

Rule Counting vs. Rule Ordering: Universal Principles of Rule Interaction in Gender Assignment

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Gender (agreement class) represents a perfect testing ground for hypotheses about rule interaction given that conflicts between rules are frequently attested. Enger (2002) draws a distinction between two types of analysis: the classical rule ordering approach and a rule counting approach (Doleschal 2000 and Steinmetz 1986, 2002). In the present paper I shall propose that an adequate theory must invoke both ordering and counting of rules. My point of departure will be the framework proposed by Steinmetz (1986) and further developed by Rice (2003). While Enger (2002) characterizes this framework as a rule counting approach, we shall see that it also invokes what I shall call formal principles of rule ordering. However, going beyond Steinmetz (1986) and Rice (2003), I shall argue that in addition to formal principles of rule ordering, we also need *substantial* ordering principles. To this end I shall advance what I refer to as the “Core Semantic Override Principle”.

Section 1 discusses Steinmetz’ (1986) principle “Gender Tally”, according to which a noun is assigned the gender suggested by the majority of assignment rules. As a research strategy, I shall pursue the idea that assignment rules are not ordered unless a ranking is imposed by universal principles of rule ordering. One such principle is Kiparsky’s (1982) Elsewhere Condition explored in section 2. It is shown that the use of rule ordering in Steinmetz’ theory in part falls out as a consequence of this principle. In section 3 it is suggested that default hierarchies (Steinmetz 1986, Rice 2003) are relevant for gender assignment. However, at the same time it is pointed out that hierarchies postulated for individual languages must receive support from independent evidence in order to be more than *ad hoc* solutions. Section 4 argues that Corbett’s (1991:68f.) hypothesis that semantic rules take precedence in gender assignment may be too strong. As an alternative, I advance the Core Semantic Override Principle, whereby semantic rules referring to biological sex take precedence in gender assignment.

1. Rule Counting: Gender Tally

The reason why Enger (2002) characterizes the theory of gender assignment advocated in Steinmetz (1986, 2002) as a “rule counting approach” is that it invokes a principle that Steinmetz (1986) calls Gender Tally. It can be expressed as the following instruction:

- (1) Gender Tally:
Count the number of times each gender is assigned and assign the noun the gender with the highest value. (Steinmetz 1986:193)

In order to see how this works, consider the assignment of gender to German nouns like *Gemüse* ‘vegetable’ and *Gebäude* ‘building’, for which Steinmetz (2002:4) assumes the following rules to be relevant:

- (2) a. German nouns ending in *-e* are feminine (e.g. *die Treppe* ‘staircase’)
- b. German nouns with the prefix *ge-* are neuter (e.g. *das Geräusch* ‘noise’)
- c. Superordinate nouns in German are neuter (e.g. *das Möbel* ‘furniture’)

The term “superordinate” in (2c) may require clarification. *Möbel* is a superordinate noun in the sense that it is a cover term for the semantic field comprising chairs, sofas, tables etc. In the same way, *Gemüse* is a cover term for various vegetables and *Gebäude* for various types of building. According to Steinmetz’ rule (2c) such superordinate terms are neuter in German. In the case of *Gemüse* and *Gebäude* two rules point towards neuter (i.e. 2b-c) and one towards feminine gender (i.e. 2a). Hence, Gender Tally predicts neuter gender, a prediction that is borne out by the facts.

Another illustration of the effect of Gender Tally in German involves words like *Gefängnis* ‘prison’ and *Gedächtnis* ‘memory’ (Steinmetz 1986:200f.). In addition to the *ge-* prefix referred to in rule (2b) above, the suffix *-nis* is relevant for the gender of this type. While the suffix is compatible with both feminine and neuter gender as witnessed by feminines like *Finsternis* ‘darkness’ and *Erlaubnis* ‘permission’ and neuters like *Zeugnis* ‘testimony’, there are no masculine nouns in *-nis*. One way to represent this, is to let two gender assignment rules refer to the suffix:

- (3) a. German nouns ending in *-nis* are feminine (e.g. *die Finsternis* ‘darkness’)
- b. German nouns ending in *-nis* are neuter. (e.g. *das Zeugnis* ‘testimony’)

These rules facilitate an account of the assignment of gender to *Gefängnis* ‘prison’ and *Gedächtnis* ‘memory’ in terms of Gender Tally. Two rules – (2b) and (3b) – indicate neuter gender, while only one – (3a) – points towards the feminine. Since the majority suggests neuter gender, this gender is correctly assigned.

