

# Gender and Adjective Agreement in Russian\*

Alya Asarina (alya@mit.edu)

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## 1 Introduction

The focus of this talk is examples of mixed gender agreement in Russian. In (1), a class I profession-noun referring to a woman shows both masculine and feminine agreement properties (Crockett (1976)):

- (1) moja zubnoj vrach  
my-FEM dental-MASC doctor(I)  
'my [female] dentist'

Verbs and intersective adjectives generally show feminine agreement with these nouns ((2a))<sup>1</sup>, but classifying adjectives never do ((2b)) (cf. Rothstein (1980)):<sup>2</sup>

- (2) a. umnaja/%umnyj vrach (intersective)  
smart-FEM/%smart-MASC doctor  
'smart [female] doctor'
- b. zubnoj/\*zubnaja vrach (classifying)  
dental-MASC/\*dental-FEM doctor  
'[female] dentist'

If some element shows feminine agreement, all higher elements must also show feminine agreement:

- (3) a. Umnaja vrach prishla.  
smart-FEM doctor(I) came-FEM  
'The smart [female] doctor has come.'

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<sup>1</sup>More precisely, non-classifying adjectives may show feminine agreement in a nominative environment. We will not be able to account for this case restriction.

<sup>2</sup>% is used to indicate forms that are marked in certain registers.

- b. %Umnyj vrach prishel.  
smart-MASC doctor(I) came-MASC
- c. %Umnyj vrach prishla.  
smart-MASC doctor(I) came-FEM
- d. \*Umnaja vrach prishel.  
smart-FEM doctor(I) came-MASC

### Questions:

1. What is the status of the relationship between declension class and gender?
2. How is it that mixed gender agreement is possible?
3. What accounts for the difference in agreement between classifying and non-classifying adjectives?

### This talk:

1. Proposes a syntactic structure for examples like (2a) that allows an adjective modifying a class I noun to bear feminine agreement.
2. Argues that examples like (2b) are instances of so-called “bracketing paradoxes” (Williams (1981), Pesetsky (1985), etc.), and proposes a structure for such examples based on Den Dikken (2002).
3. Demonstrates that points 1 and 2 combine to correctly predict the patterns of gender agreement for examples like (1)-(3).

## 2 Gender and Declension Class

**Question 1:** What is the status of the relationship between declension class and gender?

There is a close correspondence between Russian declension classes (seen on the noun), and gender (seen on agreeing elements, e.g. adjectives):<sup>3</sup>

(4) For nouns **not** referring to humans:<sup>4</sup>

declension \ gender	masculine	feminine	neuter	example
I	✓	✗	✗	stol ('table')
II	✗	✓	✗	lampa ('lamp')
III	✗	✓	✗	krovat' ('bed')
IV	✗	✗	✓	okno ('window')

<sup>3</sup>We follow the proposal of Corbett (1982) that neuters fall into a separate declension class. We ignore a small number of lexical exceptions, and set aside diminutives/augmentatives for which the declension class of the stem determines gender agreement (e.g. *ëtot gorod/gorodishko* ('this-MASC city(I)/city-DIM(IV))).

<sup>4</sup>In this talk, we set aside class II nouns that show masculine agreement when referring to male humans (e.g. *papa* ('dad'), *p'janica* ('drunkard')).

(5) **Agreement rules:**

- a. class I → masculine agreement
- b. class II → feminine agreement
- c. class III → feminine agreement
- d. class IV → neuter agreement

**Question 1:** What is the status of the relationship between declension class and gender?

**Answer:** Declension class determines gender agreement.

### 3 Introducing Semantic Gender

**Question 2:** How is it that mixed gender agreement is possible?

Suppose that semantic gender is not encoded directly on a noun, but can be independently introduced within the NP:

(6)  $[[wmn]] = \lambda x . x \text{ is female}$  (preliminary)

Suppose also:<sup>5</sup>

(7) *wmn* has a class II feature

By the agreement rules above, *wmn* thus triggers feminine agreement. Female gender can also be expressed overtly with class I profession nouns by using the class II noun *zhenshchina* ('woman'). It appears above classifying adjectives and below intersective adjectives, and triggers feminine agreement on all higher elements:

- (8) a. *umnaja*/\**umnyj*                    **zhenshchina** *zubnoj*            *vrach*  
       *smart-FEM*/\**smart-MASC* **woman**(II)    dental-MASC    doctor(I)  
       'smart woman-dentist'
- b. \**zubnoj*/*zubnaja*                    **zhenshchina**-*vrach*  
       dental-MASC/dental-FEM **woman**(II)-doctor(I)
- c. \***zhenshchina** *umnyj*/*umnaja*                    *vrach*  
       **woman**(II)    *smart-MASC*/*smart-FEM*    doctor(I)

Thus *zhenshchina* behaves exactly like an overt realization of *wmn*, except that it cannot appear above intersective adjectives.

(9) **Structural conditions on gender agreement:**

If  $\alpha$  agrees for gender with  $\beta$ , the agreement features on  $\alpha$  are determined by the closest class feature C that is in the agreement domain of  $\alpha$ .

