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Gender in Grammar and Cognition

I Approaches to Gender
II Manifestations of Gender

edited by

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and

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Preface

Any book in its way documents work in progress. But the present one does so in a very particular sense.

Research in gender and in the wider sense in nominal classification is a time-honored subject of linguistics. Aspects of this research history show up in the present book which itself stands in a row with several comprehensive and more recent publications in the field of nominal classification.

In Germany it was the Cologne research group Unityp (1973-1992) who took up the topic and did intensive research in different systems of nominal classification on a comparative basis and related to an independent *tertium comparationis*. Conferences were held, proceedings and many working papers (*akup* - Arbeiten des Kölner Universalien-Projekts) were published. Main works of this research were collectively published in the first three books of the *Language Univerals Series* (LUS 1/I-III) dealing with classificatory systems whithin the so-called *Dimension of Apprehension*, i.e., with linguistic means to represent an object (Seiler—Stachowiak (eds.) 1982, Seiler—Lehmann (eds.) 1982 and Seiler 1986; for a review of the UNITYP-project see Premper 1992).

In October 1983 a symposium in Eugene, Oregon, took up the subject and resulted in the proceedings *Noun classes and categorization* encompassing both the description of different types of nominal classification and approaches to understand the cognitive side of the categorization they are connected to (Craig (ed.) 1986).

The early nineties brought the topic to the Netherlands were in Mai 1993 in Nijmegen another workshop was held: *Back to Basic Issues in Nominal Classification*. Again a broad view was taken and the workshop both contributed to the further description of different systems and made an attempt to filter out the common denominator(s) of different classificatory systems. Depending on the point of view several candidates qualify as a basic issue, e.g., the cognitive-semantic aspect, the morpho-syntactic aspect, and above all the ever-nagging question of what the function of nominal classification might be. Furthermore the question was discussed whether the Unityp approach of arranging the different classificatory techniques on a continuum was a suitable framework and whether it would fit to integrate all the systems discussed. Gunter Senft is the editor of the

book about this workshop which is in press at Cambridge University Press under the title *Systems of nominal classification*.

The inspiring atmosphere of the Nijmegen workshop led to a follow-up event in Berlin in May 1994: Changing the focus Barbara Unterbeck organized a workshop under the title *Approaches to gender*, deliberately concentrating on one particular system without loosing sight of the problem as a whole. The papers read by the following contributors at this workshop became the first stock of Part I of the present volume:

> Dagmar Bittner, Kurt Braunmüller, Greville G. Corbett and Norman M. Frazer, Östen Dahl, Ursula Doleschal, Kari Fraurud, Elisabeth Löbel, Natascha Müller, Barbara Unterbeck, Petra Maria Vogel, Doris Weber.

The tandem-contributions of Klaus-Michael Köpcke and David Zubin and the paper of Wolfgang Ullrich Wurzel were not handed in for publication.

Due to the stimulating discussions of this workshop and the common interest in the subject we decided to make the workshop a book. Books take their time to be compiled and to have double advantage of this time it was used to both collect the papers and to give a last chance to continue the discussion right after the workshop: as the papers were arriving, they were copied for each participant and mailed for a last round of discussion and refining for publication. At the same time efforts were made to acquire additional papers to complete the spectrum of topics and languages treated. Thanks are due to the following colleagues to have supplied manuscripts for the growing gender project:

> Martin Haase, Elisabeth Leiss, Ulrike Mosel and Ruth Spriggs, Heide Wegener.

This set of papers, as well as some late ones of the Berlin workshop, could not be shared with all contributors by circulating further copies.

Another enrichment to the discussion of the role of gender in various languages and language groups was provided by the *International Symposium on Grammatical Gender* which was organized at the initiative of professors Mirja Saari, Terttu Nevalainen and Matti Rissanen and held in Helsinki in May 1996 with the result that contributions by:

Erik Andersson, Anne Curzan, Östen Dahl, Jaakko Hämeen-Anttila, Juhani Härmä, Raymond Hickey, Arvi Hurskainen, Juha Janhunen, Diester Kastovsky, Barbara Kryk-Kastovsky, Helena Lehečková, Ahti Nikunlassi, Caroline Sandström

were offered to Mouton de Gruyter to be published as a volume. While the Berlin workshop was already being prepared for publication by Barbara Unterbeck the publisher proposed to combine the Helsinki project with the running Berlin project in one book under the umbrella of the series *Trends in Linguistics - Studies and Monographs*. After preparations in Finland the pile of these manuscripts was sent to Barbara Unterbeck and a truly intensive cooperation started with Matti Rissanen in fall 1997. Our joint efforts have finally resulted in the present book *Gender in grammar and cognition.* Due to the different histories of the two parts we agreed upon a Part I and Part II within one volume. Thus Part I *Approaches to gender* represents the extended Berlin workshop of 1994 and Part II *Manifestations of gender* represents the Helsinki symposium of 1996.

As every coin has two sides also this expansion of the project had them. On the one hand it meant a prolonged process of compilation for the book, but on the other hand it has finally put all contributions into the wider context of a more comprehensive treatment of the common topic. And this advantage was the driving force of all our joint efforts.

A great variety of languages and language groups are dealt with in this book as can be seen from Table 1 (p. IV).

Several papers are not focussed on an individual language or a certain language group or language area; these authors illustrate their issues with material from different languages and language groups: Greville G. Corbett and Norman M. Frazer, Östen Dahl, and Doris Weber in Part I, and a second contribution by Östen Dahl in Part II.

Clearly the focus of our book is on gender, and for a comparative perspective two systems of nominal classification, which are fundamentally different from gender in their semantics and in their morpho-syntax, are included: numeral classification as represented in Vietnamese and verbal classification as represented in Navajo. North Asian data not usually included in the gender discussion but of great relevance to it are available as well. We will see that these typological contributions find themselves in one row with gender when it comes to the crucial question of what function might unite them all.

The contributors of the book have used their respective languages to combine the description of the systems with the following topics (see Table 2 on page V).

Language (group)	Part I	Part II
Old English		Dieter Kastovsky
Early English grammars		Anne Curzan
Swedish	Kari Fraurud	Erik Andersson
		Caroline Sandström
North Germanic	Kurt Braunmüller	
Old High German	Elisabeth Leiss	
Modern German	Dagmar Bittner Petra Maria Vogel Heide Wegener	Raymond Hickey
Modern German/French	Natascha Müller	
French		Juhani Härmä
Italian	Martin Haase	
Russian	Ursula Doleschal	Ahti Nikunlassi
Polish		Barbara Kryk-Kastovsky
Czech		Helena Lehečková
Eurasian		Juha Janhunen
Arabic		Jaakko Hämeen-Anttila
African Languages		Arvi Hurskainen
Teop (Bougainville, Papua-Neuguinea)	Ulrike Mosel and Ruth Spriggs	
Vietnamese	Elisabeth Löbel	
Navajo	Barbara Unterbeck	

Topic	Part I	Part II
acquisition of gender	Natascha Müller (L1) Heide Wegener (L2)	
origin of gender	Ulrike Mosel and Ruth Spriggs	
change/renewal of gender systems	Kurt Braunmüller Martin Haase	
animacy and elementary gender distinctions	Östen Dahl	Östen Dahl
determining gender		Erik Andersson
gender assignment	Ursula Doleschal Kari Fraurud	Ahti Nikunlassi Raymond Hickey
relationship of gender and inflection	Dagmar Bittner Greville G. Corbett and Norman M. Frazer	Dieter Kastovsky
search for the function - of gender	Elisabeth Leiss Petra Maria Vogel Doris Weber	
- of other systems	Elisabeth Löbel Barbara Unterbeck	
norm vs. use		Barbara Kryk-Kastovsky Helena Lehečková
diachronic views		Jaakko Hämeen-Anttila Juhani Härmä Caroline Sandström
areal surveys		Arvi Hurskainen Juha Janhunen
research history		Anne Curzan

We would like to express our sincerest thanks to Professor Werner Winter for his unfailing help and generous advise, and to Dr. Anke Beck and Ms. Katja Huder of Mouton de Gruyter for their highly competent and valuable support in the process of publication.

Königs Wusterhausen and Helsinki, August 1999

Barbara Unterbeck Matti Rissanen

Gender: New light on an old category
An introduction

Barbara Unterbeck

1. Research in nominal classification and terminology

We are used to think of gender as basically a one-to-one mechanism of correlating a noun and its respective gender. At least in many gender languages most of the nouns are of this type and this majority represents the general picture. If there is variability, these nouns are treated separately as special groups. Even if this "disturbing" material is abundant we insist on the fixed nature of gender and look for ways to explain the exceptions as deviations from a general rule.

But the one-to-one part of the lexicon plus the cases of variation, whatever nature, are only secondary to a criterion that unifies almost all cases in almost all gender languages: agreement. This first-hand feature seems the most reliable one and is taken as the general feature of the currently most widely accepted definition of gender:

> Genders are classes of nouns reflected in the behavior of associated words (Hockett 1958: 231).

Gender and noun class systems (in the traditional sense), at least most of them, clearly fall under this definition. But there are also cases of numeral classification where "associated words" (in the plural) reflect the nominal class in that a classifier occurs with more than one associated word, e.g., with the numeral and an adjective (cf. Hundius—Kölver 1983: 173-177). Although this is not the typical situation in numeral classifier languages it brings up the question whether the plural form "associated words" might also include these cases. And a second question occurs: does it also include cases where there is only a single associated word, which would be the typical situation in numeral classifier languages? This second question does not only hold for languages with numeral classification, also gender languages may be in this situation: pronominal gender systems like English (Corbett 1991: 5, 169-170)—not being the typical case of

gender languages—are a case in point since here, too, a noun class is reflected only in a single element, viz. the behaviour of the pronoun, and even this occurs only in certain contexts. In order to also definitely cover a single reflecting element a definition is needed that is wide enough to include this "agreement in the wider sense" (Corbett 1991: 295; cf. 106-115).

Inspired by works of the Unityp group, and in particular by a paper of Serzisko (1981), Wurzel in a discussion of different systems of nominal classification proposes the following definition:

> Eine Klassifizierung von Substantiven liegt dann vor, wenn die Substantive einer Sprache in eine begrenzte Anzahl von Klassen eingeteilt sind, wobei sich die Klassenzugehörigkeit zumindest in bestimmten Kontexten formal am Wort und/oder über das Wort hinaus auswirkt (Wurzel 1986: 77). [Classification of nouns means the division of the nouns of a language into a limited number of classes with class membership formally taking effect on the nouns itself and/or beyond the nouns in at least certain contexts ; transl. B.U.].

Hockett's gender definition is based on the "associated words", i.e., even the gender markers on the nouns are less important than the agreement phenomena. Wurzel's definition of nominal classification in general includes the noun itself as a place where classification may take effect. This definition covers both the class marking that takes place on the noun (or anywhere else) and the agreement phenomena.