Gender Tally 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.

After these brief illustrations of Gender Tally and the rule counting approach, the question arises as to what an alternative analysis in terms of rule ordering would look like. The rules in (2) above are illustrative. Examples like *Gemüse* and *Gebäude* suggest that either (2b) or (2c) or both must outrank (2a), because otherwise feminine

gender would be assigned to these words. Now, in German there are superordinate nouns in *-e* lacking the *ge-* prefix, e.g. *Waffe* ‘weapon’ and *Pflanze* ‘plant’. Since these nouns are feminine, we are forced to order (2a) before (2c). Thus, we arrive at the ranking in (4a) below where the symbol \gg reads “outranks”. Consider now the feminine noun *Gemeinde* ‘community, congregation’. Since this noun posits both the *-e* suffix and the *ge-* prefix, rules (2a-b) are relevant. However, *Gemeinde* is not a superordinate, so (2c) does not apply. In order to predict that *Gemeinde* is feminine, (2a) must be ordered before (2b), as summarized in (4b). As pointed out by Rice (2003), these rankings are incompatible. Rule (2a) cannot be ordered both before and after (2b).

(4) Ordering paradox (after Rice 2003):

- a. (2b) \gg (2a) \gg (2c) (motivated by *das Gemüse* ‘vegetable’)
- b. (2a) \gg (2b) (motivated by *die Gemeinde* ‘community’)

This suggests that the adoption of ordered gender assignment rules produces ordering paradoxes. In view of this, a possible reaction would be to dismiss the rules in (2) and (3) altogether. Notably, however, they seem to represent fairly well established generalizations about German, and in any case the onus of proof would be on those who would want to present an alternative to these rules.

The strategy I shall explore in the following is to adopt the null hypothesis that gender assignment rules are not ranked. However, while I dismiss free ranking of individual rules, I shall assume that Gender Tally interacts with certain universal principles of rule ordering. In the model I propose, therefore, rules are ranked only when universal ranking principles force them to be so. Only when universal principles have been carefully investigated, a need for stipulated, language-specific rankings can possibly be established. The nature of universal principles and their interaction with Gender Tally is the topic of the remainder of this study. The first principle to be discussed is the Elsewhere Condition.

2. Rule Ordering: Elsewhere Condition

Kiparsky’s (1982) Elsewhere Condition regulates the order of application of rules of different degrees of specificity. If rule A refers to a proper subset of the nouns referred to by rule B, A takes precedence over B.¹ (This takes place no matter whether A belongs to a majority of rules favoring a certain outcome.) The notion of “default” has been widely used in studies of gender assignment (cf. e.g. Fraser and Corbett 1997), so there is every reason to believe the Elsewhere Condition to bear on gender assignment. Consider, as a simple example, the case of so-called indeclinable nouns in Ukrainian, i.e. nouns taking a zero ending throughout their inflectional paradigm. In Ukrainian, nouns of this type tend to belong to the neuter gender, e.g. *sari* ‘sari’ and *frykase* ‘fricassée’. However, indeclinable nouns denoting animates are masculine, e.g. *flamingo*

¹ The generalization that specific information takes precedence is also known as “Proper Inclusion Precedence” (Koutsoudas et al. 1974) and “Panini’s Principle” (Prince and Smolensky 1993).

