

# Optimizing Russian Gender

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## Abstract

This paper contributes to a debate about the treatment of conflicts in the assignment of nouns to gender categories. In a series of talks and papers, Steinmetz (1985, 1986, et seq.) has proposed that a noun's gender-relevant features contribute equally to the determination of its gender, and that conflicts are resolved with a default hierarchy of gender categories. An optimality theoretic development of Steinmetz' theory is presented in Rice (2003), where it is dubbed *optimal gender assignment theory*.

The assignment of nouns to gender categories in Russian can also show conflicts. Corbett (1991) argues that conflicts in Russian are resolved by assigning a noun to the category suggested by semantic features at the cost of the category suggested by morphological factors. In this paper, I demonstrate that the Russian conflicts are also easily captured in optimal gender assignment theory. In other words, these conflicts can be analyzed either with Corbett's system or with the approach advocated in Steinmetz' and Rice's work. The remainder of the paper focuses on distinguishing these approaches.

I begin by arguing that the pursuit of a distinction between these approaches is likely to be thwarted by the properties of the Russian system such that the two equally successful analyses are difficult to distinguish by looking at Russian alone. Nonetheless, a distinction may be possible on the basis of a relatively small set of nouns. Furthermore, general principles of linguistic theory lead us to reasonably expect that the Russian system shares formal properties with the gender assignment strategies found in other languages. A brief excursion will show that optimal gender assignment theory is the only approach which can successfully analyze the gender assignment conflicts arising in an analysis of German, thereby strengthening its credibility as an approach to dealing with Russian.

In addition to the charge of cross-linguistic analytical inadequacy against Corbett's approach, I also claim that criteria of theoretical parsimony favor optimal gender assignment theory.<sup>1</sup>

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## 1. Introduction


A theory of gender assignment should:

- 1.1 provide a strategy for correctly assigning nouns their gender ...
- 1.2 on the basis of basic lexical information: meaning, morphology, phonology,
- 1.3 offering a cross-linguistically robust theoretical perspective
- 1.4 in line with the treatment of other productive classification processes,
- 1.5 using a formalism also motivated for other domains of grammar.

## 2. Markedness

- 2.1 Nouns are not distributed evenly across the genders. This invites the use of a markedness hierarchy in a theory of gender assignment, as proposed in Steinmetz 1985, 1986.
- 2.2 The distribution in Russian is also skewed, as can be determined from *Obratnyj Slovar' Russkogo Jazyka* [Reverse Dictionary of the Russian Language]:
  - 2.2.1 Masculine: 40% (21,516/53,892)
  - 2.2.2 Feminine: 39% (21,067/53,892)
  - 2.2.3 Neuter: 21% (11,309/53,892)
- 2.3 These statistics suggest that neuter is the most marked category. Masculine and feminine are not significantly distinguished by these statistics. Nonetheless masculine can be argued to be the least marked category, not least of all because of the relative ease of assigning nouns to the feminine category through reference to their shape, specifically the final morpheme +a.
- 2.4 Using an optimality theoretic approach to markedness, we propose three constraints, each one of which bans a noun from belonging to a gender category, as follows.
  - 2.4.1 **\*NEUTER**: A noun is not neuter.
  - 2.4.2 **\*FEMININE**: A noun is not feminine.
  - 2.4.3 **\*MASCULINE**: A noun is not masculine.
- 2.5 Since these are 'negative' constraints, their hierarchical arrangement is such that the constraint banning the most marked category (neuter) dominates the constraint banning the next most marked constraint (feminine). The lowest ranked constraint is the one banning the least marked category (masculine), as follows.
  - 2.5.1 **\*NEUTER** » **\*FEMININE** » **\*MASCULINE**

- 2.6 Given this ranking, nouns will be assigned masculine by default, as reflected in the following example tableau.

	stol ‘table’	*NEUT	*FEM	*MASC
	a. stol, m.			*
	b. stol, f.		*!	
	c. stol, n.	*!		