<sup>5</sup>Supposing that *wmn* is class III would work similarly.

Accordingly:

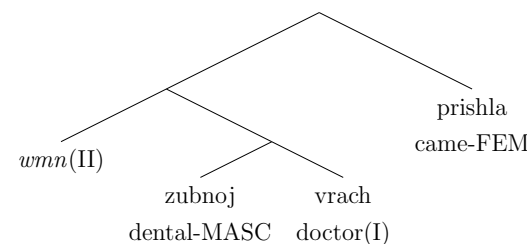
(10) **Adjectives:** Gender agreement is determined by the highest class feature in the adjective's c-command domain.

**Verbs:** Gender agreement is determined by the highest class feature in the subject.

Illustration of mixed agreement:

- (11) a. *Zubnoj*            *vrach*            *prishla*.  
       dental-MASC    doctor(I)    came-FEM  
       'The [female] dentist has come.'

b.



c. Gender agreement:

item	<i>wmn</i> (II)	<i>vrach</i> (I)	agreement
adjective	too high	✓	masculine
verb	✓	not closest	feminine

Unlike class I nouns denoting humans, class I nouns denoting female animals never trigger feminine agreement:

- (12) a. *beremennyj*/\**beremennaja*                    *kit*  
       *pregnant-MASC*/\**pregnant-FEM*                    whale(I)
- b. *zelënyj*/\**zelënaja*                    *krokodil*  
       *green-MASC*/\**green-FEM*                    crocodile(I)

This suggests that *wmn* applies only to humans:

(13)  $[[wmn]] = \lambda x : x \text{ is human} . x \text{ is female}$  (final)

**Question 2:** How is it that mixed gender agreement is possible?

**Answer:**

- The projection *wmn*:
  - has a class II feature
  - is (optionally) introduced above certain adjectives

- Adjective gender agreement is determined by the highest class feature in its command domain.
- Verb gender agreement is determined by the highest class feature in the subject.
- Higher items will agree with the class II feature on *wmn*, while lower ones will agree with the class I feature on the noun.

This proposal also explains why if any element displays feminine agreement, so must all higher ones:

- The class II feature on *wmn* is higher than the class I feature on the noun.
- If *wmn* is in the agreement domain for some element, it is also in the agreement domain for all higher elements.

## 4 Classifying Adjectives

**Question 3:** What accounts for the difference in agreement between classifying and non-classifying adjectives?

For ease of presentation, consider the English example *oral surgeon*, where *oral* is a classifying adjective.

- (14)  $\llbracket \text{oral surgeon} \rrbracket =$
- Incorrect:*  $\lambda x . x$  is oral and  $x$  does surgery
  - Correct:*  $\lambda x . x$  does oral surgery

If *surgeon* has a non-decomposable denotation as in (15), it is difficult to derive the correct denotation for *oral surgeon*.

- (15)  $\llbracket \text{surgeon} \rrbracket = \lambda x . x$  does surgery (not helpful)

*Surgeon* must be semantically decomposable. Thus *oral surgeon* is an example of a *bracketing paradox* (Williams (1981), Pesetsky (1985), etc.).

- (16) **Bracketing paradox:**
- Semantic structure:  $\llbracket \text{oral surge} \rrbracket \text{-on}$
  - Word boundaries:  $\llbracket \text{oral} \rrbracket \llbracket \text{surge -on} \rrbracket$

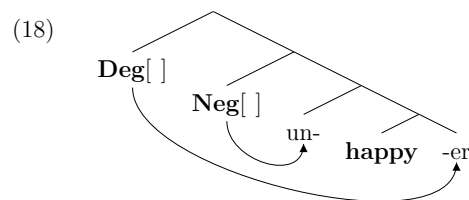
Possible solution (following Den Dikken (2002)):

- the suffix *-on* has no semantics

- a higher element (call it DOER):
  - agrees with the suffix *-on*, copying its *semantic* features
  - bears the semantics we might have assigned to *-on*

- (17) **Another classic bracketing paradox:**
- Semantic structure:  $\llbracket \llbracket \text{un- happy} \rrbracket \text{-er} \rrbracket$
  - Morphological structure:  $\llbracket \text{un-} \llbracket \text{happy -er} \rrbracket \rrbracket$

Proposal by Den Dikken (2002), with semantically interpretable elements in bold:



Applying the proposal to *oral surgeon*:

- (19) **Actual semantic structure:**  
 $\llbracket \llbracket \text{oral surgeon} \rrbracket \text{ DOER} \rrbracket$
- (20) **Relevant denotations:**
- $\llbracket \text{oral} \rrbracket = \lambda x \in D_e . x$  is oral
  - $\llbracket \text{surgeon} \rrbracket = \lambda x \in D_e . x$  is a surgery
  - $\llbracket \text{DOER} \rrbracket = \lambda f \in D_{\langle e, t \rangle} . \lambda y \in D_e . \exists x \text{ s.t. } y$  does task  $x$  and  $f(x)$  is true
- (21) **Derivation:** (following Heim and Kratzer (1998))
- Predicate Modification:  
 $\llbracket \text{oral surgeon} \rrbracket = \lambda x \in D_e . x$  is oral and  $x$  is a surgery
  - Functional Application:  
 $\llbracket \text{oral surgeon DOER} \rrbracket = \lambda y \in D_e . \exists x \text{ s.t. } y$  does task  $x$  and  $x$  is oral and  $x$  is a surgery  
 $= \lambda y \in D_e . y$  does oral surgery