‘flamingo’ and *poni* ‘pony’ (Pugh and Press 1999:56f.). The following two rules capture these generalizations.²

- (5) a. Ukrainian indeclinable nouns are neuter (e.g. *frykase* ‘fricassée’).
 b. Ukrainian indeclinable nouns denoting animates are masculine (e.g. *flamingo* ‘flamingo’).

Since indeclinable nouns denoting animates constitute a proper subset of indeclinable nouns, rule (5b) takes precedence over (5a) by the Elsewhere Condition and masculine gender is correctly assigned to nouns like *flamingo* and *poni*.

A somewhat more complex example comes from Old Norse, as analyzed in Trosterud (2003):

- (6) a. Old Norse nouns are neuter.
 b. Old Norse nouns for concepts related to time are masculine (e.g. *timi* ‘time’).
 c. Old Norse nouns for concepts related to the annual cycle are neuter (e.g. *sumar* ‘summer’).
 d. Old Norse nouns related to winter are masculine (e.g. *vetr* ‘winter’).

These rules constitute a nested structure where the nouns referred to in (6d) form a subset of those in (6c), which in turn are a subset of the nouns invoked by (6b). Rule (6a) is least specific – it is a global default rule stating that Old Norse nouns are neuter as long as other rules do not apply. Given the subset relationships between the rules, the Elsewhere Condition predicts a hierarchy where (6d) receives the highest ranking and (6a) the lowest. This prediction is borne out by the facts. As pointed out by Trosterud, *vetr* ‘winter’ is masculine because of (6d) although (6a) and (6c) point towards the neuter. The names of the other three seasons, *sumar* ‘summer’, *haust* ‘fall’ and *vár* ‘spring’ are neuter since (6c) overrides the conflicting (6b). Nouns for time-related concepts not covered by (6c-d), e.g. *aptann* ‘evening’ and *timi* ‘time’ are masculine in view of (6b), which takes precedence over the default rule (6a).

While Steinmetz (1986) does not refer to the Elsewhere Condition, it is in fact implicitly acknowledged in his framework. Consider, again, the interaction of rules (6a) and (6b). A pure rule counting approach would run into problems with nouns like *aptann* ‘evening’ and *timi* ‘time’. Here, one rule – (6b) – suggests masculine and one – (6a) – neuter. We are in other words facing a tie, and Gender Tally would therefore not

² Notice in passing that there are some systematic exceptions to these rules. For instance, according to Pugh and Press (1999: 57) indeclinable nouns denoting languages tend to be feminine, e.g. *bengali* ‘Bengali’ and *urdu* ‘Urdu’. Indeclinable common nouns like *madam* ‘madame’ and *ledi* ‘lady’, as well as a few indeclinable female first names like *Esfir* are feminine contra rule (4b) because Ukrainian has a general rule assigning feminine gender to nouns denoting females. Since the cases mentioned in this footnote do not bear on any conclusion to be drawn in the present study, they will not be discussed in the following.

be able to decide which gender to assign. The move made by Steinmetz (1986) is to assume that global default rules like (6a) only come into play when more specific rules tie. This seems tantamount to saying that default rules are ranked below specific rules, and this is in fact made explicit in Rice's (2003) Optimality Theory account of Steinmetz' framework, where default rules are ranked below specific rules. Interestingly enough, however, neither Steinmetz nor Rice attempts at justifying the ranking by invoking the Elsewhere Condition. Nevertheless, Steinmetz' move does not involve a merely stipulated ordering of rules, but rather a ranking that follows automatically from a well-established principle of rule ordering.

The upshot of this discussion is that Gender Tally must be supplemented by the Elsewhere Condition. In view of this, Enger's (2002) characterization of Steinmetz' model as a rule counting approach is to some extent misleading. While rule counting (Gender Tally) is pivotal in Steinmetz' framework, his model also involves rule ordering. This becomes even clearer when we consider Steinmetz' notion of default hierarchies, the topic to which we turn in the following section.