- 2.7 Candidates (a-c) in the tableau represent the possibility of assigning the noun to any of the three gender categories. It is the job of the grammar (=constraint hierarchy) to identify which candidate is optimal (=grammatical).
- 2.8 Candidate (c) – the neuter option – is promptly eliminated by its violation of the most highly prioritized constraint, namely the prohibition against assigning a noun neuter gender, leaving candidates (a) and (b) to compete with one another.
- 2.9 In the competition between candidates (a) and (b), candidate (b) – the feminine option – loses, because of its violation of the relatively highly prioritized constraint prohibiting the assignment of nouns to the feminine category.
- 2.10 Even though candidate (a) violates the constraint prohibiting assignment to masculine, it is nonetheless optimal because this constraint is sufficiently far down the hierarchy that no alternative remains under consideration. In this way, the noun *stol* is correctly predicted to be assigned masculine gender.
- 2.11 At this point, the approach suggested here suggests that all Russian nouns will be masculine. And, indeed, they will be ... unless they have a reason to go into one of the marked categories.

### 3. Some Russian gender assignment constraints

- 3.1 Three morphological criteria play an important role in the assignment of Russian nouns to their gender categories.
- 3.1.1 Nouns ending in the morpheme +a are feminine. (Alternatively, one might say that nouns in declension 2 are feminine.) This can be captured with an OT constraint punishing nouns which have this shape but which are either masculine or neuter, which may be written as below. (The formal question of whether this should properly be seen as two constraints is left aside here.) The formalism of the constraint is such that a violation is incurred (represented by assigning an asterisk to a cell) when a candidate noun ends in the morpheme +a and is assigned masculine or neuter gender. This will be illustrated below.

**\*+A#** ⇒ **MASCULINE, NEUTER**: A noun ending in the morpheme +a is not masculine and is not neuter.

- 3.1.2 Nouns ending in –o or –e are neuter. This can be captured with an OT constraint punishing nouns which have this shape but which are either masculine or feminine, which may be written as follows.

**\*+O** ⇒ **MASCULINE, FEMININE**: A noun ending in –o is not masculine and is not feminine.

- 3.1.3 Whether a noun is declinable or not is part of the lexical information speakers must store in their lexicon. This information is available to the grammar, and in Russian it is important for the correct assignment of gender. Indeclinable nouns are neuter, as captured in the following constraint.

**\*INDECLINABLE** ⇒ **MASCULINE, FEMININE**: An indeclinable noun is not masculine and is not feminine.

- 3.2 Three semantic criteria also play a role in the assignment of Russian nouns to their gender categories. If nouns can be thought of as bearing features indicating their semantic properties, then we can propose constraints referring to these features. In this way, nouns having any of the relevant semantic criteria will have their gender assignment appropriately influenced.

- 3.2.1 Nouns denoting animates may not be neuter. They are usually masculine, but there are also many animate nouns which are feminine. Corbett (1991:14) claims that animates are masculine, while Steinmetz (2000) proposes that they are either masculine or feminine, since these two categories have an obvious semantic connection to the notion of animacy. As will be demonstrated below, these proposals can be distinguished from one another. Here, the effect is formalized with the following constraint.

**\*[+ANIMATE]** ⇒ **NEUTER**: A noun denoting an animate thing is not neuter.

- 3.2.2 Nouns denoting males are masculine. This can be captured with an OT constraint punishing nouns which have this meaning but which are either feminine or neuter, which may be written as follows.


**\*[+MALE]** ⇒ **FEMININE, NEUTER**: A noun denoting a biological male is not feminine and is not neuter.

- 3.2.3 Nouns denoting females are feminine. This can be captured with an OT constraint punishing nouns which have this meaning but which are either masculine or neuter, which may be written as follows.


**\*[+FEMALE] ⇒ MASCULINE, NEUTER:** A noun denoting a biological female is not masculine and is not neuter.

3.3 These six constraints given above will interact with the markedness hierarchy to assign nouns with the relevant features to either of the marked categories – feminine or neuter. To achieve this, each of these constraints must dominate the markedness hierarchy. Consider the following two tableaux.