Similarly, *zubnoj vrach* ('dental doctor' = 'dentist') is composed in the following way:

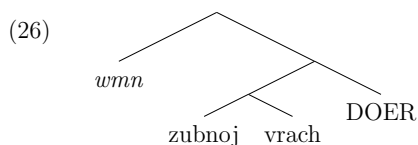
- (22) **Semantic structure:**  
 $\llbracket \llbracket \text{zubnoj vrach} \rrbracket \text{ DOER} \rrbracket$
- (23) **Relevant denotations:**
- $\llbracket \text{zubnoj} \rrbracket = \lambda x \in D_e . x$  is dental
  - $\llbracket \text{vrach} \rrbracket = \lambda x \in D_e . x$  is "doctoring"

- c.  $\llbracket \text{DOER} \rrbracket = \lambda f \in D_{\langle e,t \rangle} . \lambda y \in D_e . \exists x \text{ s.t. } y \text{ does task } x \text{ and } f(x) \text{ is true}$
- (24)  $\llbracket \text{zubnoj vrach DOER} \rrbracket = \lambda y \in D_e . \exists x \text{ s.t. } y \text{ does task } x \text{ and } x \text{ is dental and } x \text{ is "doctoring"}$

Now recall the proposed denotation of *wmn*:

- (25)  $\llbracket \text{wmn} \rrbracket = \lambda x : x \text{ is human} . x \text{ is female}$

Because *wmn* describes a human being and not a task, it must merge higher than DOER and thus higher than *zubnoj* ('dental'):

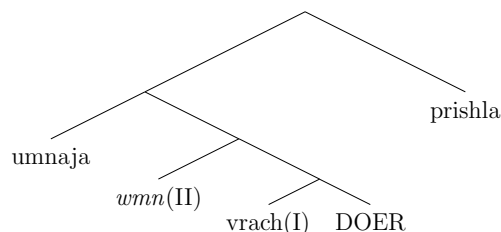


This explains why classifying adjectives, which describe a task and not a person, always show masculine agreement. With non-classifying adjectives, there are multiple options available.

**Feminine agreement:**

- (27) a. Umnaja vrach prishla.  
smart-FEM doctor(I) came-FEM  
'The smart [female] doctor has come.'

b.



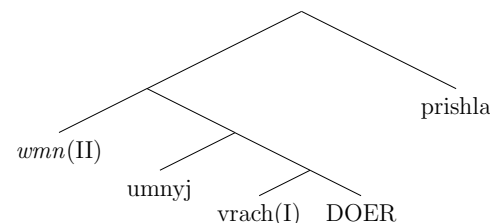
c. Gender agreement:

item	<i>wmn(II)</i>	<i>vrach(I)</i>	agreement
adjective	✓	not closest	feminine
verb	✓	not closest	feminine

**Mixed agreement:**

- (28) a. %Umnyj vrach prishla.  
smart-MASC doctor(I) came-FEM

b.



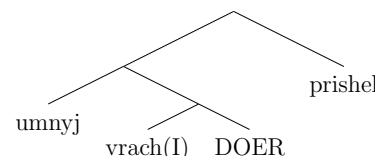
c. Gender agreement:

item	<i>wmn(II)</i>	<i>vrach(I)</i>	agreement
adjective	too high	✓	masculine
verb	✓	not closest	feminine

**Masculine agreement:**

- (29) a. %Umnyj vrach prishel.  
smart-MASC doctor(I) came-MASC  
'The smart [female] doctor has come.'

b.



c. Gender agreement:

item	<i>wmn(II)</i>	<i>vrach(I)</i>	agreement
adjective	✗	✓	masculine
verb	✗	✓	masculine

**Question 3:** What accounts for the difference in agreement between classifying and non-classifying adjectives?

**Answer:**

- When combining with profession-denoting nouns:
  - classifying adjectives modify the task
  - non-classifying adjectives modify the person who does the task
  - *wmn* modifies the person who does the task
- DOER maps description of a task → description of a person who does the task.
- *wmn* cannot affect agreement on classifying adjectives because:
  - classifying adjectives merge below DOER
  - *wmn* merges above DOER

⇒ *wmn* merges above classifying adjectives

- *wmn* may merge below non-classifying adjectives, above non-classifying adjectives, or not at all (depending on register).

## 5 Conclusion

**Question:** What is the status of the relationship between declension class and gender?

**Answer:** Declension class determines gender agreement; it may be present on a covert element (*wmn*).

**Question:** How is it that mixed gender agreement is possible?

**Answer:** The element that triggers feminine agreement is introduced higher than some adjectives.

**Question:** What accounts for the difference in agreement between classifying and non-classifying adjectives?

**Answer:** Due to the semantic structure, *wmn* must be introduced higher than classifying adjectives. It may, however, be introduced below non-classifying adjectives.

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