3. Rule Ordering: Default Hierarchies

The discussion of the Elsewhere Condition illustrates the relevance of defaults in gender assignment. In the following, I shall explore an extended use of defaults originating in the work of Steinmetz (1986) and Rice (2003). According to this theory, all languages contain global default rules for each gender, and these rules are mutually ranked. To see how this works, consider German nouns like *Waffe* 'weapon' and *Pflanze* 'plant'. According to Steinmetz (1986), two rules are relevant. In section 1, they were given as (2a) and (2c), but for the convenience of the reader I repeat them here:

- (7) a. German nouns ending in *-e* are feminine (e.g. *die Treppe* 'staircase')
- b. Superordinate nouns in German are neuter (e.g. *das Möbel* 'furniture')

Since one rule points towards the feminine and one towards the neuter, we are facing a tie, and Gender Tally does not enable us to select the right gender for *Waffe* and *Pflanze*. Furthermore, the Elsewhere Condition is of no help, because the rules in (7) do not stand in a subset relation to each other. In order to be able to handle cases of this type, Steinmetz (1986) assumes the German genders to form the hierarchy masculine >> feminine >> neuter. This means that the masculine is the default gender in German, while the feminine outranks the neuter. As is clear from Rice (2003), Steinmetz' gender hierarchies can be expressed in terms of rule interaction if one assumes default rules of the following type:

- (8) a. German nouns are masculine
- b. German nouns are feminine
- c. German nouns are neuter

In order to reflect Steinmetz’ gender hierarchy, (8a) must be ranked above (8b), which in turn must outrank (8c). Given the Elsewhere Condition, the specific rules in (7) outrank the default rules in (8). Thus, we arrive at the hierarchy in (9).

- (9) (7a), (7b) >> (8a) >> (8b) >> (8c)

Given the complexity of the matter, it may be fruitful to illustrate the interaction of the rules by means of the Optimality Theory tableau in (10), which is adapted from Rice (2003). (Rice states the default rules as negative restrictions, but the question of whether constraints are to be stated in negative or positive terms in Optimality Theory, does not bear on the question under scrutiny here.)

- (10) Gender assignment to German *Waffe* ‘weapon’
(tableau adapted from Rice 2003)

	-e=F (7a)	Sup=N (7b)	BeMasc (8a)	BeFem (8b)	BeNeut (8c)
<i>der Waffe</i> (masc.)	*!	*!		*	*
<i>die Waffe</i> (fem.)		*	*		*
<i>das Waffe</i> (neut.)	*		*	*!	

As can be seen from the tableau, (7a) and (7b) make it clear that *Waffe* and *Pflanze* cannot be masculine, but do not enable us to choose between the feminine and the neuter. Therefore, we must proceed to the lower-ranked default rules. Rule (8a) is indecisive, but the second default rule, (8b), enables us to assign the feminine gender.

In section 1 I introduced Gender Tally and argued against free ordering of individual gender assignment rules. Is the notion of “default hierarchy” explored above compatible with this research paradigm? As we have seen, Steinmetzian hierarchies involve ordered rules. A priori, there is no reason to preclude free ranking of them. At least, general restrictions on the ranking of default rules have not been discussed in the literature. However, free ranking of default rules is quite different from free ranking of *all* gender assignment rules. The number of default rules is limited and in most cases small since it equals the number of genders in a given language. Hence, the number of possible rankings is limited and the overall restrictiveness of the framework is not jeopardized. Moreover, the notion of “default hierarchy” raises interesting questions for further research. For instance, are there languages with feminine as the global default? What conditions changes in a default hierarchy over time? In view of the fact that default hierarchies provide a restricted framework that yields implications for further research, I propose to include it in a general theory of gender assignment. Let me hasten to add, however, that a default hierarchy postulated for any given language should be corroborated by independent evidence in order to be more than an *ad hoc* solution. We shall return to this point in the next section.

4. Rule Ordering: The Core Semantic Override Principle

So far I have argued that a rule counting approach should be supplemented by principles of rule ordering such as the Elsewhere Condition and default hierarchies. Since these

principles concern the logical relationship between rules, they may be referred to as “formal ordering principles”. In the following, I shall go further than Steinmetz and Rice and suggest that we also need *substantial* ordering principles, i.e. principles favoring rules invoking certain types of information. To this end I propose what I call the Core Semantic Override Principle.