3.4 In the first one, the feminine candidate (b) is selected as optimal for the noun *kniga* ‘book’; the masculine and neuter candidates are eliminated by the constraint referring to final +a. Given that candidate (b) is the only candidate to satisfy this constraint, the default hierarchy is irrelevant here.

<i>kniga</i> ‘book’	*+A⇒M,N	*NEUT	*FEM	*MASC
a. knig+a, m.	*!			*
 b. knig+a, f.			*	
c. knig+a, n.	*!	*		

3.5 For the neuter noun *boa* ‘boa’ (the garment), the relevant constraint punishes indeclinable nouns which are either masculine or feminine. This constraint will eliminate candidates (a) and (b), such that the neuter candidate (c) is the only one surviving. The fact that candidate (c) violates \*NEUTER is irrelevant to the selection of the optimal candidate here.

<i>boa</i> ‘boa’	*INDEC⇒M,F	*+A⇒M,N	*NEUT	*FEM	*MASC
a. boa, m.	*!				*
b. boa, f.	*!			*	
 c. boa, n.			*		

3.6 At this point, nine constraints have been introduced: three in the default hierarchy, three referring to the shape of a noun and three referring to a noun’s semantic features. Simply allowing nouns in the domain of a gender-relevant feature (shape or meaning) to be assigned the relevant gender – alternatively allowing assignment by default – will be adequate to account for the vast majority of gender assignment in Russian. (the statistics presented by Corbett & Fraser suggest that as much as 97% of Russian may be accounted for in this way.)

3.6.1 Most masculine nouns will fail to fall into the domain of any gender-relevant constraint, and will be assigned masculine by default.

3.6.2 Most feminine nouns will have a final +a which leads to correct gender assignment. (In addition to the feminine nouns ending in +a – the 2<sup>nd</sup> declension – there are also the 3<sup>rd</sup> declension nouns which are feminine, i.e. a set of nouns ending in soft consonants. Of course, many nouns ending in soft

consonants are masculine, or 1<sup>st</sup> declension. Considerable progress has been made in uncovering the gender principles relevant for words ending in soft consonants, cf. Nessel (to appear), Steinmetz (2000).)

- 3.6.3 Most neuters are assigned neuter either because of a final +e or +o, or because they are indeclinable.
- 3.7 It's the nouns which are not assigned in this simple matter which are especially interesting, and which we turn our attention to in the next section.

#### 4. Gender assignment conflicts

- 4.1 While we can easily determine that any single constraint referring to a gender-relevant feature must dominate the subhierarchy of markedness constraints, a more difficult question involves the relative ranking of what I call the “gender features” constraints. The determination of relative rankings can only be made by identifying conflicts, a topic to which this section is devoted.
- 4.2 (Optimality theory, in fact, is an architecture constructed to resolve conflicts in grammar (Prince & Smolensky 1993). This makes OT a natural choice when looking for a theoretical framework in which to explore the question of gender assignment, a program to which the present paper contributes.)
- 4.3 Conflict in gender assignment refers specifically to the case in which one noun has two gender-relevant features. When these features point to different gender categories, a conflict has arisen which the theory of gender assignment must resolve.
- 4.4 The three genders of Russian present the hypothetical possibility of three pairwise conflicts. All of these are attested in the system.
  - 4.4.1 Masculine vs. feminine: Nouns which denote males but which end in +a, e.g. *djadja* ‘uncle’, *mal’chishka* ‘urchin’, *dedushka* ‘grandfather’, etc. (including many diminutives of names).
  - 4.4.2 Masculine vs. neuter: Nouns which denote animates but which are indeclinable, e.g. *boa* ‘boa’ (snake), *gnu* ‘gnu’, *kenguru* ‘kangaroo’, *marabu* ‘marabou’. Also nouns which denote males but are indeclinable, e.g. *attashe* ‘attaché’ (cf. Corbett 2001:40).
  - 4.4.3 Feminine vs. neuter: Nouns which denote females but which are indeclinable, e.g. consonant final names of females, such as *Liv*, etc. Also *ledi* ‘lady’.
- 4.5 When a conflict arises in the assignment of a noun to a gender category, the conflict will be resolved. In other words, these kinds of conflicts do not seem to

lead to indecision or variation for speakers. We turn here to two proposals about how this resolution might be implemented.