Thus in the Wurzel way gender and noun class as well as pronominal gender and numeral classification are covered. Likewise verbal classification falls under this definition: noun classes in these languages are reflected in verb stems, i.e., classes are established by the cooperation of certain nouns with certain verbs, a two-partite relationship like the one between a noun and a numeral classifier.

This definition is useful because it can help to work with a double strategy: keeping an eye on the common traits of different systems while focussing on gender.

The important point is that basically any system of nominal classification rests upon the cooperation of two sides: side one is the noun itself, side two is the expression of the class. Class expression may be on the noun itself, but it may also be on one or more other elements, or on both the noun and on other elements. One of the most interesting questions is how the elements of class expression are organized and how they cooperate. A distinction is here made of two

levels: the first level is the class expression itself, may it be on the noun or somewhere else, the second level is agreement.

For reasons that become clear below, the term "perspective marker" or "perspectivizer" is used here for the first level, i.e., for the single partner element of the noun that expresses class membership. In gender systems this is the gender marker, in noun class it means the class marker, in numeral classification the classifier, in verbal classification the verb stem cooperating with the noun to jointly express a content which is not carried by the noun alone. In the Unityp sense the cooperation between noun and the "perspectivizer" means the apprehension of the object, i.e., the linguistic expression of an extralinguistic entity, the "thing" that is spoken about.

This content, then, is what agreement markers refer to. Therefore only the second level is a reflecting level and constitutes agreement. Referring to Hockett's definition agreement markers are therefore called "reflectors". The reflectors refer to the content jointly expressed by the noun and the perspectivizer (resp. only by the noun if there is no perspective marker).

This terminology serves a double aim: to improve the instruments to compare the different systems and at the same time to focus on the special traits of gender, the main interest of the present volume. In Corbett's sense side 1 and the first level of side 2 correspond to the controller, the second level of side 2 corresponds to the target(s):

Table 1. Unifying terminology for nominal classification

side 1	side 2	
	first level	second level
base element	indication of class	agreement
noun (or -stem, -root)	perspective marker (perspectivizer)	reflector(s)
	on noun or somewhere else, e.g.:	e.g., on:
	- gender marker - noun class marker - numeral classifier - verbal classifier (verb stem)	- attributive - predicate - numeral - relative pronoun - personal pronoun - genitive connector

This terminology can also be compared to the terms of overt and covert gender (cf. Corbett 1991: 62-63). If gender is evident from its form we speak of overt gender, if gender is not visible on the noun itself, we speak of covert gender. Many languages present a mixture of overt and covert gender, for instance Russian (cf. Doleschal and Nikunlassi in this vol.). English would be a language with covert gender (cf. Kastovsky and Curzan in this vol.). Overt gender would correspond to perspectivizers on nouns, covert gender would only show reflector(s) corresponding with the noun in some respect.

2. *Noun classes, numeral classification, and verbal classification: [+count-mass] [+shape]*

According to Wurzel the minimal formal effect of classification is class marking on the noun itself without agreeing elements. This is what Juha Janhunen (Part II) describes for Tungusic where two different suffixes (perspective markers) establish classes of "unspecified masses or uncountable materials, on the one hand, and single members of groups of countable objects, on the other" (p. 698 in this vol.). These groups of "countable objects" are not to be mis-taken as plurals: in addition to this distinction of mass vs. singulative there are separate means (also suffixes) to express plurality. This distinction "according to the parameter of countability" (Janhunen p. 704 in this vol.) is pervasive in the Tungusic languages. If we compare it with gender we cannot but admit that the semantics of this system is crystal-clear. Benzing (the source of the Tungusic data) calls it a system of "nominal aspects" (Benzing 1955: 57, 68):

> Wir erhalten so ein System von nominalen Aspektformen, die in manchem eine gewisse Ähnlichkeit mit den Klassensystemen afrikanischer Sprachen zeigen (Benzing 1955: 68).
> [Thus we get a system of nominal aspect forms which in some respect resemble the class systems of African languages (transl. B.U.)]

Traditionally African noun class systems are not put in the light of a count-mass distinction and the semantics of the modern systems clearly lacks the transparency of the Tungusic crystal. But there is a proposal to think of a count-mass distinction made by Denny—Creider (1986; cf. also Creider 1975): they analyse Proto-Bantu (PB) data from this point of view and detect "a semantic system where

each prefix was associated with a particular characteristic meaning" (Denny—Creider 1986: 217). They initially separate count nouns from mass nouns and further divide the count part into two subgroups: one is called "kind" (human, animate, artifacts), the other "configuration" (solid figure vs. outline figure). The configurations —with appropriate modifications—are also found in the mass part of the system. In the end of their paper the authors modestly ask for consideration of their results in further research:

> Hence, we would inject a note of caution to those who would simply assume that the classificatory system of PB has no salience for present day Bantu languages. This may indeed be the case, but it is important not to prejudge the issue. ...
>
> In any event we feel that there is sufficient likelihood that portions of this semantic system are still operative in present day Bantu languages to warrant its investigation (Denny—Creider 1986: 230).

To find such a semantic system in Swahili is the aim of Contini-Morava (1994) as Arvi Hurskainen (Part II) reports in his survey of African noun class systems (Hurskainen p. 676 in this vol.). Contini-Morava checked the nouns of a whole dictionary with the result that in this modern Bantu language classes follow the criteria of shape, size, and affect. Looking at Hurskainen's summary of her data (cf. figure 6 in Hurskainen p. 677 in this vol.) against the background of Denny—Creider (1986) and with the experience of analysing systems like numeral and verbal classification the data can be re-arranged in the following way: there are three non-shape classes, and there are three basic shapes which are spread over four shape classes in different patterns (shapes are abbreviated as 1-d, 2-d, 3-d for one-/two-/three-dimensional). In the shape part masses occur: liquids in 11, aggregates in 6. It is easy to connect the whole picture to the count-mass dichotomy (table 2 is based on figure 6 in Hurskainen's paper, additional data were added by Katrin Bromber, p.c., note that only the key morphemes of each class are given):

Table 2. Count-mass, non-shape and shape in Swahili noun classes

	count and mass		
non-shape	class 1/2: *m-/ wa-*	class 7/8: *ki- / vi-*	class 9/10: . *n- / n-*
	human	any small object	miscelleaneous, incl. animals, loan words, few intangibles
		class 7 also for diminuation	
plural:	simple	simple	simple
shape	class 3/4: *m- / mi-*	class 5/6: *ji- / ma-*	class 11/ (Ø, 10, 6): *u- / (Ø-, n-, ma-)*
	1-d rigid/large, exceptional animals	3-d large 2-d	2-d surface 1-d flexible
	intangibles	intangibles	most abstractions
		class 5 also for augmentation	
plural:	±human collectives matched pairs	collections matched pairs	if plurals are possible they are simple plurals
		plural also for	singular also for
		aggregates, liquids	essences, thick liquids

We can further borrow know-how and terminology from numeral classifier systems and will arrive without trouble at the distinction of primary shapes and secondary parameters (Adams—Conklin 1973). Primary shapes are the three dimensions, which may be accompanied by secondary parameters. Typically (though not exclusively) in numeral classification shapes are derived from parts of plants. Swahili shape classes also show close connection to parts of plants: 1-d has plants, especially trees, in it, and "active body parts", i.e., mainly the 1-d parts like arms and legs. Class 5/6 has fruit and leaves, i.e., 3-d and 2-d parts of plants, and objects of 3-d and 2-d shape.

Swahili secondary parameters are: size (large in class 3/4 and 5/6), solid or hollow (3-d objects in class 5/6), curved outlines (2-d objects in class 5/6), flexibility (1-d objects in class 11). These

secondary parameters are typical also of numeral classification. In Swahili, a secondary parameter even occurs independent of shape: class 7/8 denotes any small object, so size in the form of smallness is the main (though not exclusive) criterion for class membership. Due to the extensions of small size to lower status and incompleteness also handicapped people are covered by this class. At least according to the survey of Adams—Conklin (1973) independent secondary parameters do not occur as classifiers in numeral classification, so here we might have a clear difference.

Another point is that the shape classes are no semantically "clean" classes but mixed ones which also contain nouns denoting "abstractions" (cf. class 11 in Hurskainen's figure 6). Borrowing terminology from verbal classification the term "intangibles" is added in the shape classes 3/4 and 5/6 for certain nouns also not denoting discrete objects: natural and supranatural phenomena in 3/4, revered/feared things in 5/6. Intangible extensions are almost exclusively observed in shape classes (cf. data given in table 6, Hurskainen). In non-shape classes intangibles are rare (e.g., in 9/10 the nouns denoting 'heaven', 'star' and 'land', Katrin Bromber, p.c.).

Class 9/10 resembles a residual class, which in numeral classifier languages is often called a general class (being represented by a general classifier). There is discussion about the behaviour of loan words: they choose 5/6 and 9/10 and authors differ about the preferences (cf. Hurskainen p. 676 in this vol). As seen from the present shape approach, it becomes clear why they enter these two classes: they are the least specific ones. As for shape (class 5/6), 3-d is the least specific shape since geometrically 3-d includes 1-d and 2-d. The other shape classes are a specific 1-d class and shared 1-d/2-d classes. As for non-shape, class 1/2 [+human] is also very specific (and historically related to the 1-d class). Although smallness (class 7/8) is not specific as such, many loan words can not be associated with smallness, political terms in particular are abstract terms independent of concrete size notions and are not suitable for diminutive associations. So the class 9/10 is left which is a residual class anyway (and which is historically related to 3-d, cf. below).

The Swahili class meanings coincide widely with the PB class meanings and this shows the relevance of the historic findings for the modern languages as suggested by Denny—Creider. Class 9/10 was kind of a residual class already in PB: most animals, all kinds of containers, place nouns, certain tools, and a few others are in this

class. Denny—Creider (1986: 219) subsume this variety under the two features 9/10 "animal" (with 10 being a simple plural) and 9 "non-extended" (with 10 being a collective plural, not covering all "non-extended" nouns) and list some problematic cases (1986: 235). In the present shape terminology "non-extended" would mean a 3-d class. 3-d might be the bridge between 5/6 and 9/10 with the difference lying in two different ways of perspectivizing 3-d objects: PB 5/6 denotes the aspect of solid objects as wholes, PB 9/10 looks at a 3-d object focussing the cover (outline figure, p. 219), the thing that surrounds a 3-d interior, hence the container meaning.

Back to the modern Bantu language Swahili we see in table 2 that the classes have double numbers: 1/2, 3/4, etc. These are the traditional way to indicate a singular and a plural belonging together: in the human class 1 is the singular 2 is the plural. The semantics of the plurals is different: in non-shape classes it is a simple plural, in the shape classes it usually is a collective plural (except for certain groups of nouns in 11). We will come back to this important difference which is usually paid only little or no attention to. It is a factor "disturbing" the neat twin-paradigms of singular and plural classes.