4.1 The Generalization

The problem we shall consider concerns the assignment of grammatical gender to nouns denoting biological males and nouns denoting biological females. By way of illustration, consider Russian *djadja* ‘uncle’. In Russian, nouns ending in *-a* belonging to the second declension are generally feminine. Nevertheless, *djadja* and other second declension nouns denoting male persons are masculine. Seemingly, then, the semantics takes precedence over the declension for the purposes of gender assignment. The case of Russian *djadja* is not isolated as witnessed by the examples in (11) from otherwise quite different languages:

(11) Examples:

- Russian *djadja* ‘uncle’ is masculine although second declension nouns ending in *-a* are generally feminine (cf. Corbett 1982 and 1991).
- Norwegian *gubbe* ‘old man’ is masculine although nouns in *-e* tend to be feminine (Trosterud 2001).
- Arapesh *nakor* ‘husband’s father’ belongs to gender VII although nouns in /r/ belonging to declension 18 are normally in gender X (Fraser and Corbett 1997).³
- Old Norse *bruðr* ‘bride’ is feminine although nouns in /r/ are generally masculine (Trosterud 2003).
- Latvian *puika* ‘boy’ is masculine although declension four nouns in *-a* are normally masculine (Mathiassen 1997: 40).
- Lithuanian *sesuõ* ‘sister’ is feminine although declension five nouns in *-uõ* are normally masculine (Mathiassen 1996: 37).
- Lithuanian *de≥, de≥* ‘uncle’ is masculine although second declension nouns in *-a* or *-e≥* are normally feminine (Mathiassen 1996: 39).

There is solid typological evidence in favor of a privileged position of gender assignment rules based on biological sex. According to Dahl (2000: 101f.), who has investigated a large language sample including all languages discussed in Corbett (1991), sex is the “major criterion” for the assignment of gender in languages with more than one gender for animates. While Dahl’s term “major criterion” may seem opaque, it is clear from his discussion that it implies that sex-based gender assignment tends to take precedence. Notice that the provision “tends to” does not indicate that we are dealing with a mere statistical generalization. Rather, the set of cases where sex-based

³ Arapesh is a Torricelli language spoken on the north coast of Papua New Guinea. The gender system of Arapesh is discussed in Aronoff (1994), Fraser Corbett (1997), Corbett and Fraser (2000) and Dobrin (1997 and 1999). Data are from Fortune (1942/1977), but Dobrin has also carried out fieldwork on Papua New Guinea.

rules are overridden is limited and well defined. Dahl (2000: 103) isolates the following:⁴

- (12) a. Special morphological rules may take precedence for augmentative and diminutive derivations.
- b. Special semantic rules may take precedence for nouns denoting young or small animates.
- c. Special semantic rules may take precedence for certain kinds of animals.
- d. The “wrong” gender may be used in order to obtain special rhetorical effects (“downgrading” and “upgrading”).

German diminutives in *-chen* and *-lein* are well known examples of (12a). As an illustration of special treatment for nouns denoting young or small animates in (12b), Dahl (2000: 103) mentions the assignment of neuter gender to unmarried women in certain Polish dialects (see also Corbett 1991: 100). As for (12c), in the Australian language Ngangikurrunggurr nouns denoting animals hunted for meat are relegated to a special gender (Dahl 2000: 105). Finally, the special effects obtained by the use of *s/he* about inanimate objects and *it* about humans in American English serve to illustrate downgrading and upgrading in (12d) (Dahl 2000: 105). A detailed discussion of cases of these types is beyond the scope of the present study. Suffice it to say that Dahl’s typological evidence strongly suggests that sex-based rules take precedence universally in gender assignment, with the exception of the four well-defined cases in (12). For explicitness, I suggest formulating the following principle on the basis of Dahl’s evidence:⁵

- (13) The Core Semantic Override Principle:
Rules referring to biological sex take precedence in gender assignment.