## 5. Conflict resolution I: Meaning » shape

- 5.1 Corbett (1991) claims that conflicts are resolved by looking at the nature of the features in conflict. A representative quote is his claim that “the semantic assignment rules take precedence” (Corbett 1991:38). Corbett & Fraser (2000:307) state that “both sets of rules [semantics and morphology – CR] are required, and the semantic rules dominate.”
- 5.2 This view is also advanced by Comrie (1999:459), who writes that “the exceptions in Russian are interesting in that they show how semantics can intervene”.
- 5.3 In the cases sketched above, in §4, the conflicts are all between one semantic feature and one morphological feature.
  - 5.3.1 For nouns such as *djadja*, the rule requiring nouns denoting males to be masculine is in conflict with the rule requiring nouns ending in +a to be feminine. These nouns are in fact masculine, which is indeed the gender suggested by the meaning.
  - 5.3.2 For nouns such as *boa* (the snake), the conflict is between the rule requiring that animates be masculine and the rule requiring that indeclinables be neuter. Again, the nouns are masculine, which again is the gender indicated by their meaning. (Note that Corbett invokes a specific rule assigning animates to the masculine class.)
  - 5.3.3 Finally, the conflict which arises for consonant-final names denoting females is in the domain of the rule requiring nouns which designate females to be feminine, while it is also in the domain of the rule requiring that indeclinable nouns be neuter. The nouns are indeed feminine, such that the conflict can correctly be claimed to be resolved in favor of the rule sensitive to meaning at the cost of the rule sensitive to morphology.
- 5.4 We conclude here that Corbett’s proposal about conflict resolution achieves correct assignment of these nouns to their gender categories.

## 6. Critique of “Meaning » shape”


- 6.1 While this principle delivers correct results for the cases above, its success may be the result of spurious correlation, and the principle therefore must be subjected to further inquiry. Specifically, an equally robust alternative analysis

for these conflicts would be simply to state that **conflicts are resolved in favor of the least marked category**. The conflicts *masculine vs. feminine* and *masculine vs. neuter* are both resolved in favor of masculine, which is less marked than either feminine or neuter. The *feminine vs. neuter* conflicts are resolved in favor of feminine, which also is less marked than neuter.

- 6.2 How could one distinguish a claim that conflicts are resolved in favor of semantics from a claim that conflicts are resolved in favor of the less marked category? Such a distinction could be achieved by finding a conflict in which the semantic feature is associated with a more marked category, while the morphological feature is associated with the less marked category.
- 6.2.1 In Russian, this could mean finding a *masculine vs. feminine* conflict in which the masculine feature was morphological and the feminine feature was semantic. But there are no morphological features pushing nouns towards masculine. This also explains why there are no *masculine vs. neuter* conflicts that could determine the matter either.
- 6.2.2 We could also search for a *feminine vs. neuter* conflict in which the feminine feature is morphological and the neuter feature is semantic. We have yet to uncover any productive process assigning nouns neuter gender on the basis of a semantic category, hence this type of conflict also seems unlikely to be found in Russian. Note, however, that the MEANING » SHAPE principle would predict that such a noun – which would end in +a – would be neuter, an intuition which informal surveys reveal to be rather distant.
- 6.2.3 In short, **the properties of the Russian gender system are such that a distinction between semantics trumps shape and unmarked trumps marked cannot be made**. This fact about the Russian system leads to the claim that Russian actually provides a rather shaky foundation upon which to build a cross-linguistically robust theory of gender assignment.
- 6.2.4 Fortunately, there are languages showing conflicts between unmarked shapes being in conflict with marked meanings. Providing examples of these is one of the core contributions of Rice (2003). For example, the German nouns *die Pflanze* ‘plant’ *die Waffe* ‘the weapon’ *die Wette* ‘bet’ bear two well-established gender-relevant features. They each have a final –e, suggesting feminine, and they denote superordinates, suggesting neuter (Zubin & Köpcke 1983). The noun is feminine, which is the least marked category of the two. It is not neuter, even though the relevant semantic features points in that direction.
- 6.2.5 To the extent that those analyses are correct, the MEANING » SHAPE principle is demonstrated to be untenable as a cross-linguistically robust principle, which in turn raises questions about its status in Russian.

