

GENDER MISMATCH IN RUSSIAN: QUANTITATIVE STUDY*

1. Gender Agreement Patterns in Russian

Nouns that refer to humans denoting their position, profession, degree etc. and trigger masculine grammatical agreement, but that do not have a feminine parallel: *vrach* ‘doctor’, *director* ‘director/principal’, *sekretar'* ‘secretary’, *agent* ‘agent’, *redactor* ‘editor’.

When referring to women in nominative case they may trigger both masculine or feminine agreement and gender mismatch may occur: constituents may demonstrate different values of the same feature.

- (1) *Novyj redactor rabotala s uvlecheniem.*
New-M editor.M was working-F enthusiastically.

(Muchnik 1971), (Crockett 1976):

For a group of nouns, it was impossible to derive feminine parallel. Derivational affixes might

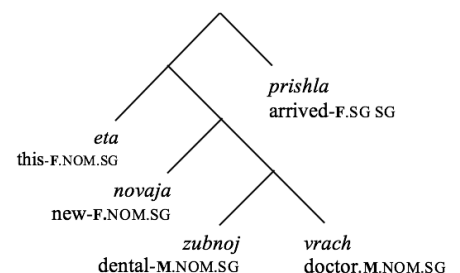
- | | |
|--|--|
| a. add expressive meaning | <i>vrach</i> – <i>vrachiha</i> ‘doctor’ |
| b. lead to phonetically difficult alternations | <i>hirurg</i> – <i>hirurzhka</i> ‘surgeon’ |

Constituents inside noun phrases with such heads may demonstrate different values of gender feature: not only masculine grammatical value but also feminine referential value.

The paradigm adopted from (Lyutikova 2015) with added demonstratives:

(2) a.	<i>etot</i>	<i>novyj</i>	<i>zubnoj</i>	<i>vrach</i>	<i>prishel</i>	masculine grammatical agreement
	this-M.NOM.SG	new-M.NOM.SG	dental-M.NOM.SG	doctor.M.NOM.SG	arrived-M.SG	
b.	<i>etot</i>	<i>novyj</i>	<i>zubnoj</i>	<i>vrach</i>	<i>prishla</i>	feminine predicate agreement
	this-M.NOM.SG	new-M.NOM.SG	dental-M.NOM.SG	doctor.M.NOM.SG	arrived-F.SG	
c.	<i>eta</i>	<i>novaja</i>	<i>zubnoj</i>	<i>vrach</i>	<i>prishla</i>	feminine attributive and predicate agreement
	this-F.NOM.SG	new-F.NOM.SG	dental-M.NOM.SG	doctor.M.NOM.SG	arrived-F.SG	
d.	[?] <i>eta</i>	<i>novaja</i>	<i>zubnaja</i>	<i>vrach</i>	<i>prishla</i>	feminine attributive and predicate agreement
	this-F.NOM.SG	new-F.NOM.SG	dental-F.NOM.SG	doctor.M.NOM.SG	arrived-F.SG	
e.	* <i>eta</i>	<i>novaja</i>	<i>vrach</i>	<i>prishel</i>		ill-formed
	this-F.NOM.SG	new-F.NOM.SG	doctor.M.NOM.SG	arrived-M.SG		
f.	* <i>etot</i>	<i>novyj</i>	<i>zubnaja</i>	<i>vrach</i>		ill-formed
	this-M.NOM.SG	new-M.NOM.SG	dental-F.NOM.SG	doctor.M.NOM.SG		

- (2b) – the preferred agreement pattern when adnominals agree with the formal features of the NP and predicate shows referential agreement.
- Adnominals may bear feminine agreement only when predicate demonstrates the same value.
- Adnominal cannot trigger referential gender if higher adnominals or predicate are masculine.



* The study has been supported by Russian Scientific Foundation (RSF), project #16-18-02003 "Structure of meaning and its mapping into lexical and functional categories of Russian" at MSPU.

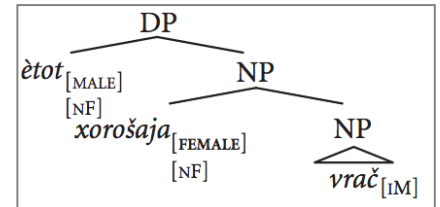
2. Gender Mismatch Analysis

The main idea: The observed variance results from “feminization” at some stage of derivation, that henceforth determines agreement pattern of the nominal.