I refer to (13) as the “Core Semantic Override Principle” because biological sex may be considered the semantic core of the category of gender.

4.2 *Is a Stronger Hypothesis Possible – Do Semantic Rules Take Precedence?*

Could the principle in (13) have been stated more inclusively so as to embrace *all* semantic rules, not only those involving biological sex? Corbett and Fraser have adopted this position:

⁴ Dahl also mentions arbitrary exceptions, but I have not included that in the list in (7) since we are interested in the systematic properties of gender systems.

⁵ Curt Rice (p.c.) suggests that exceptions of the type found in (12) can be ranked higher than the rules for biological males and females by the Elsewhere Condition. For instance, in order to account for examples like *das Weib* in German one might assume a rule Downgraded female → N. This rule will take precedence over Female → F by the Elsewhere Condition since “downgraded females” constitute a subset of females.

- (14) a. “If there are conflicting factors at work, semantic factors usually take precedence”. (Corbett 1991: 68f.)
- b. “As is universally the case, the formal gender assignment rules [...] are dominated by the semantic gender assignment rules.”
(Corbett and Fraser 2000a: 321)

This seems correct for languages like Russian and Arapesh discussed by Corbett and Fraser, since in these languages all the semantic rules refer to biological sex.⁶ In both languages there is a strong correlation between declension and gender. For most nouns in these languages the gender can be established on the basis of the noun’s membership in a certain declension class. The main exception is nouns denoting male or female beings, which are assigned gender according to biological sex even if this conflicts with the declension class. However, languages with a less strong correlation between declension and gender appear to be problematic for the claims in (14). Examples include Germanic languages like German (Köpcke and Zubin 1984, 1995 and references therein), Old Norse (Trosterud 2003) and Norwegian (Trosterud 2001, Enger 2002). Since in languages of this type the morphological rules cover a smaller portion of the vocabulary, researchers have postulated numerous semantic rules, not all of which refer to biological sex. For instance, Trosterud (2001) assumes 28 semantic rules for Norwegian. It seems fair to say that at present the interaction of semantic and other rules in complex systems of this type is not well understood. Trosterud explicitly avoids making strong claims about rule interaction on the grounds that the rules themselves are not sufficiently well understood.

As counterexamples to Corbett and Fraser’s position, let us, for instance, consider the interaction of the following three assignment rules for German (after Steinmetz 1986: 190), two of which have been discussed above:⁷

- (15) a. Superordinate nouns in German are neuter (e.g. *das Möbel* ‘furniture’)
- b. German nouns ending in *-e* are feminine (e.g. *die Treppe* ‘staircase’)
- c. German nouns in /uxt/ are feminine (e.g. *die Bucht* ‘bay’)

From Corbett and Fraser’s position we would expect the semantic rule (15a) to override the morphological (15b) and the phonological (15c). However, despite this superordinate nouns like *die Waffe* ‘weapon’ and *die Pflanze* ‘plant’ are feminine in accordance with (15b) and *die Frucht* ‘fruit’ in accordance with (15c). Clearly, we cannot draw strong conclusions on the basis of such examples without being sure that the rules in (15) are actually correctly stated. Furthermore, we cannot know whether the rules are correct before we have considered the German gender system in its entirety. Nevertheless, the German examples suggest that Corbett and Fraser’s proposal may be too strong, and that it may be wise to adopt a somewhat more cautious position. Until a

⁶ Russian has a rule whereby indeclinable nouns referring to animates are masculine. Thus nouns like *kenguru* ‘kangaroo’ are masculine (cf. Corbett 1991: 40). Notice, however, that this is not a purely semantic rule since it refers to the morphological property of indeclinability in addition to animacy.

⁷ Further counterexamples from various languages are discussed in Rice (2003).

fuller understanding of rule interaction in languages like German is arrived at, I suggest adopting the Core Semantic Override Principle in (13).