## 7. Conflict resolution II: Optimal gender assignment theory

- 7.1 The present paper takes the successes established elsewhere for optimal gender assignment theory for other languages and asks whether it can successfully be applied to Russian. More specifically, the inadequacy of MEANING » SHAPE for gender assignment in other languages raises the question of whether this principle is in fact necessary for Russian. Here we demonstrate that it is not.
- 7.2 Optimal gender assignment theory is a formalization in which a markedness hierarchy plays the central role, building on Steinmetz (1985, 1986, et seq.).
  - 7.2.1 Putting it simply, the core strategy of the theory is to assign nouns to the least marked category by default.
  - 7.2.2 Nouns are assigned to a marked category when there is a reason for that, such that the markedness hierarchy is irrelevant when a noun has a single gender relevant feature.
  - 7.2.3 The markedness hierarchy reasserts its relevance when there are conflicts, such that a noun having two gender-relevant features is assigned to the least marked of the two competing categories.
- 7.3 **Crucial equal ranking:** To allow the markedness hierarchy to reassert itself, the constraint referring to gender-relevant features are crucially equally ranked. Rice (2003) demonstrates for German that groupwise and individual rankings are untenable, supporting the claim of crucial equal ranking.
- 7.4 I've already shown how the markedness hierarchy works alone and how a single constraint dominating the markedness hierarchy leads to assignment to a marked category. What remains is to demonstrate the mediation of conflicts, as can be seen in the following tableaux.
- 7.5 One of the best known conflicts in Russian involves the nouns which denote biological males but which end in +a. The following tableau illustrates how such a noun is assigned masculine gender in this approach. There are two 'gender features' constraints which are relevant; one prohibiting a noun which denotes a male from being either feminine or neuter and one prohibiting a noun ending in the segmentable morpheme +a from being masculine or neuter. These two constraints are crucially equally ranked, and dominate the markedness hierarchy.

		GENDER FEATURES				
djadja		*[+MALE] ⇒ F,N	*+A# ⇒ M,N	*NEUT	*FEM	*MASC
	a. djadj+a, m.		*			*
	b. djadj+a, f.	*			*!	
	c. djadj+a, n.	*	*!	*		


7.5.1 The first constraint is violated by candidates (b) and (c), since the noun denotes a male and since these candidates are, respectively, feminine and neuter. The second constraint is violated by candidates (a) and (c) since they are, respectively, masculine and neuter, and since the noun ends in +a.

7.5.2 Since candidate (c) violates both of the equally ranked constraints which candidates (a) and (b) each violate just one, candidate (c) is ruled out at this point, as indicated by the exclamation point.

7.5.3 The GENDER FEATURES constraints fail to distinguish candidates (a) and (b) from one another. Each of these candidates violates one constraint, and since they are crucially equally ranked, neither is eliminated.

7.5.4 The candidates are nonetheless distinguished by this grammar, but now by the portion of it devoted to the markedness hierarchy. Specifically, candidate (b) is ruled out by the relatively highly ranked constraint \*FEMININE, leaving candidate (a) as optimal.


7.6 A conflict between an animate noun which is indeclinable will be resolved in favor of the least marked of the conflicting categories, in this case masculine.

		GENDER FEATURES				
boa (snake)		*[+ANIM] ⇒ N	*IND. ⇒ M,F	*NEUT	*FEM	*MASC
	a. boa, m.		*			*
	b. boa, f.		*		*!	
	c. boa, n.	*		*!		