Class 6 is often given the sub-class 6a which has no singular partner: here the "collective plural marker" of the 3-d objects in 5, *ma-*, is used as a mass-denoting prefix for dry aggregates and liquids, i.e., if *ma-* is denoting a mass, it is called 6a (note that 6 is only for liquids in PB).

The Swahili case tells us that despite of the fact that African noun classes—due to their rich agreement systems—are traditionally treated in the closest context to gender they have a lot in common with other systems seemingly less closely related to them. The new approaches to African noun classes are another step towards a better understanding of the phenomenon of nominal classification in its different surface forms. The African data may not only become clearer in the light of numeral classification, but also the African way of employing classification can be inspiring to ask new questions about numeral classification: the extensions of the 3-d shape class in Swahili include the semantic component of affect: 3-d large extends to "impressive, ungainly". The question of affectual connotations might also be asked for numeral classification where "stylistic effects" of classifiers are described occasionally. In sum, the investigation of noun classes can be enriched by the comparison with other systems and the exchange of results will enrich our study of all

systems, as also Denny—Creider have found out in their contribution:

> The indirect evidence we will present consists of a discussion of noun classifier sets found in other languages throughout the world. We show that these sets are structured in terms of meaning distinctions which are very much like those of the PB system. In other words, the PB system should not be regarded as a linguistic oddity (Denny—Creider 1986: 218).

But this comparablility and the common traits do not refer to the semantic side only. It should be added that another wide-spread pattern, most probably a pattern also "found in other languages throughout the world", is found as a basic trait of nominal classification. This other pattern has, however, attracted much less attention in the research of nominal classification: it results from the question of how the plurals, collectives, masses, and abstractions are related to the "better organized" parts of the classificatory systems. This pattern is the count-mass distinction and it is intricately intertwinded with the semantic and structural patterns of nominal classification. Therefore, there is more to detect than the count part of classification, and there is more to compare than just the semantics of the classes within the subgroup of count nouns. Denny—Creider demonstrate the integrated count-mass system of Proto-Bantu noun classes in a convincing way. But when it comes to the "world-wide" comparison (e.g., with numeral classification as exemplified by Burmese and Ojibway in their paper), they offer only half of what they have found about Proto-Bantu and take refuge to the count part.

Taking a wider perspective on nominal classification is a chance to look for a count-mass distinction within the classificatory systems also beyond PB. It is as present in modern Bantu languages as in PB and we will check other systems to find it.

In her contribution to this volume Elisabeth Löbel (Part I) investigates Vietnamese, one of the most typical numeral classifier languages. It has long been observed that count and measure constructions in these languages are so similar that a distinction is often difficult to find. There are differences, as Löbel shows and others have shown for other languages, but the similarities are as obvious here as the overlap of count and mass in Swahili: in Swahili both count and mass perspectivizers are part of a uniform formal system, they all are prefixes (suffixes in Tungus), and one and the same perspectivizer may even serve the different purposes of both count

and mass. In numeral classifier languages the perspectivizers' place is not a morphological one but in syntax: the same syntactic slot serves both count and mass.

As for the count part, it has long been known that numeral classification serves "to make nouns countable", to individualize nouns, but as with gender, classification would also here only hold for the majority of the cases, not for all. A coherent pattern to explain all occurrences and—very important—non-occurrences of classifiers was missing. Löbel offers a new approach that shifts the focus of investigation to the syntactic patterns and defines the classifier as a syntactic function:

> The classifier constitutes a syntactic function for particularizing nouns denoting structured concepts and/or categorizing objects conceptualized as being structured (cf. Löbel p. 315 in this vol.).

The puzzling non-occurrence of classifiers has to do with exactly this particularizing function: proper names, titles, functional nouns like mother or father, regularly occur without the classifier since they are inherently individualized, or, in Löbel's terms, they are particularized (i.e., they are in the singular) already and do not need the classifier in this function: if reference is unique, there is nothing to particularize (cf. Löbel p. 304 in tis vol.).

To particularize a noun means to express singularity on the non-particularized noun which basically is transnumeral or unspecified with respect to number. "The opposition between 'denoting a single entity' and 'being transnumeral' is called [±particularized]" (Löbel p. 269 in this vol.). Note that in Swahili class prefixes are also absent in case of kinship terms (Katrin Bromber, p.c.).

Except for proper names, titles and functional concepts, nouns being inherently singular are only the core set of classifiers and measure nouns. All the rest is grammatically [-particularized] and the shift to [+particularized] is a matter of using a perspectivizer in a certain syntactic slot. That there are different classes of perspective markers, e.g., shape and non-shape classes (cf. Löbel p. 299 in this vol.), does not rule out their common function of particularization, i.e., the same grammatical function is carried by many lexically different elements. In this respect a comparison can be drawn to the plural classes of inflectional languages like German: the same function—to pluralize nouns—is carried by a range of different elements.

Noun class systems typically use affixes on nouns as perspectivizers, (e.g., prefixes in the case of Bantu), numeral classification uses a certain noun slot: the perspective marker is bound to a certain syntactical position within the NP. As against this, verbal classification uses verb stems which might be the least expectable seat for a perspectivizer for a noun, although reflectors (agreement markers) are very common on verbs.

As shown in Barbara Unterbeck's contribution on Navajo (Part I), also verbal classification shares the basic trait of the two systems introduced so far: like noun classes and numeral classification it is clearly based on a count-mass distinction. Shape classes dominate the count side, shape partly reaches into the mass side and the mass side in its turn partly coincides with the plural (cf. Swahili). As in noun class systems and numeral classification verb forms based on the classificatory stems contribute to compose the linguistic representations of objects, the classificatory stems are perspectivizers in the best sense: adding the perspective under which a certain nominal concept expressed in the noun is seen (cf. Latin *spectare* 'to see').

We started with Tungus. Similar to Tungus there are also no Swahili classes to differentiate nouns denoting humans according to sex. The missing sex differentiation also holds for numeral classification: most typically (if not exclusively) it does not differentiate for sex. If in rare cases sex does occur as a criterion, it is only secondary or ternary and accompanies criteria like social status or kinship (Adams—Conklin 1973: 3-4).

Thus, in addition to the common feature of [+count-mass] the three systems share another feature: they have no perspectivizers to differentiate sex.

Terminologically noun classes and gender are often collapsed in the term gender. Following a proposal made by Hurskainen (p. 665 in this vol.) the term gender is

> reserved for such noun marking systems where sexual gender is transparent, although not necessarily all-encompassing. ... It is important to make a distinction between gender systems and noun class systems since there are languages which apply both of these systems simultaneously.

These cases are rather rare, at least in Africa, and they emerge with restructuring processes of noun class systems. As Heine further points out, these "mixed structures are confined to pronominal

agreement, i.e., do not show nominal gender markers (Heine 1982: 192).

In the papers by Östen Dahl in Part I and Part II animacy and sex differentiation play a central role. As for gender systems in the sense defined by Hurskainen and adopted for this preface, Dahl (Part II) proposes "elementary gender distinctions" based on animacy and sex differentiation. These elementary gender distinctions are thought to be the "minimal building blocks that gender systems are made of" (p. 577 in this vol.). But "multi-gender systems, e.g., the Bantu and Australian languages ... do not seem to let themselves be reduced to elementary gender distinctions" (p. 591).

As this book demonstrates, noun classes ("multi-gender systems") as well as numeral classification and verbal classification follow a basically different type of elementary class distinctions (to borrow Dahl's term in a slightly modified way): they very much rely on shape, i.e., on the basic features of 1-, 2-, and 3-dimensionality which are combined with a variety of secondary and ternary features. Animacy is implied in these systems, but not in the prominent way which it is given in gender systems. It rather is one subcategory in the count part of an integrated count-mass system. For Proto-Bantu it has even been shown that the elementary class distinctions (i.e., shape) are valid for both the count and the mass part. For other systems there is a deficit of knowledge since they have not yet been described as integrated systems, but favouring the count part.

Against the background of these three systems the interesting question arises whether a count-mass distinction is also the basic integrating feature of gender systems and if so, how the elementary gender distinctions established by Dahl for exactly these systems might be related to it.

After this background review of different systems of nominal classification we now turn to gender systems proper, i.e., systems showing sex differentiation within nominal classification.

3. Gender: [+count-mass] [+sex]

Gender is the topic of Corbett (1991). This is the first sentence of this book:

> Gender is the most puzzling of the grammatical categories (Corbett 1991: 1).

Corbett follows Hockett in founding his thinking about gender on the feature of agreement. This causes an important question: If the main criterion of gender is agreement, and if gender is the most puzzling grammatical category, is agreement the most puzzling thing?

Agreement may indeed be a puzzle and this is demonstrated throughout Corbett's book. Several papers in the present volume contribute to further investigate this intricate phenomenon:

Gender agreement is very closely connected to gender assignment.

Gender assignment is the topic of Raymond Hickey's paper (Part II) on gender in Modern German. Hickey puts the pointed question "how predictable is gender from a phonological point of view?" (Hickey p. 626 in this vol.). His answer is that phonology alone does not account for German gender assignment and that "both phonological *and* lexical principles are at work".

Also Kari Fraurud (Part I) investigates assignment principles. She takes a limited part of the Swedish nominal lexicon, viz. proper names. Swedish proper names are particularly interesting since they "do not carry gender in the way proper nouns do" (Fraurud p. 171 in this vol.). Gender assignment to Swedish proper names follows "three productive principles involving ontological and semantic properties of the referent of the name and its default description as well as morpho-lexical properties of the name itself" (p. 171). In case of principle competition it is those referring to the ontological properties of the named entity that turn out to have the highest priority (p. 208), i.e., the assignment is highly semantical and much less formal. This means that the speaker has a choice and can add a gender according to the perspective under which he perceives the named entity.

The paper of Ursula Doleschal (Part I) presents a schema-based approach which tries to encompass all available information about a noun and to explain how this pool of information serves as the starting point to assign a certain gender to a certain noun. She exemplifies her idea on Russian. Ahti Nikunlassi (Part II) discusses Doleschal's idea of schema-based gender assignment and contributes to improve the new instrument in some points. Advantages of the modell are its ability to determine "prototypical representatives of a gender, or to say that some nouns are more masculine, more feminine or more neuter than others" (Nikunlassi p. 779) and the flexibility of

the model which can cope with context factors deciding over the choice of a gender.

Gender agreement is also very closely connected to declensional paradigms.

Two of the papers are dedicated to the role of gender in the complex (synchronical) inflectional patterns of gender languages. Greville G. Corbett and Norbert M. Frazer (Part I) work within the approach of Network Morphology and show the dependence of gender on declensional paradigms. The default theory of Corbett—Frazer is based entirely on language-internal data.