4.3 Theoretical Status

Even if we accept the Core Semantic Override Principle as a valid descriptive generalization, it does not follow that it should be granted the status of an independent principle in a general theory of gender assignment. If it can be shown that it follows from other, independently motivated principles of the theory, the Core Semantic Override Principle is nothing more than a descriptive generalization. Now, it seems quite clear that the Elsewhere Condition does not subsume the Core Semantic Override Principle. In the case of Russian *djadja* discussed in section 4.1, for instance, we have a conflict between a semantic rule invoking biological sex and a morphological rule referring to a declension class, and these rules are clearly not in a subset relation. Furthermore, the example of *djadja* indicates that Gender Tally does not make the Core Semantic Override Principle redundant, since we are dealing with a tie between two rules suggesting different genders.

However, an account of nouns like *djadja* in terms of Gender Tally and the Elsewhere Condition in conjunction with default hierarchies may be viable without reference to the Core Semantic Override Principle. The tableau in (16) illustrates this (cf. Rice 2003):

- (16) Assignment of gender to Russian *djadja* ‘uncle’
(tableau adapted from Rice 2003)

	Male=M	-a=F	BeMasc	BeFem	BeNeut
☞ <i>djadja</i> (masc.)		*		*	*
<i>djadja</i> (fem.)	*		*!		*
<i>djadja</i> (neut.)	*	*!	*	*!	

As can be seen from the tableau, the two competing rules assigning masculine gender to males and feminine gender to second declension nouns ending in *-a* suffice to rule out the neuter. Masculine gender is selected because the most highly ranked default rule militates against the feminine.

The success of this analysis hinges on the assumption that masculine outranks feminine in the default hierarchy of Russian. The question therefore arises as to whether there is any independent evidence in support of this ranking. Without such evidence, the analysis only states that the masculine takes precedence over the feminine, which is exactly what one wants to explain. Steinmetz (1986) does not discuss general criteria for establishing default hierarchies, but in Steinmetz (2002) he invokes statistics on type frequency in order to support the Russian default hierarchy. According to these data, the Russian masculine has slightly more members than the feminine: 21,516 masculines vs. 21,067 feminines. More data pointing in the same direction are given in Corbett and Fraser (2000b). They also assume the masculine to be the default gender for Russian nouns, although they do not invoke a hierarchy of default rules.

An evaluation of this argument for Russian will not be attempted here. However, on a more general level, it has interesting implications. It shows that if it is possible for all cases where sex-based rules take precedence to establish adequate default hierarchies

and come up with independent evidence in favor of them, the “Core Semantic Override Principle” might turn out to be an epiphenomenon. In the present context, the prediction would be that genders encompassing nouns denoting biological males or females universally have more members than competing genders. However, even if this prediction turned out to be true for all gender systems of the world’s languages, I find it somewhat hard to believe that the universally consistent override of sex-based rules in gender assignment conflicts is a mere coincidence conditioned by the relative sizes of genders. In any case, the onus of proof is on those who would want to argue this. Hence, at our present level of knowledge about gender assignment, it appears premature to conclude that default hierarchies offer a general solution to the problem of why sex-based rules take precedence in gender.

A typological argument also goes against a solution in terms of default hierarchies. It is not difficult to conceive of a language that is identical to Russian except that the feminine outranks the masculine in the default hierarchy. In such a quasi-Russian, *djadja* would belong to the feminine rather than the masculine by the logic of the default-based approach. A default-based analysis would even be compatible with a language where semantic rules were never decisive for the assignment of gender, since there is no principle ensuring that semantic rules take precedence. This is highly problematic because such languages are not attested:

- (17) “In a sense all gender systems are semantic in that there is always a semantic core to the assignment system” (Corbett 1991: 8 based on Aksenov 1984: 17f.).