7.6.1 In this tableau, all candidates incur one violation of gender features. Since the constraints are crucially equally ranked, none of the candidates are ruled out at this point. The markedness hierarchy performs as expected, yielding the masculine candidate as optimal, in a typical *emergence of the unmarked* effect.

7.7 An interesting case cited by Corbett is *ledi* ‘lady’ which is indeclinable and feminine. In my approach, this noun is in the domain of three constraints. Corbett’s system would seem to have a problem here since there is no formal strategy for mediating the conflict between assigning the noun masculine on account of being animate and feminine on account of being female. Based on

the discussion in his book, we can establish that the statement of the rule (C1991:41) is too general and that the intention is to restrict the animate rule to animates that cannot be identified as masculine or feminine. This move effectively builds the elsewhere condition into the rule, cf. discussion in Nessel 2003a, b. This is parallel to the situation for nouns denoting females which also have +a, since they are also animates, and therefore in the domain of three constraints. He needs an elsewhere condition there too. e.g. *korova* ‘cow’ *lvica* ‘lioness’. The following tableau illustrates how the theory advocated here treats this noun.

ledi		GENDER FEATURES			*NEUT	*FEM	*MASC
		*[+AN] ⇒N	*[+FEMALE] ⇒M,N	*INDEC⇒M,F			
a.	ledi, m		*	*!			*
	b. ledi, f			*		*	
c.	ledi, n	*		*!	*		

- 7.7.1 The masculine candidate (a) incurs two violations, one because the noun is [+female] and one because it is indeclinable. The neuter candidate (c) also incurs two violations, one because the noun is [+animate] and one because it is [+female]. However, the feminine candidate (b) only incurs one violation, because the noun is indeclinable. In this way, the selection of the correct gender for this noun is achieved by the GENDER FEATURES constraints, and the markedness hierarchy is irrelevant.

## 8. Critique of optimal gender assignment theory

8.1 Criticisms of this approach tend to be of two types:

8.1.1 The charge that this theory involves counting, and that counting is bad.

8.1.2 The charge that crucial equal ranking is a radical modification of OT.

8.2 The replies to these minimally invoke the following:

8.2.1 Counting: In fact, this issue is carefully considered in the OT literature, especially under the heading of the cancellation lemma. From that perspective, counting is restricted to 0 or 1. Furthermore, it isn't clear that this kind of counting actually is a problem. Indeed, in theories of cognitive grammar, counting is quite important, cf. the following quote from Nessel (2003b):

8.2.1.01 Gender Tally [Steinmetz' counting approach – CR] receives support from connectionist processing (cf. e.g. McClelland and Elman 1986). When a target (in our case a noun) activates certain units in a

network (assignment rules in our case), one of the factors facilitating the selection of a certain unit is the amount of conceptual overlap. The higher the degree of overlap, the greater are the chances that a certain unit is selected. This is analogous to Gender Tally. When a majority of rules competes with a minority, the majority represents the higher degree of conceptual overlap. In other words, Gender Tally assigns gender on the basis of conceptual overlap. While this does not indicate that one has to believe in connectionism in order to adopt Gender Tally, the parallelism is nevertheless interesting.

8.2.2 Crucial ranking: This is a topic of ongoing research, but two points bear mentioning. First of all, Rice (2003) demonstrates the impossibility of either groupwise or individual ranking in gender assignment in German. Secondly, it isn't at all clear that crucial equal ranking must be avoided in OT. Consider the following quote from Prince & Smolensky (1993, footnote 31):

8.2.2.01 It is entirely conceivable that the grammar should recognize nonranking of pairs of constraints, but this opens up the possibility of *crucial* nonranking (neither can dominate the other; both rankings are allowed), for which we have not yet found evidence.

8.2.2.02 Optimal gender assignment theory may provide the evidence that Prince & Smolensky could not find. But in any event, this quote suggests that the formal option advocated here is not fundamentally problematic. Rather, it is an exploration of a formal possibility of the theory.