As against this, Dagmar Bittner (Part I) works in the framework of Natural Morphology (Preference Theory framework) and demonstrates for Modern German that it is gender that directs the inflectional behaviour of nouns. She presents an "atomic formula of German nominal inflection" which is based on gender as a starting point (p. 16, table 13) and gives a functional explanation for her findings, i.e., extralinguistic factors are an essential part of the theory. According to Lehečková (Part II) Modern Czech also needs the information of gender for the proper choice of a paradigm (p. 755).

Gender agreement can be an indicator of the "correct" or "incorrect" use of gender, as shown in the papers by Barbara Kryk-Kastovsky for Polish (Part II) and Helena Lehečková for Czech (Part II). As Kryk-Kastovsky remarks, normative grammars do not capture the rich variation of the language and in particular miss the variable and creative use of Polish gender.

Anne Curzan's paper (Part II) about early English grammars shows that the main question that has remained after English has lost grammatical gender is pronominal agreeement and this has been discussed with a component of norm vs. use ever since.

The papers of Erik Andersson (Part II) and of Caroline Sandström (Part II) about gender in Swedish are both dedicated to the question of how to determine the genders in this language. Andersson takes a synchronic view of the standard language and Sandström composes a picture of gender in the Swedish dialects of Nyland. This spectrum is a synchronic one but due to the different types of systems she discovers it can also offer insights into a possible diachronic scenario.

Diachronic variation of agreement phenomena (including pronominal agreement) is the subject of Juhani Härmä's paper on gender in French (Part II). He concentrates on how the sexual distinction is expressed by gender or neutralized and what this means to the

cohesion of texts. As for the relationship of gender and number he observes that they are so closely connected that they "are often impossible to dissociate" (Härmä p. 610), but that "it is clearly easier to break gender agreement and gender assignment rules than those concerned with number, and this is indeed what has been done throughout the history of French" (Härmä p. 610). But, one might add, if a language persistently disobeyes rules the old question arises, whether the language or the linguists' rules are right and this again is a question of norm vs. use. Obviously it is easier to find the rules for number and they are more appropriate to the language and its use than the rules for gender, this most puzzling category.

As an Indo-European language English also used to have the inflectional bundle including gender and number. Dieter Kastovsky (Part II) analyses how this bundle is untied step by step. While case and gender are lost gradually, number gains ground, becomes ever more dominant and finally has the status of a robust base category. The affinity of gender and case as the two "loosers" of the complex process of restructuring nominal morphology might become even more interesting in the light of pronominal gender theories (cf. below Wegener and Weber).

Many aspects of the complex correlation of gender assignment and gender agreement are evidenced in language acquisition, be it in the acquisition of L1 or L2. It is interesting that L1 and L2 obviously cope with gender in a remarkably different way.

Natascha Müller (Part I) has observed the bilingual L1 acquisition of French and German. In both languages the two categories of gender and number are detected simultaneously by the children with the indefinite articles playing a key role in the detection process. In this process "semantic and formal developments are parallel" (p. 391), no cases of overgeneralization occur with respect to natural gender (p. 381).

In L2, as studied by Heide Wegener (Part I), the acquisition process clearly shows three steps: number > case > gender. The key to detect gender in L2 is different from L1: "The children find the key to the discovery of the gender category in the semantic difference between nouns naming male and those naming female persons" (Wegener p. 531). Natural gender is overgeneralized due to the priority given to this semantic rule (p. 532). But before natural gender is detected the L2 children have already detected the roles of subject and object and "plainly changed [the gender markers] into

case markers" (p. 537). This step should deserve special attention in future research since it hints to another crucial function of gender: encoding the sentence-semantic roles of agent and patient (cf. Tichy 1993 and Weber in this vol. p. 498).

All these papers show the difficulties that are intricately correlated to gender and agreement. Coming back to the question whether agreement is the most puzzling thing in gender, we have to take into consideration that although agreement poses many questions, agreement is not a privilege of gender. Agreement and gender are a pair of phenomena, and there are good reasons not to equate agreement with gender: other nominal categories also have it, most typically number and case. These categories may occur with or without agreement and it is commonplace that the possession or non-possession of reflectors would not affect their grammatical function. Would this also hold for gender? What is left when gender is abstracted of agreement? This question is asked by Doris Weber (Part I; cf. p. 496):

Table 3. Nominal categories and their functions

Number	=	semantic	+	agreement creating
Case	=	functional	+	agreement creating
Gender	=	X	+	agreement creating

As important as agreement is in many, or perhaps even in most cases, one should acknowledge that gender and agreement are not necessarily linked as Greenberg has pointed out (1978: 50). Doubts about agreement as the main criterion of gender were again raised in a paper by Elisabeth Leiss on gender and sexus discussing the sexualization of grammar (1994). Leiss refers to ideas of Brugmann (1889, 1897) and W. P. Lehmann (1958) and relies on the empirical universal No. 36 of Greenberg as another argument to direct thoughts on gender away from shere agreement. She makes the implicit diachrony of No. 36 explicit:

> Ist in einer Sprache die Kategorie Genus vorhanden, so ist immer auch die Kategorie Numerus vorhanden (Universalie Nr. 36 in Greenberg 1963: 95). Die Umkehrung gilt dagegen nicht notwendigerweise. Die Regel besagt somit, daß das Vorhandensein der Kategorie Numerus die Kateorie Genus (einseitig) impliziert. Genus setzt also die Kategorie Numerus voraus. Sie braucht sozusagen die Kategorie Numerus, um sich herauszubilden. Das

> deutet tatsächlich auf eine inhaltliche Verwandtschaft zwischen den grammatischen Bedeutungen der Kategorien Genus und Numerus hin. Unklar ist immer noch, um welche grammatischen Inhalte es sich dabei handelt (Leiss 1994: 288).
> [If a language has the category of gender, it always has the category of number (Universal No. 36 in Greenberg 1963: 95). But the reverse does not necessarily hold. The rule therefore says that the existence of the category of number implies the category of gender. Thus gender presupposes the category of number. Gender needs the category of number, so to speak, in order to develop. This indeed hints to an affinity in contents between the grammatical meanings of the categories of gender and number. But it is still unclear what are these grammtical meanings (transl. B.U.)].

In his Indo-European studies, Brugmann had observed a morphological bridge between gender and number in that the feminine originally employed the same marker as collectives and abstractions did. Brugmann's conclusion of this coincidence was not to "feminize" collections and abstractions but to question the sexual content of the "feminine": collectives and abstractions are not originally "feminine", the component denoting female sex was only secondarily taken over by the relevant ending.

Leiss has re-formulated Brugmann's result in terms of perspectivization: the function of gender is to supply different perspectives to represent a multitude of entities (Leiss 1994: 293).

This means that if number expresses a multitude and gender expresses different perspectives on multitudes, the two successive categories might be connected by the feature of quantification.

However, Brugmann had found a quantificational implication of gender only for the feminine, the same idea was not related to the two remaining genders of masculine and neuter.

Although his idea has remained rather alien to the thinking about gender in Indo-European languages and is only now being digged out, it is the most usual thing in the tradition of Arabic grammars where the connection of feminine, collectives and abstracts is part of the regular description of gender: they are all expressed by the feminine suffix *-at-*. In his contribution about gender in Arabic Jaakko Hämeen-Anttila (Part II) remarks that this multifunctional usage makes "the conventional label 'feminine' problematic" (p. 600 in this vol.).

The two-gender system of Arabic leaves all nouns not lexically feminine or not carrying the perspectivizer *-at-* to the masculine. The masculines are mainly count nouns, individuatives. Nouns are thus

simply ±feminine. The "feminine" also subsumes the (collective) broken plurals, thus again proving its close relation to quantification. Also the use as an intensifying suffix (Hämeen-Anttila p. 601) has a quantificational rationale: intensification means an increase in a certain property. At the same time, the same element *-at-* serves to denote singulatives, seemingly opposite to its basic collective notion (use as a "unit noun", cf. Hämeen-Anttila p. 601). Depending on the meaning of the base noun the affix *-at-* adds a new quantitative perspective:

Table 4. The affix *-at-* in Arabic (cf. Fischer 1987: 49, 52)

masc.	fem.	masc.	fem.
dam'un	*dam'atun*	*muslimun*	*muslimatun*
'tears'	'tear'	'muslim'	'muslims (coll.)'

From the point of view of the Unityp approach the double use of a marker for both collectives and singulatives is very typical of the technique of collection, where the principles of generalization and individualization occur in the form of association (from individual to collection) and dissociation (from collection to individual) (cf. Seiler 1986: 41-59). Walter summarizes the functions of the Arabic gender marker *-at-* and comes to the conclusion,

> daß eine der wesentlichen Funktionen des Elements *-at* die eines "Umkategorisierers" ist: es individualisiert generalisierte und es generalisiert individualisierte Elemente, je nach Status des jeweiligen Elements, an das es antritt" (Walter 1982: 221).
> [that it is one of the main functions of the element *-at* to act as a "re-categorizer": it individualizes generalized elements and it generalizes individualized elements, depending on the status of the element it is added to. Transl. B.U.].

As against this spectrum of functions the use of *-at-* as a suffix for sexual differentiation looks like a special use. The question that has to be answered is how the quantitative collective/singulative notion is related to the notion of female sex. This is an open question and it is—also beyond Arabic—one of the crucial questions of the gender discussion. An answer to this question would explain how the general count-mass distinction of nominal classification has been expanded to the double feature of [+count-mass] [+sex].

With this Arabic background in mind we switch to gender in Europe. Typically, Indo-European languages have a three-gender system. But in some languages, as in Scandinavia, the three-gender system has developed into a two-gender system. Kurt Braunmüller (Part I) shows the steps of this process which is most progressed in some Western Danish dialects. They have even left the stage of the uter vs. neuter distinction and have entered a plain semantic distinction of count vs. mass. Reference of gender to count-and-mass semantics is also shown by Haase (Part I) with Italian data. In the Central Italian dialects mass nouns (or more correctly: nouns denoting non-pluralizable entities) have established their special class, a neo-neuter, as a branch of the masculine (or non-feminine) side of the two-gender system of modern Italian. In opposition to the mass sense of the neo-neuter the masculine denotes a countable entity, so a noun may choose between masculine and neuter in the sense of count and mass: *lu pane* m. 'piece of bread', *lo pane* n. 'bread' (Haase p. 226). The articles reflect the two different perspectives.

Thus the semantics of at least a part of the gender system of the Central Italian dialects is quite clear and coherent. Otherwise the system probably shares the situation of the Standard Average European languages: it seems difficult or nearly impossible to find a semantic rationale in the way gender is distributed over the nominal lexicon. Of course there are some subgroups that behave alike, and a rather general exception are animate nouns which widely follow a correlation of masculine and feminine gender with biological gender.