2.1 Inherent Semantic Feature [FEMALE]

(Matushansky 2013):

- Gender switch occurs when a gender semantic feature [FEMALE] is introduced into syntactic structure.
- The ungrammaticality of (2e) and (2f) is explained by both syntactic and semantic feature clash: syntactic features do not match and a semantic feature [MALE] cannot override [FEMALE] feature.



[Matushansky 2013: (25d)]

2.2 The Feminizing Head Ж

(Pesetsky 2013):

- Gender switch occurs when a phonologically null morpheme Ж ([že]) is introduced.
- The feminizing head cannot be merged below a certain structural threshold that is above the lowest level of the nominal phrase at which adjectives with nonintersective, idiomatic or argumental interpretation are introduced.

(Lyutikova 2015):

- More precisely describes possible positions of the feminizing head inside the syntactic structure of Russian DP. Ж should be introduced:
 - above the level of lexical noun;
 - above cardinal and collective numerals.

2.3 DP as Referential Semantics Domain

- | | | | | | | |
|-----|----|---------|----------------------|--------------|---------------|-----------------------|
| (3) | a. | 'očen' | interesn-aja | nov-yj | vrač | (Pesetsky 2013: (38)) |
| | | very | interesting-F.NOM.SG | new-M.NOM.SG | doctor.NOM.SG | |
| | b. | *'očen' | interesn-yj | nov-aja | vrač | |
| | | very | interesting-M.NOM.SG | new-F.NOM.SG | doctor.NOM.SG | |

(Pesetsky 2013): (3a) is marginally possible. Ill-formedness of (3b) is explained by the fact that the lower constituent already demonstrates female agreement, which means that the feminizing head has already merged (4b).

- | | | |
|-----|----|---|
| (4) | a. | [_(F) very interesting-F.NOM.SG [_(F) new-F.NOM.SG [_(F) Ж [_(M) doctor.NOM.SG]]]] |
| | b. | *[_(M) very interesting-M.NOM.SG [_(F) new-F.NOM.SG [_(F) Ж [_(M) doctor.NOM.SG]]]] |

(Pereltsvaig 2015): (3a) is considered to be ill-formed.

⇒ The analysis with the feminizing head does not account for the fact that constituents of the same nature cannot have different gender value.

(Lyutikova 2015): Hypothesis: referential agreement correlates with the DP projection.

Ill-formedness of (3a) can be explained by gender switch occurring in the referential semantics domain, which corresponds DP.

If this is the case, we may expect that the pattern within which demonstrative is feminine and high adjective is masculine would be as unacceptable as the pattern from (3a).

- (5) *nash-a trudoljubiv-yj menedzher organizoval-a konferenciju*
 our-F hard-working-M manager.M organized-F conference

Which analysis is more appropriate? The range of the variance? Quantitative parameters?

3. The Survey

(Graudina et al. 1976): variability within Russian agreement patterns was last measured.

In order to determine the frequency of masculine and feminine agreement quantitative data was collected from a survey of over 100 native speakers. The aim of the survey was to find out how native speakers would agree various combinations of adnominals and verb inflected for past tense with noun knowing that the noun was referring to female human.

In the survey I examined gender agreement for various combinations of:

adnominals:

determiners: possessive, demonstrative pronouns;

high adjectives;

low adjectives;

verb inflected for past tense.

All combinations used are listed in (6).

(6)	1. <i>det high adj. low adj.</i>	our hard-working executive supervisor organized
	2. <i>det high adj.</i>	our hard-working supervisor organized
	3. <i>det low adj.</i>	our executive supervisor organized
	4. <i>det</i>	our supervisor organized
	5. <i>high adj. low adj.</i>	hard-working executive supervisor organized
	6. <i>high adj.</i>	hard-working supervisor organized
	7. <i>low adj.</i>	executive supervisor organized
	8. (no adnominals)	supervisor organized

det = determiner (possessive/demonstrative pronoun)

Respondents were asked to read a compound sentence:

The first clause provided context that explicitly indicated the gender of the human denoted by the subject in the second coordinate clause. The second clause contained the noun phrase and the verb in past tense with gaps instead of endings. Native speakers were asked to write the adnominals and the verb with the endings in the textbox so that the sentence was complete.

- (7) Vsju noch' Tane ne udalos' somknut' glaz: *nash_ otvetstvenn_ proektn_ menedzher gotovil_ prezentaciju reklamnoj kompanii dlja radioholdinga.*
All night long Tanya didn't have a chance to get a wink of sleep: our responsible project manager was preparing a presentation of promotional campaign for the radio corporation.