## 9. Further comparison of the two theories

9.1 The comparison of Corbett's approach with that advocated here can only be done by looking at very small sets of data, primarily those showing conflict. I noted above that the general properties of the Russian system do not facilitate finding the right kind of case to test MEANING » SHAPE. However, there are some nouns in Russian which would seem to be counterexamples to Corbett's generalization, i.e. nouns in which SHAPE » MEANING. If these cases are robust, Russian at least allows us to **argue against groupwise constraint ranking**, implicitly lending support to optimal gender assignment theory.

9.2 Consider first **three animate nouns which are neuter**, noted by Corbett (1991:42): *chudovishche* 'monster', *zhivotnoe* 'animal', *nasekomoje* 'insect'. Why are these animate nouns neuter? As far as I can see, Corbett (1991) does not address this question. But the theory developed there incorrectly leads one to expect that these nouns will be masculine. Perhaps they are neuter because of the final +e, or perhaps they are neuter for some reason relevant just to deadjectival nouns. Regardless of the details, if these nouns are neuter because of their

shape or some other aspect of their morphology, they would seem to be a counterexample to MEANING » SHAPE.

9.3 Perhaps an even better example in Russian of a semantic feature yielding to a morphological one comes from ongoing work by Tore Nessel. [The argument in this section is a ‘translation’ into Russian from Tore Nessel’s work on Ukrainian, cf. Nessel 2004/in prep. Nessel’s insight is that nouns of the type seen below may present a serious challenge to Corbett’s data. I will argue here that they are straightforwardly reconciled with optimal gender assignment theory.]


9.3.1 Nouns like *boa* (masculine, the snake) show that the Russian gender system includes a rule sensitive to animacy. Corbett (1991:41) assigns animates masculine gender. The fact that this noun is masculine even though it is indeclinable motivates the explicit rule for animates (and the assertion that meaning wins).

9.3.2 However, not all animates are masculine. As an example, consider the following nouns, denoting fish, all of which are feminine: *ryba* ‘fish’, *shchuka* ‘pike’, *treska* ‘cod’, *beluga* ‘white sturgeon’.

9.3.3 Of course, not all fish are feminine. Many are masculine, as with *gol’an* ‘minnow’, *karp* ‘carp’, *sazan* ‘carp’, *karac* ‘carp’, *ocëtr* ‘sturgeon’.

9.3.4 Why are some of these nouns feminine and others masculine? The difference resides in the morphology. Specifically, the feminine ones have a final +a. And, following Nessel’s work, this would seem to be **a conflict which is resolved in favor of the noun’s shape, at the expense of its meaning.**

9.3.5 Of course, this would also seem to be a case in which resolution favors the marked category over the unmarked one. Though superficially correct, this observation rests on an imprecise generalization about animates, such that the nouns are easily analyzed within optimal gender assignment theory.

		GENDER FEATURES				
beluga		*[+ANIM] ⇒ N	*+A ⇒ M, N	*NEUT	*FEM	*MASC
a.	belug+a, m.		*!			*
	b. belug+a, f.				*	
c.	belug+a, n.	*	*!	*		

9.3.6 The neuter candidate (c) violates both the GENDER FEATURES constraints and is thereby eliminated. The masculine candidate only violates one of these constraints, but the feminine candidate is flawless, and the single violation incurred by the masculine candidate is therefore enough to

eliminate it. The markedness hierarchy plays no role here, and the noun is correctly assigned feminine gender.

## 10. Conclusions

- 10.1 Our core conclusion here is that the assignment of nouns to their gender class in Russian is straightforwardly accomplished by optimal gender assignment theory.
- 10.2 This approach is differentiated from others by examining nouns which have more than one gender-relevant feature.
- 10.3 Corbett (1991, and elsewhere) has argued that conflicts are resolved by assigning the noun to the gender class indicated by the semantic rule. We have noted here that an equally robust strategy is to assign nouns to the least marked category, an approach which has been established for other languages.

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