However, language history tells us that beyond animates there were more regular correlations between nouns and the genders they could make use of to denote different entities. Inspired by the results of W. P. Lehmann's research (1958) Elisabeth Leiss in her contribution to the present volume (Part I) analyses Old High German data and establishes categorial meanings of the three genders:

Table 5. Categorial meanings of gender according to Leiss (in this vol.)

masculine:	count noun	singulative
feminine:	collective noun	non-distributive plural
neuter:	mass noun	no access to the category of number

This means that unlike New High German many nouns in Old High German could regularly choose a gender to express a different con-

tent according to this categorial pattern. However, dictionaries are rather blurring instead of illuminating these different usages and for a complete picture the source material has to be checked anew.

These categorial meanings were established on the basis of German data, Old High German data. But we can see that the Central Italian dialects behave very much in accordance with this pattern in creating a neuter for masses in addition to the existing two genders masculine and feminine. Masculine is said to be related to count nouns (cf. above) and it would be interesting to check the feminine. As for the Arabic feminine, it is very much in accordance with this pattern in clearly representing collection.

Surprisingly enough even New High German (Modern German) offers correlations to this pattern. Petra Maria Vogel (Part I) has studied a particular field of the German nominal lexicon: abstract nouns. Due to their wide variation they can be arranged on a continuum. The interesting result consists in the fact that three central points can be assumed on this continuum, paralleled by the three gender groups: whereas masculine abstracts tend to extreme individuality, neuter abstracts tend to extreme continuativity. Feminine abstracts are located in the middle, with affinities to both of the poles (cf. Vogel p. 481). The variagated subgroup of feminine abstracts even repeats a parallel three-partite mini-continuum within the feminine abstracts (cf. p. 479).

Doris Weber (Part I) was mentioned above for having asked for the X in the equations of grammatical categories showing agreement. This X can be replaced by the function of gender: perspectivization (nominal aspect).

Table 6. The functions of nominal grammatical categories

Number	=	semantic	+	agreement creating
Case	=	functional	+	agreement creating
Gender	=	perspectivization (nominal aspect)	+	agreement creating

The perspectives have a quantificational content and she can spell out the ties between number as the underlying category and gender as the category being built "on the shoulder" of number:

> ... gender has the function of qualitatively more precisely defining a quantity. Gender offers the opportunity to refine the crude perspective of number—singular versus plural—into distributive versus collective plural. It is this aspect of quantity that links gender so closely to number (Weber in this vol. p. 506).

To illustrate the interaction of the two categories a German example is taken. In German, gender is a matter of the singular and it shows three classes: masculine, feminine, neuter. Inflectional plural classes (approximately ten depending on the criteria they are based on) are all subsumed under the feminine. E.g., the noun *(der) Mann* masc. 'the man' becomes *'die Männer'* '(the) men' in the plural with both the masculine gender and the "feminine" plural being reflected in the articles *der* resp. *die*. If it is true that gender imposes a new level of quantification, a new perspective on a multitude of entities, there should be a "collective gender", as it is found in the Arabic *-at-*.

At this point the traditional description of gender in Indo-European languages stops. What is clearly regarded as gender in Arabic—due to the morphological transparency—is regarded as a separate field of grammar here: as word formation. Although collective and abstract elements of word formation have the highest rate of clear relationships to genders they are traditionally not combined with gender in a unified description. If we add to the example of *der Mann - die Männer* the collective noun *die Mannschaft* 'the team' we run into contradiction with traditional grammar writing which ignores the feminine and puts the suffix *-schaft* into a chapter entirely different from gender.

Weber proposes to subsume word formation under gender. A review of the complete inventory of Modern German nominal word formation in Weber (1999) brings to light that the overwhelming majority of suffixes follows the three categorial meanings established by Leiss. On the basis of this result a switch in the terminology is therefore proposed here: derivation should be increasingly studied as masculine derivation, feminine derivation, and neuter derivation, in order to find out more about the details and developments.

In the German example *Mannschaft* the derivative ending *-schaft* would thus be a feminine-collective perspectivizer and neatly follows the categorial notion of its gender. Here we can again call on the split terminology of perspective markers vs. reflectors: the position of the perspective markers can be refilled with new material which co-operates with the persisting system of reflectors.

Keeping suffixes denoting persons aside, the bulk of German word formation (perspective markers) is feminine and neuter. According to Weber's statistics (based on Fleischer—Barz 1992) it is 4 for the masculine, 22 for the feminine, and 17 for the neuter, which are of different productivity, of course. Even if it is still a bit unusual to think along such lines, we should dare to go one step further and compare this situation to a system like numeral classification.

Löbel (Part I) uses the distinction of [±particularized] to describe the function of the numeral classification with classifiers as the key element to produce a [+particularized] reading of an NP.

Weber, coming from an entirely different direction, arrives at the same distinction. Based on Demetracopoulou-Lee (1942) she describes the function of gender in the terms of [±particularization] with the count part representing the [+particularized] side and the mass part representing the [–particularized] side (encompassing collective nouns, abstract nouns, and terms for materials in the sense of *singularia tantum*, cf. Weber p. 507, fn. 3). These sides and terms are correlated by the following set of features (cf. Weber in this vol. p. 502, table 2):

Table 7. Feature oppositions in nouns

[+ particularizing]	[– particularizing]
[+ countable]	[– countable]
[+ individualized]	[– individualized]
[+ external perspective]	[– external perspective]
[– additive]	[+ additive]
[– divisible]	[+ divisible]
= count nouns	= mass nouns

Thus in Weber's approach the absolute majority of perspectivizers in a gender system like German are the key elements to achieve a [-particularized] content of a noun.

The opposite roles of the systems of nominal classification might well be founded on the status of the noun in the respective languages. Whereas the noun in a numeral classifier language is said to be transnumeral, i.e., [–particularized], the unmarked part of the nominal lexicon of a gender language like German is rather [+particularized] (cf. Leiss 1992: 45-54). Both types need balancing and have their specific means to establish the relevant nominal counterparts. Matching the situation of the nominal lexicon also the verbal lexica are

organised to encode the respective basic features and the relevant counterparts. Thus the perspectivizations supplement each other.

Learning the intricate and ramified system of German word formation (gender-derivation) is as difficult for native speakers of a numeral classifier language like Vietnamese as it is difficult for native speakers of German to learn the numeral classifiers of Vietnamese. The difficulty for both sides is the understanding of the semantic system underlying the use of the perspectivizers. There are in both cases rules that work 100% and for big classes, rules that work "in principle", and a bunch of tiny classes and exceptions (many of which can be explained historically). In both cases we may establish core systems and peripheries, in both cases the systems eventually allow for almost any noun to be employed that fits semantically.

There are in both systems nouns that may select only one perspectivizer and there are nouns that may choose different ones. Numeral classification has long been described as a gender-like system of a one-to-one correlation of noun and classifier. Erbaugh ironically remarks:

> Both Chinese self-report and teaching grammars describe classifier use as obligatory and invariant; it certainly is simpler to describe and teach invariant relations (Erbaugh 1986: 404).

As against this traditional view she offers the results of her work:

> The more interesting reality is that Chinese noun classes have always been fuzzy sets, mutually overlapping, with quite variable reference. Moreover, the nature of both the physical world and human perception are such that the most powerful features inevitably overlap (Erbaugh 1986: 400).

This means that many Chinese nouns have choices to connect with classifiers, many of which are semantically meaningful (i.e., they contribute to differentiate objects to be denoted), but there are also cases where several different classifiers can be chosen "without any evident meaning or stylistic contrast" (Erbaugh 1986: 400).

The possibility to choose a gender or—as in Chinese—a classifier has been deliberately been focussed on throughout this section. It was inspired by the wonderfully perplexing question asked in the paper by Elisabeth Leiss (Part I): "

> Is gender a grammatical category at all? (Leiss p. 237 in this vol.)

We are used to enumerate the nominal categories gender, case, and number without hesitation. But we are not aware of the fact that gender differs from case and number in what is the most essential feature of a grammatical category: gender does not offer choices, it does not "permit selection from a paradigm" (Leiss p. 238 in this vol.). Number offers singular, plural, occasionally a dual. Case has many options in paradigms of different complexity. What does gender offer? Meanwhile we know that gender is a system of nominal aspect, it offers perspectivization.

Many details will still have to be found out. But along the lines of this type of gender thinking so many new questions will arise that gender will increasingly make sense. It is such a robust system and capable of repeated self-renewals that functional explanations will replace the myth of an overall semantic arbitrariness.

The most painful deficit of the new approach to gender is the missing link to biological gender. What we do not know yet is the bridge between the count-mass part of perspectivization and the sex differentiation within the animate nouns (cf. Leiss 1994: 298). It remains a task for the future to find out how the system has acquired classes related to biological gender. Probably it will be exactly this place where the pronominal theories come in and can contribute to find explanations. The African languages showing both noun classes and gender in the form of pronominal agreement according to sex do call for pronominal theories to be applied.

But there may be other bridges. Tungusic seems to choose a different way. It was grouped as a noun class system, i.e., a [+count-mass][-sex] system since it does not differentiate sex grammatically, not even in pronouns, only lexically. Against this background it is very interesting that a suffix denoting 'permanent companionship', **+mgi* 'wer ständig sich bei etwas befindet oder zu etwas gehört' ('the one who is permanently being near something or permanently belonging to something') (Benzing 1955: 65) has shifted to denote female persons when added to the name of a clan or a people as shown in table 8 (data from Benzing 1955: 65, 76; transl. B.U.; the letter ŋ = *ng*).

Table 8. The Tungusic (Evenki) suffix *+*mgi* shifting to [+fem]

Evenki	*əwənki.mnī*	'Tungusic woman'
	lūca.mnī	'Russian (female)' (< 'the one belonging to the Russian')
Evenki (dial.)	*bullәti.mʒū*	'women from the clan of the Bullətil'
Even (dial.)	*dulga·mʒā*	'woman of the Dolgan Clan'

The suffix *+*mgi* if added to nouns other than clan names, may denote the inhabitant of a place, e.g., in Even *ʒū.mʒa* '(fellow-)tenant, family member' (< *ʒū* 'house'). The *+gi* in *+*mgi* is a versatile affix that occurs in many functions mainly in verbal grammar but it also has several functions in nominal grammar: *+g* is an old collective suffix; *+gi* is denoting place 'in the region of...', 'the side'; it is a so-called 'potential plural'; *+gi/+ki*-elements occur as part of several locative and directive suffixes, etc. (cf. Benzing 1955: 79, 68, 60-62).

From this spectrum of functions, to the core of which belongs an ancient collective, the specialized usage to denote a "feminine" has emerged: in connection with names of clans and peoples. The resulting form is a singulative [+fem], derived in a dissociation process from the collective.