- (8) a. *nash otvetstvennyj proektnyj gotovil*
 our-M responsible-M project-M was preparing-M
 b. *nash otvetstvennyj proektnyj gotovila*
 our-M responsible-M project-M was preparing-F

3.1 The Results:

In **68%** of answers speakers used adnominals in masculine while verb was feminized.

- (9) *nash otvetstvenn-yj proektn-yj menedzher gotovil-a prezentaciju*
our-M responsible-M project-M manager.M was preparing-F presentation

Agreement with the formal features of noun was in **25%** of answers.

- (10) *nash finansov-yj analitik predstavil prognoz cen na neft'*
our-M financial-M analyst.M presented-M forecast for oil prices

Purely feminine agreement is possible only for types 1, 2, 3 and 5 of combinations (6).
At least one modifier was feminine in 5% of answers.

- (11) *vash-a uchen-yj sekretar' organizoval-a konferenciju*
your-F academic-M secretary-M organized-F conference

Determiners were demonstrating feminine agreement significantly more often when high adjective was also feminine.

- (12) a. feminine determiner + masculine high adj. 9 answers
nash-a talantliv-yj povar
our-F talented-M cook.M
- b. feminine determiner + feminine high adj. 20 answers
nash-a talantliv-aja povar
our-F talented-F cook.M

⇒ **native speakers prefer the pattern within which there was no gender mismatch between determiner and high adjective.**

4. The Comparison

(Muchnik 1971) – questionnaire-based research. The questionnaire distributed in 1963. 3780 participants. Several lexical variants of “high adjective + noun” and “noun + verb” combinations. *How would you say referring to woman: “nice-M doctor” or “nice-F doctor”?*

(Graudina et al. 1976) – frequency-based stylistic dictionary of variants.

Statistical research; data from newspaper corpus from 60s-70s. The frequency distribution of agreement patterns provided separately for attributive agreement with high adjectives and for predicate agreement.

Data from (Muchnik 1971) and (Graudina et al. 1976) does not differ significantly concerning attributive agreement. Statistics for predicate agreement are significantly different.

(Muchnik 1971) provides data from spoken language while Graudina (1976) analyzed written discourse. **OR**

The frequency of feminine agreement could have risen. (Muchnik 1971): The younger the respondent was the more chance there was that he/she would stick to feminine agreement pattern.

(13)

	<i>vrach</i> doctor.M.NOM.SG	<i>prishel</i> arrived-M.SG	<i>vrach</i> doctor.M.NOM.SG	<i>prishla</i> arrived-F.SG	hesitant
Born before 1910		49.8		42.2	8.0
1910 – 1919		44.1		45.2	10.7
1920 – 1929		38.1		51.0	10.9
1930 – 1939		36.7		53.7	9.6
1940 – 1949		37.3		53.1	9.6

(14)			(Muchnik 1971) 60s	(Graudina et al. 1976) 60s-70s	Current survey
a.	novyj new-M.NOM.SG	vrach doctor.M.NOM.SG	69.9%	69.05%	92.14%
b.	novaja new-F.NOM.SG	vrach doctor.M.NOM.SG	25%	30.96%	7.86%
c.	vrach doctor.M.NOM.SG	prishel arrived-M.SG	38.6%	4.57%	25.21%
d.	vrach doctor.M.NOM.SG	prishla arrived-F.SG	51.7%	95.43%	74.79%
e.	moj my-M.NOM.SG	vrach doctor.M.NOM.SG	-	-	91.16%
f.	moja my-F.NOM.SG	vrach doctor.M.NOM.SG	-	-	8.84%

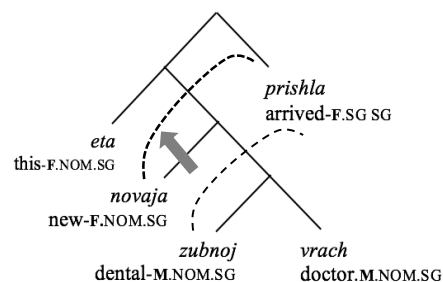
⇒ In 50 years the distribution of masculine and feminine agreement within verbs and high adjectives has significantly changed. The percent of agreement with formal features of the noun has increased.

Analysis with the idea of the feminizing head. Note that the frequency of feminine attributive agreement has significantly dropped (14a-b).

Hypothesis I. The structural threshold below which Ж cannot merge has moved upwards and feminine agreement became unacceptable for high adjectives.