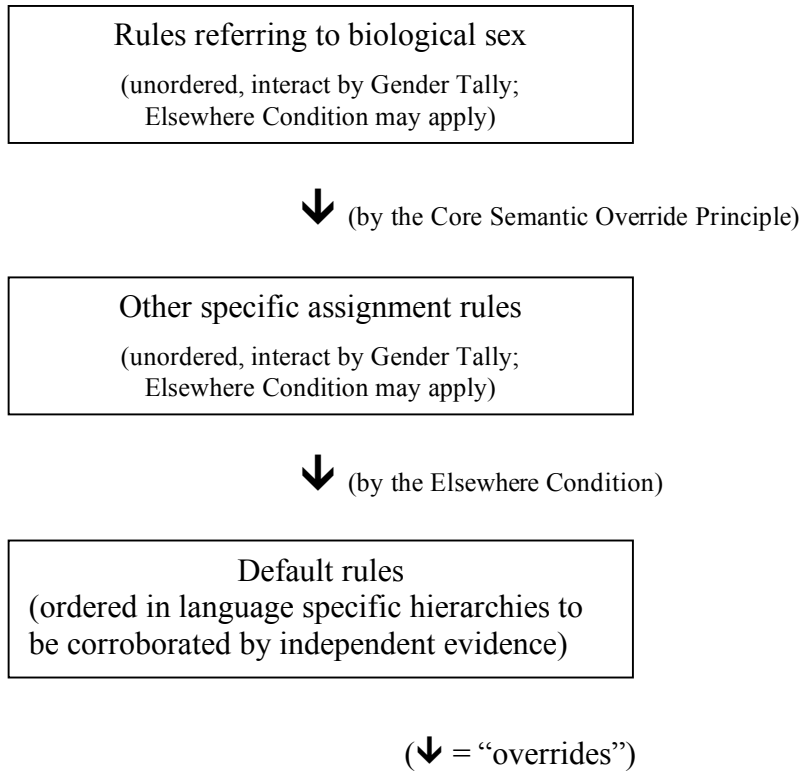
Thus, a pure default-based approach yields dubious typological predictions, in that it is compatible with unattested gender systems without a semantic core. In view of the evidence provided, I propose including the Core Semantic Override Principle in the general theory of gender assignment as an independent rule ordering device. We have seen in sections 1 through 3 that the so-called rule counting approach advocated by Steinmetz (1986, 2002) and Rice (2003) involves a certain amount of rule ordering. Supplementing it with the Core Semantic Override Principle moves the theory one step closer towards a rule ordering approach.

5. Conclusion

In this paper I have explored four general principles of a general theory of rule interaction in gender assignment: Gender Tally, the Elsewhere Condition, default hierarchies and the Core Semantic Override Principle. The contribution of the paper can be summed up in four points – one for each principle. First of all, I have suggested as a working hypothesis that assignment rules are not ordered unless universal principles force them to be so. As long as such principles do not apply, rule conflicts are resolved by Steinmetz’ Gender Tally, whereby a noun receives the gender indicated by the majority of the assignment rules. Secondly, we have seen that the Elsewhere Condition plays an important part in gender assignment. In part, Steinmetz’ framework falls out as an automatic consequence of the Elsewhere Condition, an observation that has not been made explicit in the literature. Thirdly, it has been suggested that Steinmetz’ notion of “default hierarchy” bears on gender assignment, although it has been pointed out that hierarchies postulated for individual languages must be corroborated by independent

evidence in order to be more than *ad hoc* solutions. Fourthly, I have argued that formal principles of rule ordering like the Elsewhere Condition must be supplemented by substantial ordering principles. I have suggested that Corbett’s hypothesis that semantic rules take precedence may be too strong. As an alternative, I have proposed the Core Semantic Override Principle. The impact of the four principles is summarized in (18) where the arrow represents override:

(18) Overview of the proposed model:



The present study does not offer a complete theory of rule interaction in gender assignment. The principles explored are likely to require revision, and further principles may have to be added. These qualifications notwithstanding, the principles I have explored in this study would seem to form a fruitful starting point for further investigation of the properties of the gender systems of the world’s languages.

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