Quite parallel to *+*mgi* the inhabitant of a place in several Tungusic languages may also be denoted by the suffix *+*n.kān* as in **lāmu.n.kān* 'those who live near the sea'. *+*n.kān* also occurs as part of names of clans like in Udehe *Kimə.ʒkə* . This very form also denotes a male member of a clan as in Even (dial.) *dulga·nkān* 'man of the Dolgan Clan' (cf. Benzing 1955: 64, 76).

Sexual differentiation may thus be starting from collective notions: different collective markers specialize on the different sexes.

As compared to the spectrum of functions and meanings of the suffix *+*mgi/+g/+gi* the suffix *+*n.kān* has a somewhat smaller spectrum of meanings. But we may add the fact that *-*n* occurs as kind of an "abstract marker" (if on verbs as kind of participle of imperfective action) as in Tungusic (Evenki) **tolkı-n* 'dreaming, the dreaming (as a process)', in Even also *tolki.n* '(the) dream' (Benzing 1955: 58). Abstract notions typically occur very close to collective notions and are thus to be included on the mass side. And the connection of membership/collective, and abstract seems to add a feminine component in the Tungusic form *kímā.gin* 'a woman from the Kímā Clan' (cf. Benzing 1955: 76).

But also the second part of *+*n.kān* can be interpreted from a quantificational point of view: all Tungusic languages share the nominal "aspect ending" (Benzing p. 58) *+*kān* denoting the diminutive. Diminuation, like augmentation, are quantifying processes: they encode the increase or decrease in size of the entity denoted by the noun. Thus we can close the circle that Benzing had in mind with the resemblance of Tungusic nominal aspect and African noun classes: diminutives are an unquestioned part of nominal classification in Bantu languages, this morphological bridge is no accident and nicely fits into the count-mass semantics of nominal classification in Tungusic as well as in Bantu. And, by the way, in German: diminutives are neuter, the mass gender per se.

Now we have one paper left to introduce: Ulrike Mosel and Ruth Spriggs (Part I) have analysed nominal classification in Teop, a language spoken in Bougainville, Papua-Neuguinea. This is a pioneering paper since there are no grammars available yet of any of the languages of the Nehan-North Bougainville group. Teop has two classes which show full polarity: Gender I and gender II. Gender I is subdivided into gender I-E and I-A. The gender marker is an independent article preposed to the noun. Adjectives show agreement with the head noun in gender and number.

The small amount of classes would suggest to call it a gender system. But we have introduced above a distinction of noun classes and gender based on sex: the feature [+sex] is reserved for gender.

In Teop, animacy is distributed over two classes: the tiny class I-E is for kinship terms, for nouns denoting socially important people, and for nouns denoting pets. In gender I-A are all the nouns denoting ordinary people irrespective of sex. Animals in this class are defined by having legs: vertebrates and invertebrats with legs. Invertebrates without legs are in gender II.

Table 9.a. Noun classes [+animate] in Teop

class I-E	class I-A	class II
kinship terms socially important people	human beings other than those of I-E	
pets	vertebrates and invertebrats with legs	invertebrates without legs

Clearly Teop does not differentiate sex in its classes so we would look for correspondence with other than gender systems. Since it is clearly neither numeral nor verbal classification, we are left with noun classes. Similar to numeral and verbal classification, noun classes were said to be based on shape. And indeed, if one looks at the lists of tangible objects in Teop through the "shape glasses", two core groups of nouns emerge: gender I-A is related to 3-d and "contains the bulk of the lexicon, it is the unmarked gender" (Mosel-Spriggs p. 336). Gender II is related to 1-d and 2-d.

Table 9.b. Noun classes [–animate] in Teop

	class I-A: 3-d	class II: 1-d, 2-d
tangibles:	fruit, nuts containers	plants and their parts except fruit: 1-d: coconut palm, banana tree > sticklike objects made from wood 2-d: mats, clothing
masses:	food ±liquid	dry aggregates (sand, salt, rubbish)
intangibles:	landmarks wind, rain two abstract nouns: love, happiness	feasts, dancing fire, light many abstract nouns: question, story, problem, truth ...

Although the classes are clearly multifunctional and encompass several semantic subgroups (from count to mass) Mosel—Spriggs write that "gender is highly predictable in Teop" (p. 334). Probably the 3-d class, containing "the bulk of the lexicon", is kind of a "general class", as the 3-d classes often are. And in many cases (numeral classification, verbal classification, noun classes) the 3-d class is based on (or synchronically at least contains) fruit as 3-d parts of plants. Trees and leaves, the typical 1-d and 2-d parts of plants, often serve as the basis for (or synchronically at least contain) 1-d and 2-d objects.

The two authors have not made their statement about the predictability of Teop class assignment with reference to shape-based classes and therefore further nouns should be tested to find out about the role of shape in Teop classification and the possible secondary parameters accompanying the basic shapes. There are certain diagnostic nouns that could be used to test the dimensions: All

objects given are 1-d objects (tools) made from wood. How about a 1-d flexible object like a rope? The 2-d objects given are mainly –stiff/compact (they are as typical as in other systems: mats, clothing). But how about a 2-d +stiff/compact object like a plank or a black-board, or a 2-d +stiff/ compact object not made from wood like a number plate of a car? Is a sheet of paper 2-d flexible? The 3-d objects given are fruits. In which class go 3-d objects made of wood like a chair or a table? Which class is chosen by books?

To further determine the system, number should be asked for: what kind of number system comes with classification? It is a straightforward system of singular and plural and the plurals are not collective. Furthermore, there is another number system, a lexically independent plural marker *maa*. The difference between the two systems is not ±collectivity but seems to lie in the amount of objects expressed: the independent plural marker *maa* "refers to a theoretically countable number of individual people or objects", the plural of the noun classes "does not necessarily imply countability" (Mosel—Spriggs p. 331). In other words, *maa* expresses a limited number; the class plural is unlimited. Collectivity is expressed with syntactically independent collective nouns (group, bunch, basket, cf. p. 332).

Finally, a comparative remark about the connection of animacy and shape in Teop and Bantu should be slipped in here. Note that nouns denoting people are correlated with 3-d in Teop class I-A. This may look unusual since often [+human] goes together with 1-d, cf. for instance the historical connection between class 1/2 and 3/4 in Swahili.

In Teop, not only "ordinary" people are in I-A (socially important people have the separate class I-E), but also the bulk of nouns denoting animals is in I-A and thus correlated to 3-d. Animals in 3-d is also a rare phenomenon in numeral classification. Adams has found it in the Waic language group (Austroasiatic) (Adams 1986: 249).

But we also find it in Proto-Bantu (cf. Denny—Creider 1986) where the 3-d class is employed for both [+human] and animals. As in Teop, the distinction within [+human] is along social status: powerful persons, such as chief and medicine man, are in class 9/10, ordinary people are in class 1/2. What is different in PB as against Teop is that animals are in 9/10, i.e., in the class of the chiefs, not in the class of the ordinary people. And a third category of persons occurs in a third class: handicapped persons, e.g., a lame, deaf, and blind persons, occur in class 7/8.

Only 1/2 is a pure class [+human] comparable to I-E in Teop. The other two are mixed classes [±animate]: 9/10 is definitely related to 3-d, and one might cautiously hypothesize that 7/8 could have been related to 1-d/2-d.

We would thus have two classes, which are cognitively parallel in that on the one side 3-d geometrically contains both 1-d and 2-d, and on the other side 1-d and 2-d add up to 3-d. It would thus be the distinction as such that was encoded in the opposing classes, both in Teop and in part of the Bantu system. Both systems (though their status is different in that the one is a reconstructed proto-language, the other a modern spoken language) have one additional class [+human], be it high or ordinary. All these three classes have simple plurals. Perhaps it would be of interest to add the fact that the three classes with the simple number system are the leftover classes when Swahili pidginization cracks down the noun class system (Katrin Bromber, p.c.). A comparison of Teop and the three Proto-Bantu classes with simple plurals would look like this:

Table 10. Animacy in Teop and Proto-Bantu

[+human]	3-d	1-d, 2-d
Teop I-E:	Teop I-A:	Teop II:
+human high	+human ordinary	
	animals with legs	animals without legs
PB 1/2:	PB 9/10:	PB 7/8:
+human ordinary	+human high	+human handicapped
	animals	despised animals

Focussing only on the shape classes one can see that animates are distributed over the two shape classes similarly: in both languages 3-d is the "higher" or "positive" class, 1-d/2-d is the "lower" or "negative" class.

Backed by the collective wisdom of the present book I would say that Teop has a noun class system, a tiny one, with the very rare feature of full polarity. Not only polarity, but it also has a very interesting and rare etymology: it seems to have developed out of a deictic system. If this is true, and if the shape hypothesis is true, then

this switch from deixis to shape is cognitively at least as fascinating as the switch of the collective and abstract markers to the feminine.

At the end of this introduction I can only repeat what we have said at the beginning of the preface: this book documents work in progress in the best sense of the word. The gender project has constantly been growing and has eventually taken in 28 papers. Hopefully they will contribute to further discussion on the interesting topic of nominal classification, fruitfully and in good co-operation, focussing on individual systems without loosing sight of the topic as a whole.

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Gender classification and the inflectional system of German nouns

Dagmar Bittner

1. Introduction: What is the grammatical function of gender?

I should confess here at the outset that this contribution contains relatively little about gender per se, that is, about gender as a system of nominal classification. But although no attempt is made to pursue this topic, let it be remarked that at present there is probably no one who can say what gender as a grammatical category really is. It is unclear what grammatical function is associated with the division of nouns into two, three, or more classes.[1] All investigations to date that have dealt with grammatical phenomena related to gender, such as agreement and pronominalization, have only been able to show how the distinctions encountered correlate with gender. They could not answer the question of which grammatical relations and/or functions would not be expressible if the nouns were not separated into different classes.

The present contribution is intended to point out a further domain in which gender classification may be relevant: the domain of nominal inflection. As Corbett (1991 and this volume) has already shown for a number of languages, the nominal inflection of a language is often linked to the gender classification of the nouns. Corbett assumes that in many languages the gender of a noun is derived from its inflectional behavior. That is, membership in a specific inflectional class motivates the choice of gender. This would mean that in German the assignment of feminine gender is motivated by the *-en* plural or, even more plainly, by the lack of a case suffix in the genitive/accusative/dative singular. At least for German, however, it can be countered that in language acquisition the gender of nouns is

learned and controlled before their inflectional properties are (cf. also Müller, this volume).

The present article contains a study of the association between the two systems from the point of view opposite to that of Corbett. It attempts to demonstrate that the inflectional behavior of German nouns is determined primarily by their gender. The kinds of correlations and their occurrence are not of an accidental nature, but rather can be attributed to general organizational principles of inflectional systems. This proposal subsumes the hypothesis that the correlations to be encountered can be better motivated and are more structured. In other words, this reversed direction of association, whereby inflectional behavior is dependent on gender, can be given a functional explanation within a preference theory framework.