Feminine agreement should still be possible for higher constituents inside the noun phrase, namely determiners.

However, the frequency of agreement patterns for demonstratives and possessive pronouns does not differ significantly from the distribution for high adjectives (14e-f).



Perhaps, the feminizing head is moving even higher, to a position above determiners.

The idea of Ж becomes unjustified because within such analysis there is only one position where it may appear.

However, for high adjectives feminine agreement is not strictly prohibited. The analysis based on the structural threshold movement is rejected.

Hypothesis II. The location of the feminizing head does not change.

The frequency decline of feminine adjectival agreement may correlate with the general decline in choosing gender mismatch strategy.

The comparison with data from (Graudina et al. 1976]) concerning predicate agreement shows that the frequency of feminization is declining.

It remains unclear why determiners and high adjectives demonstrate feminine agreement to the same extent.

We have already noticed that determiners and high adjectives rarely disagree (12);

This probably means that demonstrative and possessive pronouns and high adjectives have the same effect as two high adjectives regarding referential agreement (3a).

- | | | | |
|---------|--|--|------------------------------------|
| (15) a. | <i>interesnyj</i>
interesting-M.NOM.SG | <i>novyj</i>
new-M.NOM.SG | <i>vrach</i>
doctor.M.NOM.SG |
| b. | <i>moja</i>
my-F.NOM.SG | <i>zamechatel'naja</i>
wonderful-F.NOM.SG | <i>redaktor</i>
editor.M.NOM.SG |
| c. | <i>??? interesnaja</i>
interesting-F.NOM.SG | <i>novyj</i>
new-M.NOM.SG | <i>vrach</i>
doctor.M.NOM.SG |
| d. | <i>??? moja</i>
my-F.NOM.SG | <i>zamechatel'nyj</i>
wonderful -M.NOM.SG | <i>redaktor</i>
editor.M.NOM.SG |

The merge of \mathcal{K} between two adnominal constituents (excluding low adjectives) is troublesome. The number of possible positions for the feminizing head is decreasing till two: right above low adjectives and above DP. => The gender switch occurs at the level of DP.

⇒ **The idea of feminizing head becomes superfluous. Referential agreement corresponds DP projection, which functions as referential semantics domain, where gender switch occurs. This idea is implied in approach suggested by Lyutikova (2015) and Pereltsvaig (2015).**

(Pesetsky 2013): the advantage of the feminizing head approach leans upon the idea of optionality of the head that introduces semantic features. The account is not connected to the semantics of feminine gender or the morphology.

The current study has shown that the phenomenon of gender mismatch in Russian correlates with the referential domain. => Semantic component cannot be detached from the analysis of such phenomenon.

? Native speakers continue choosing gender mismatch strategy for adnominals by speech production. How do native speakers evaluate different agreement patterns?

References:

- Crockett 1976 — Crockett, Dina. *Agreement in contemporary standard Russian*. Cambridge (Mass.): MIT Press, 1976.
- Graudina et al. 1976 — Graudina, Lyudmila, Viktor Ickovich, Liya Katlinskaya. *Grammaticheskaya pravil'nost' russkoy rechi (Opyt chastotno-stilisticheskogo slovarya variantov)* [*Grammatical correctness of Russian speech. An attempt to compiling frequency-based stylistic dictionary of variants*]. Moscow, 1976.
- Lyutikova 2015 — Lyutikova, Ekaterina. Features, agreement, and structure of the Russian noun phrase. *Russkii yazyk v nauchnom osveshchenii*. 2015. № 30. Pp. 44–74.
- Matushansky 2013 — Matushansky, Ora. Gender confusion. *Diagnosing syntax*. L. Cheng and N. Corver (eds.). Oxford, 2013. Pp. 271—294.
- Muchnik 1971 — Muchnik, Iosif. *Grammaticheskie kategorij glagola i imeni v sovremennom russkom literaturnom jazyke* [*Verbal and nominal categories in modern standard Russian*]. Moscow, Nauka, 1971.
- Pereltsvaig 2015 — Pereltsvaig, Asya. *Nominalizations in Russian: argument structure, case, and the functional architecture of the noun phrase*. Paper presented at the 6th Workshop on Nominalizations, 30-Jun-2015 – 01-Jul-2015, Verona, Italy.
- Pesetsky 2013 — Pesetsky, David. *Russian case morphology and the syntactic categories*. Cambridge, 2013.