute the determiner system of a language: Strong Determiner Phrase (SDP) and Predicative Determiner Phrase (PDP). Kind Determiner Phrase (KDP) is a third projection containing the NP proper, which includes the noun and some attributive adjectives, as shown in (22).

Zamparelli (1995, p. 262) suggests that only elements in the head of SD can receive a referential interpretation. I hypothesize that the semantic gender feature [FEMALE] can be inserted into this particular position.

In a more recent version of the multilayered DP-hypothesis (Cheng, Heycock, and Zamparelli, 2017), definites and demonstratives can appear at multiple positions within the DP. If the Russian determiner jet-ot ‘this-MASC’ appears in both positions (SD and PD), then the data that were unaccounted for in Steriopolo (2018) can now be accounted for.

Compare, for example, the structures (23b) and (24b). In (23b), the semantic feature [FEMALE] is inserted in the referential layer (SD), but the masculine demonstrative jet ‘this-MASC’ is

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3Zamparelli (1995, p. 2) uses the term “determiner” to cover articles, demonstratives, and quantifiers.
lower in the structure (located in PD). The verb postav-il-a ‘put-PAST-FEM’ agrees with the feminine feature, while the demonstrative does not (it is too low), which accounts for the sentence in (23a).

(23)  a. Этот врач умело поставила пломбу.  

        Jet-ot vrach umelo postav-il-a plombu.  
        this-MASC doctor skillfully put-PAST-FEM filling  

       ‘This (MASC) doctor skillfully did (FEM) a filling.’

b. 

\[
\begin{array}{c}
\text{SDP} \\
\text{SD[FEM]} \quad \text{PDP} \quad \text{T} \quad \text{VP} \\
\text{NP} \\
\text{jet-ot} \quad \text{vраch} \\
\text{‘this-MASC’} \quad \text{‘doctor’} \\
\end{array}
\]

In (24b), the semantic feature [FEMALE] is inserted in the referential layer (SD). If the demonstrative is also located in this position, both the verb postav-il-a ‘put-PAST-FEM’ and the demonstrative jet-a ‘this-FEM’ should agree with this semantic feature, thus accounting for the sentence in (24a).

(24)  a. Эта врач умело поставила пломбу. 

        Jet-a vrach umelo postav-il-a plombu.  
        this-FEM doctor skillfully put-PAST-FEM filling  

       ‘This (FEM) doctor skillfully did (FEM) a filling.’
Zamparelli (1995, p. 259) argues that full SDPs are unable to function predicatively and that only the PDP position is associated with the predicative reading. This would mean that hybrid nouns in the predicate position cannot take semantic gender agreement, since the semantic feature [FEMALE] is introduced higher in the derivation (on SD). This is shown to be the case in the following data (25)-(27) from Steriopolo (2018).

(25) a. Петрова – новый юрист.  
Petrov-a – nov-yj jurist.  
Petrov-FEM new-MASC lawyer  
‘Petrova (FEM) is a new (MASC) lawyer.’

b. *Петрова – новая юрист.  
*Petrov-a – nov-aja jurist.  
Petrov-FEM new-FEM lawyer  
‘Petrova (FEM) is a new (FEM) lawyer.’

(26) a. Мама – опытный руководитель.  
Mam-a – opyt-n-ya rukovoditel’.  
mama-FEM experience-ADJ-MASC supervisor  
‘Mama (FEM) is an experienced (MASC) supervisor.’

b. *Мама – опытная руководитель.  
*Mam-a – opyt-n-aja rukovoditel’.  
mama-FEM experience-ADJ-FEM supervisor  
‘Mama (FEM) is an experienced (FEM) supervisor.’

(27) a. Моя подруга – хороший бухгалter.  
Mo-ja podrug-a – horosh-ij buhgalter.  
my-FEM friend-FEM good-MASC book-keeper  
‘My (FEM) friend (FEM) is a good (MASC) book-keeper.’

b. *Моя подруга – хорошая бухгалтер.  
*Mo-ja podrug-a – horosh-aja buhgalter.  
my-FEM friend-FEM good-FEM book-keeper  
‘My (FEM) friend (FEM) is a good (FEM) book-keeper.’

Pereltsvaig (2006, p. 7, p. 34) proposes a number of tests which show that in Russian, PRO must agree with its controller in number and gender. If this is so, we expect that PRO
controlled by a hybrid noun in the predicative position can only take masculine agreement. This is shown to be true in the following data with a gerund, as in (28).