However, the correlation of gender and nominal inflection does not permit us to (directly) determine the grammatical function of the category gender, either. This obtains both for the use of gender to motivate inflectional behavior and for the relations assumed by Corbett between gender and semantic, phonological, and morphological factors. Even after his extensive typological analyses, Corbett can only discuss various reflections on the grammatical function of gender (Corbett 1991: 320-323).

2. Theoretical background

The following ideas on the nominal inflection of German and their connection to gender classification take as their starting point the assumptions of the naturalness theoretic framework. Naturalness, or preference, theory is a functional theory dealing with general cognitive principles of grammatical structure building. Whereas models like the item-and-process model (see below) primarily constitute structural models of grammar, preference theory is primarily a metagrammatical explanatory concept. It attempts to answer the question of what conditions of human cognition make grammatical structures the way they are. Beside the explanation of grammar, this includes to a certain extent the goal of predicting structural change. Compare Mayerthaler (1981); Wurzel (1984); Vennemann (1983, 1990); and Dressler et al. (1987), among others.

In this theoretical framework, it is assumed that the inflectional behavior of nouns is not arbitrary but motivated. That is, lexical pro-

perties of nouns are responsible for their morphological behavior and the inflectional class of a word can be derived from its lexical properties. It is further assumed that the inflectional system as a whole has a motivated inner structure. The different types of inflectional behavior do not coexist arbitrarily; rather, there are definable relationships that result from the size of the inflectional classes, their stability and productivity, and the kinds of lexical features with which they are associated. Thus, it is expected that inflectional systems have a motivated systematic organization. For the description of quasi-hierarchical structures, such as those assumed here, the rule model of an item-and-process grammar (IP model) is highly appropriate. In this framework, morphological rules have the character of default rules. That is, rules with overlapping domains of application interact on the basis of their specificity or generality. It is assumed that more specific rules take precedence over more general ones, following the elsewhere principle (cf. Kiparsky 1982). More general rules are thus blocked in positions that have already been realized by the application of more specific rules. This allows inclusional relations between individual groups within the inflectional system.[2]

3. The facts of German nominal inflection

As is well known, German nominal inflection is a relatively complex fusing inflectional system with more than twelve paradigm types, which are distinguished most especially by competing morphological markers for the genitive singular and the plural. That there are connections between the different paradigm types can be seen in, among other things, the numerous nouns that vacillate in their inflectional behavior. For instance, one finds vacillations in the way the plural is symbolized, as shown in table 1:

Table 1. Variations in German plural symbolization

markers	singular	variation in plural symbolization		
-er vs. *-e*	*der Stock* 'the stick'	*die Stöck-er*	vs.	*die Stöck-e*
	der Rest 'the rest'	*die Rest-er*	vs.	*die Rest-e*

Table 1 (continued)

markers	singular	variation in plural symbolization		
-s vs. *-e*	*der Park* 'the park'	*die Park-s*	vs.	*die Park-e*
-en vs. *-e*	*der Pfau* 'the peacock'	*die Pfau-e*	vs.	*die Pfau-en*
-"e vs. *-en*	*die Gruft* 'the tomb'	*die Grüft-e*	vs.	*die Gruft-en*
	die Schlucht 'the gorge, ravine'	*die Schlücht-e*	vs.	*die Schlucht-en*
-s vs. *-en*	*die Creme* 'the creme'	*die Creme-s*	vs.	*die Creme-n*
	die Mamsell 'the housekeeper'	*die Mamsell-s*	vs.	*die Mamsell-en*
-en vs. *-s*	*das Konto* 'the account'	*die Kont-en*	vs.	*die Konto-s*
	der Embryo 'the embryo'	*die Embryo-nen*	vs.	*die Embryo-s*
-Ø[3] vs. *-s*	*der Lehrer* 'the teacher'	*die Lehrer*	vs.	*die Lehrer-s*
	der Stiefel 'the boot'	*die Stiefel*	vs.	*die Stiefel-s*

In case marking there occur variations in the symbolization of dative/ accusative singular:

Table 2. Variations in the symbolization of dative/accusative singular

markers	singular	variation in case symbolization		
-en vs. *-Ø*	*der Bär* 'the bear'	*dem/den Bär-en*	vs.	*dem/den Bär*
	der Mensch 'the human being, person'	*dem/den Mensch-en*	vs.	*dem/den Mensch*

Similarly in the genitive singular:

Table 3. Variations in the symbolization of the genitive singular

markers	singular	variation in the symbolization of gen. sg.		
-s vs. *-Ø*	*der Montag* 'the Monday'	*des Montag-s*	vs.	*des Montag*
	das neue Berlin 'the new Berlin'	*des neuen Berlin-s*	vs.	*des neuen Berlin*
	der Duden 'the Duden'	*des Duden-s*	vs.	*des Duden*
-en vs. *-s*	*der Greif* 'the griffin'	*des Greif-en*	vs.	*des Greif-s*
	der Pfau 'the peacock'	*des Pfau-s*	vs.	*des Pfau-en*

If one analyzes these alternations, one encounters the first hints of special relationships between different forms of inflectional behavior. If one adds a historical perspective, there appear quite clear tendencies for one pattern to gain the upper hand. The plural variations, for example, tend to always move toward the *-en* form in the feminine and toward the *-e* or *-s* form in the masculine and neuter. In case inflection, a general trend toward loss of inflectional marking can be made out. In the feminine singular the transition has already been completed; vacillations between different flexives (inflectional affixes) appear only in the genitive singular of the so-called weak masculine, where the *-s* morpheme is on the rise. As this demonstrates, the description of evolutionary tendencies, which here have been treated only briefly, already brings to light a correlation between inflectional behavior and gender. However, we want to take a more systematic approach and lay out the structural relations in a comprehensive approach.

It just so happens that very many investigations attempting determine the regularities of inflection have concentrated on German nouns. It may be said that the regularities of inflectional behavior in German nouns have for the most part been known since the 1970s at the latest (see Bettelhäuser 1976; Mugdan 1977; Augst 1975, 1979).[4]

4. Problems with the traditional analyses

For the naturalness theoretic assumption that the inflectional system has a motivated systematic structure, these older analyses contain two flaws:

1. All these works make a distinction between singular vs. plural inflection on the one hand and case vs. number inflection on the other. The singular inflection, if it is considered at all, is dispensed with very quickly.

The relations in the singular inflection are relatively clear—and for that reason evidently appear uninteresting for the theory: Gender is plainly the dominant criterion for the choice of inflectional behavior. Feminine nouns bear no morphological marker; masculine and neuter nouns usually have *-(e)s* in the genitive singular and no marker in the dative/ accusative singular. A special group of mostly animate masculines have *-(e)n* in the genitive/dative/accusative singular. These patterns are shown in table 4:

Table 4. Singular inflection of German nouns in relation to gender

Gender	Genitive Singular	Dative/Accusative Singular
Feminine	*-Ø*	*-Ø*
Masculine/Neuter	*-(e)s*	*-Ø*
week Masculine	*-(e)n* *-ns*	*-(e)n* *-(e)n*

In plural inflection, the phonological structure of the end of the word is taken to represent the primary criterion for inflectional behavior. By this way of thinking, singular and plural inflection would be two separate and entirely independent domains within the inflectional system.

The second problem results from the assumption that the end of the word is the deciding criterion for the choice of plural marker.

2. Contrary to the aims of an IP model, although most of the works cited take just such a theoretical basis, one must assume a relatively large number of equal-ranked rules. How-

ever, the largeness of the groups covered by the various rules differs widely.

Thus, the rule *Words with final schwa have* -n *plural* ([/_ə#] ⊃ [-n/Pl.]) encompasses the numerous feminines ending in schwa, the likewise numerous masculines ending in schwa, and the neuters ending in schwa. At the same time, the rule *Words ending in the derivational suffix* -tum *have* -er *plural with umlaut of the stem vowel* ([/_tum#/] ⊃ [-"er/Pl.]) applies to only about fifteen nouns.

Table 5. Some plural rules based on word end and their scope

[/_ə#] ⊃ [-n/Pl.]	several hundred (Fem., Masc., Neut.)[5]
[/_tum#/] ⊃ [-"er/Pl.]	about 15 (Masc., Neut.)
[{/_nis#/,/_za:l#/}] ⊃ [-e/Pl.]	about 100 (Fem., Neut.)

Despite this quantitative disparity, the basic approaches taken in the studies offer no possibility of establishing a rank order for the individual regularities since there are no qualitative differences or inclusional relationships. If all the rules rely upon the end of the word as their input context, they cannot be arranged into a hierarchy but must be taken as equals.

Thus, the traditional analyses give rise to the following picture (somewhat overstated) of the inflectional system: German nominal inflection is divided into two distinct, independent domains, singular inflection and plural inflection. Each domain is governed by a set of equally ranked rules. For singular inflection, gender is the essential criterion in selecting a morphological marker, whereas for plural inflection, it is the phonological structure of the end of the word that is decisive. This outcome leaves no room for the postulation of a unified, hierarchically organized inflectional system.

4.1. The unfulfilled demands of an IP-analysis

However, from the point of view of the IP-model the traditional analyses contain several problematic aspects which give us hope of a better solution. We will briefly discuss three of these aspects:

1. For a number of the regularities in the plural, it is necessary to refer to gender in order to generate diverging inflectional behavior in words ending the same way.

Thus, the rule *Words ending in* -el, -er, -en, *or* -lein *have a -Ø plural* applies only to masculine and neuter nouns, and not to feminine nouns like *Mauer* 'wall' and *Gabel* 'fork'. Feminine nouns ending in this way have *-(e)n* in the plural. Similarly, *Words ending in a consonant or diphthong* take *-e* in the plural if masculine or neuter, *-(e)n* if feminine:

Table 6. The scope of rules based on word end in dependence on gender

/_el#/ /_er#/ /_en#/ /_lein#/	⊃	[-Ø / Pl.]	only in the masculine and neuter, e.g., *Koffer* 'suitcase' *Kissen* 'cushion' *Segel* 'sail' *Häuslein* 'little house, hut'
/_K#/ /_V#/	⊃	[-e/Pl.]	only in the masculine and neuter, e.g., *Tag* 'day' *Tor* 'gate' *Hund* 'dog'
/_K#/ /_V#/	⊃	[-e(n)/Pl.]	only in the feminine, e.g., *Frau* 'woman' *Burg* 'castle' *Schlucht* 'gorge, ravine'

The second problematic point is the following:

2. Even the two rules that are continually held up as entirely independent of gender are subject to gender specific restrictions.