(28) a. Иванова – бухгалтер, поющий песни.\(^4\)
   Ivanov-a – [buhgalter], [PROpøjushh-ij pesni].
   Ivanov-FEM book-keeper singing-MASC songs
   ‘Ivanova (FEM) is a book-keeper singing (MASC) songs.’

b. *Иванова – бухгалтер, поющая песни.
   *Ivanov-a – [buhgalter], [PROpøjushh-aža pesni].
   Ivanov-FEM book-keeper singing-FEM songs
   ‘Ivanova (FEM) is a book-keeper singing (FEM) songs.’

According to the structure in (24b) above, the semantic feature [MALE] should – in addition to the semantic feature [FEMALE] – also be able to appear in the referential SD layer. This is observed in Russian data with nouns of common gender. These are human nouns in the second declension (or –a-declension), for example, brodjaga ‘vagrant’, kaleka ‘cripple’, plaksy ‘crybaby’, p’janica ‘drunkard’, slastena ‘person with sweet tooth’, sonja ‘sleepyhead’. Such nouns show feminine gender agreement when the natural gender of a referent is unknown or unimportant, as in (29a). For this reason, Steriopolo (2017) assumes that the default gender of such nouns is feminine (see also Nesset, 2001; compare with hybrid nouns whose default gender is masculine). Nouns of common gender can show masculine gender agreement if the natural gender of a referent is male, as in (29b). In colloquial Russian, they can also take mixed gender agreement\(^5\), as in (29c).

(29) a. Эта пьяница опять явилась.
   Jet-a p’janica opjat’ jav-il-as'.
   this-FEM drunkard again appear-PAST-REFL.FEM
   ‘This (FEM) drunkard came (FEM) again.’ (referring to a male or a female)

b. Этот пьяница опять явился.
   Jet-ot p’janica opjat’ jav-il-sja.
   this-MASC drunkard again appear-PAST-REFL.MASC
   ‘This (MASC) drunkard came (MASC) again.’ (referring to a male)

c. ?Эта пьяница опять явилась.
   this-FEM drunkard again appear-PAST-REFL.MASC
   ‘This (FEM) drunkard came (MASC) again.’ (referring to a male)

I propose that when the natural gender of a referent is male and this is important for the speaker, as in (29b) and (29c) above, the semantic feature [MALE] is inserted in the SD-layer, as in the structures (30) and (31) below. In order to account for the sentence (29b) above with two instances of semantic (masculine) gender agreement, I suggest that the determiner jet-ot ‘this-MASC’ appears in SD and agrees with the inserted semantic feature [MALE]. The verb jav-il-sja ‘appeared-PAST-REFL.MASC’ also agrees with this feature. Hence, there are two instances of semantic gender agreement, as shown in (30).

\(^4\) The data (28) and (29) are mine.

\(^5\) Common gender and hybrid nouns do not have the same distribution in Russian. One difference between them is that common nouns can trigger semantically determined agreement in both nominative and oblique cases, while hybrid nouns can only trigger it in the nominative case (Volynec, 2005).
To account for the sentence in (29c) with mixed gender agreement (one instance of morphological and one instance of semantic gender agreement), I suggest that the determiner jet-ot ‘this-MASC’ is located lower in the structure (in PD) and only the verb jav-il-sja ‘appeared-PAST-REFL.MASC’ agrees with the inserted semantic feature [MALE], as shown in (31).

If this approach is on the right track, it can account for Russian data with various kinds of mixed agreement (semantic and morphological). However, more research is required to investigate the multiple layers of Russian DP, and specifically, which demonstratives (including jet-ot/jet-a ‘this-MASC/FEM’) can appear at multiple positions within the DP.
3 Conclusions

I have discussed some approaches to account for Russian hybrid nouns and have shown that they are problematic when attempting to account for data with mixed gender agreement. I have suggested that a multiple-layer DP-hypothesis by Zamparelli (1995 and subsequent work) could best account for the Russian data under the crucial stipulation that the demonstratives jet-ot ‘this-MASC’ and jet-a ‘this-FEM’ can occupy multiple positions within the DP.

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References


Olga Steriopolo
Leibniz-ZAS, Berlin
e-mail: steriopolo@leibniz-zas.de