Neuter nouns with the prefix /ge_/ do not obey the plural rule for nouns ending in /ə/. In addition, the rule *Words ending in a full vowel have* -s *in the plural* does not apply to feminines whose final vowel is stressed; instead, these exhibit an *-(e)n* plural:

Table 7. Gender dependent scope of the two main rules based on word end

[/_ə#/]	⊃	[-n/Pl.]	does not apply to neuters with prefix *ge-* > Ø Pl., e.g., *Gebirge* 'mountanin range' *Gehäuse* 'box, casing'
[/_full vowel#/]	⊃	[-s/Pl.]	does not apply to feminines with stressed final vowel > *-en* Pl., e.g., *Allee* 'avenue' *Theorie* 'theory'

And this is the last of the three problems under consideration of the traditional IP-analysis:

3. A large number of rules yield the same plural marker: That is, rules with different input structures give rise to the same output structure.

An example would be the input criteria of the various rules that, in combination with the gender feature [+Fem], assign *-(e)n* in the plural (cf. Mugdan 1977):

- final consonant or diphthong
- final schwa
- final *-er, -el*
- final stressed full vowel

The question whether there might not exist a more general criterion for the use of a plural in *-(e)n* is now almost rhetorical in nature.

5. The "search" for a comprehensive criterion for inflectional behavior

Research has shown that
- about 80% of monosyllabic feminines,
- all feminines ending in schwa,
- all derived feminines (with the exception of the approximately 25 feminine nouns formed with *-nis* or *-sal*), and

- all feminines ending in *-el* or *-er* (with the exception of *Mutter* 'mother' and *Tochter* 'daughter')

take *-(e)n* in the plural.

This survey practically demands that gender be taken seriously; the property [+Fem] must be considered as a potential comprehensive criterion for plural in *-(e)n*. True, one may counter that masculine and neuter nouns ending in /ə/, as well as a fairly large group of masculines and neuters ending in a consonant (*Prinz* 'prince', *Soldat* 'soldier', *Komponist* 'composer', *Herz* 'heart') also take *-(e)n* in the plural. However, whereas *-(e)n* plurals clearly dominate in the feminine, they are proportionately much weaker in the masculine and neuter, where the *-e* plural obviously dominates.

On the basis of these data, Augst (1979: 224) formulated the following rules for the "central plural system" of German:

1. Masculines and neuters take *-e* in the plural, feminines *-en*.
2. The word endings /el/, /er/, /en/, and /lein/ take a Ø plural in the masculine and neuter.
3. Nouns in /ə/ take *-(e)n* in the plural even if masculine.

If one compares this view of the plural system with the situation in the singular, described at the beginning of this paper, one finds clear parallels:

- In both cases, inflectional behavior is tied first and foremost to gender.
- Feminines on the one hand and masculines and neuters on the other hand display largely unified inflection in both singular and plural.
- As in the singular, masculines in /ə/ are set apart as a specific domain in the plural.[6]

The fact that all feminines possess a unified singular paradigm distinct from that of masculines and neuters is linked to the fact that the vast majority of feminines share the same plural paradigm. Likewise, those masculines and neuters that take an *-e* plural are the exact same ones that take *-(e)s* in the genitive singular. If one ignores umlaut as a formal criterion for distinguishing inflectional paradigms,[7] the great majority of nouns belong to one or the other of the following two paradigm types:

Table 8. The two main paradigms of German noun inflection

	Masculine/Neuter		Feminine	
NOM.Sg.	*Wolf*	'wolf'	*Tanne*	'fir-tree'
	Schaf	'sheep'	*Burg*	'castle'
GEN.Sg.	*-(e)s*		*-Ø*	
DAT.Sg.	*-Ø*		*-Ø*	
ACC.Sg.	*-Ø*		*-Ø*	
NOM.GEN.ACC.Pl.	*-e*		*-(e)n*	
DAT.Pl.	*-e-n*		*-(e)n*	

These paradigm types are not only quantitatively the largest, but also the most productive; that is, new words and words leaving other paradigm types usually take up the inflectional pattern of one of these two paradigm types. They may be viewed more or less as the default cases of nominal inflection: the default case of feminine inflection (*Tanne* 'fir', *Burg* 'castle', *Musik* 'music') and the default case of non-feminine inflection (*Berg* 'mountain', *Schaf* 'sheep', *Wolf* 'wolf').

6. Gender as the primary criterion for inflectional behavior

The appearance of suffixes in the genitive singular and in the plural is driven by gender, specifically, by the feature [+Fem.] or [–Fem.]. The rule for feminine nouns reads thus:

Table 9. The default inflection rule of German feminines

$$[+\text{Fem.}] \quad \supset \quad \begin{bmatrix} \text{-Ø / G.Sg.} \\ \text{-(e)n / Pl.} \end{bmatrix}$$

If this rule is taken as a default, then for the entire set of feminine nouns *-(e)n* is the expected plural marker and no symbolization of the genitive singular is expected on the word, unless there are rules that refer to more specific features than gender. Such more specific rules do only exist for the plural formation of certain groups of feminines. As mentioned above, feminines with the derivational suffix /nis/ or /sal/, such as *Kenntnis* 'knowledge', *Drangsal* 'affliction', take *-e* in

the plural; and feminines ending in an unstressed full vowel, such as *Polka* 'polka', *Kobra* 'cobra', take *-s*:

Table 10. Specific rules blocking the default inflection rule of feminines

a)	[+/_nis#/] [+/_sal#/]	⊃	[-e / Pl..]
b)	[+/_unstressed full vowel #/]	⊃	[-s / Pl.]

These more specific rules block assignment of the plural marker by the more general rule in table 9 for the set of feminines as a whole. Alltogether, the three rules mentioned presumably cover about 90% of all feminine nouns. The plural formation of the remaining feminines either are determined by even more specific rules or are directly listed as morphological entries in the lexicon.[8]

7. The organization of inflection of feminines and of nonfeminines

The inflectional situation respecting feminine nouns as described above is graphically represented in figure 1. This representation shows that from a perspective based on gender it is possible to uphold hierarchical relations among the various inflectional types. Between the more general (because more comprehensive) property of gender and the more specific word ending properties there exist inclusional relations, so the regularities and the groups of nouns they represent can be related to one another. In the following figures 1 and 2, top-down arrows indicate inflectional behavior fully motivated by the extra-morphological criteria mentioned, bottom-up arrows indicate inflectional behavior not fully motivated by the mentioned criteria—these nouns are the so-called "exceptions".

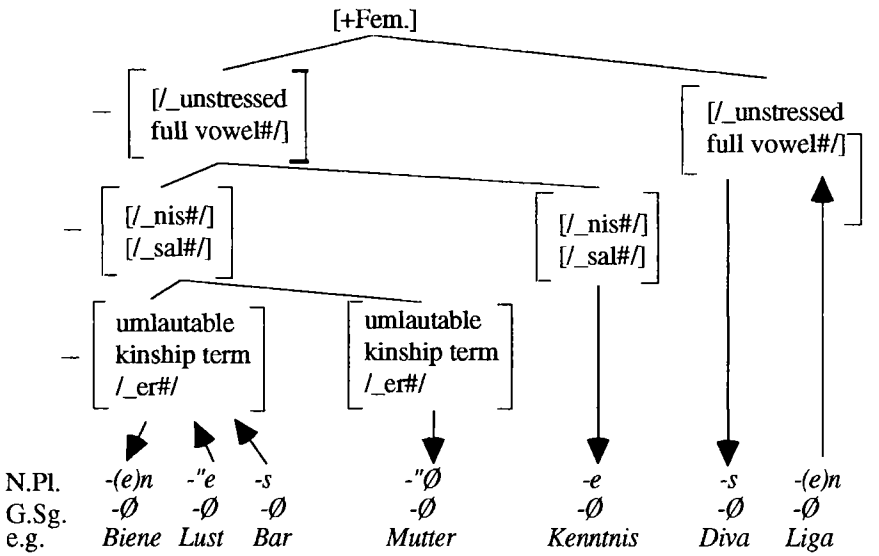

Figure 1. Nonmorphological motivation of the inflectional behaviour of feminines

Gender constitutes the primary factor in determining inflectional behavior for masculines and neuters, as well. In both genders the majority of nouns take *-(e)s* in the genitive singular and *-e* in the plural (cf. table 8). The trend toward spread of the *-e* plural, as discussed at the beginning of this paper, underscores the dominance of this paradigm type; compare here also cases like *Atlas* 'atlas', whose original plural *Atlanten* is tending to be replaced by *Atlasse*, and *Diskus* 'discus', whose original plural *Disken* gives way to *Diskusse*. Since masculine and neuter nouns—with the exception of the weak masculines, such as *Hase* 'hare', *Löwe* 'lion', and *Student* 'student'—also agree in their other inflectional behavior, the feature [–Fem] can be assumed to represent a relevant gender property for inflectional morphology. The overarching default rule for non-feminines may be expressed thus:

Table 11. The default inflection rule of non-feminines

[-Fem.]	⊃	[-(e)s / G.Sg. [-e / Pl.]

Parallel to figure 1 I graphically represent the correlations of lexical and morphological properties in nonfeminine nouns in figure 2 (next page). Here I have omitted several groups of nonfeminines with non-native derivational suffixes, such as /-at/, /-ant/, and /-or/; however, it would be no trouble to add them to the tree.

The domain of nonfeminine nouns is, as seen in figure 2, more differentiated than its feminine counterpart. The largest divergent group —and that which deviates most widely from the dominant pattern—is that of the weak masculines, which take *-en* in the genitive, dative, and accusative singular, as well as in the plural. Since it can be demonstrated that the weak masculines likewise tend to switch to *-s* in the genitive singular and to *-e* in the plural (cf. also the reduction of inanimate masculines within this class since Middle High German), they can be viewed as a specific subgroup of the nonfeminines.[9] It is possible to isolate further groups that follow more specific rules: The masculines and neuters in /el/, /er/, /en/, and /lein/ exhibit no plural symbolization on the word (Ø plural); nor do the neuters with the prefix /ge-/. The masculines and neuters ending in a full vowel take *-s* in the plural. Those with the derivational suffix /-tum/, on the other hand, form their plural with *-er* and umlaut. These groups can all be accounted for by specific rules (cf. table 12) that block the dominant rule listed above in table 11:

Table 12. Specific rules blocking the default rule of non-feminines

a)	/_el#/ /_er#/ /_en#/ /_lein#/	⊃	[–Ø / Pl.]	*Segel* 'sail' *Hammer* 'hammer' *Kissen* 'cushion' *Häuslein* 'little house, hut'
b)	+Neut. +/ge_ə#/	⊃	[–Ø / Pl.]	*Gelage* 'drinking-bout' *Gebinde* 'bunch'
c)	[+ / _ full vowel#/]	⊃	[-s/Pl]	*Kino* 'cinema' *Lama* 'llama' *Uhu* 'eagle-owl'
d)	[+/-tum#/]	⊃	[-"er/Pl.]	*Reichtum* 'wealth' *Irrtum* 'error'

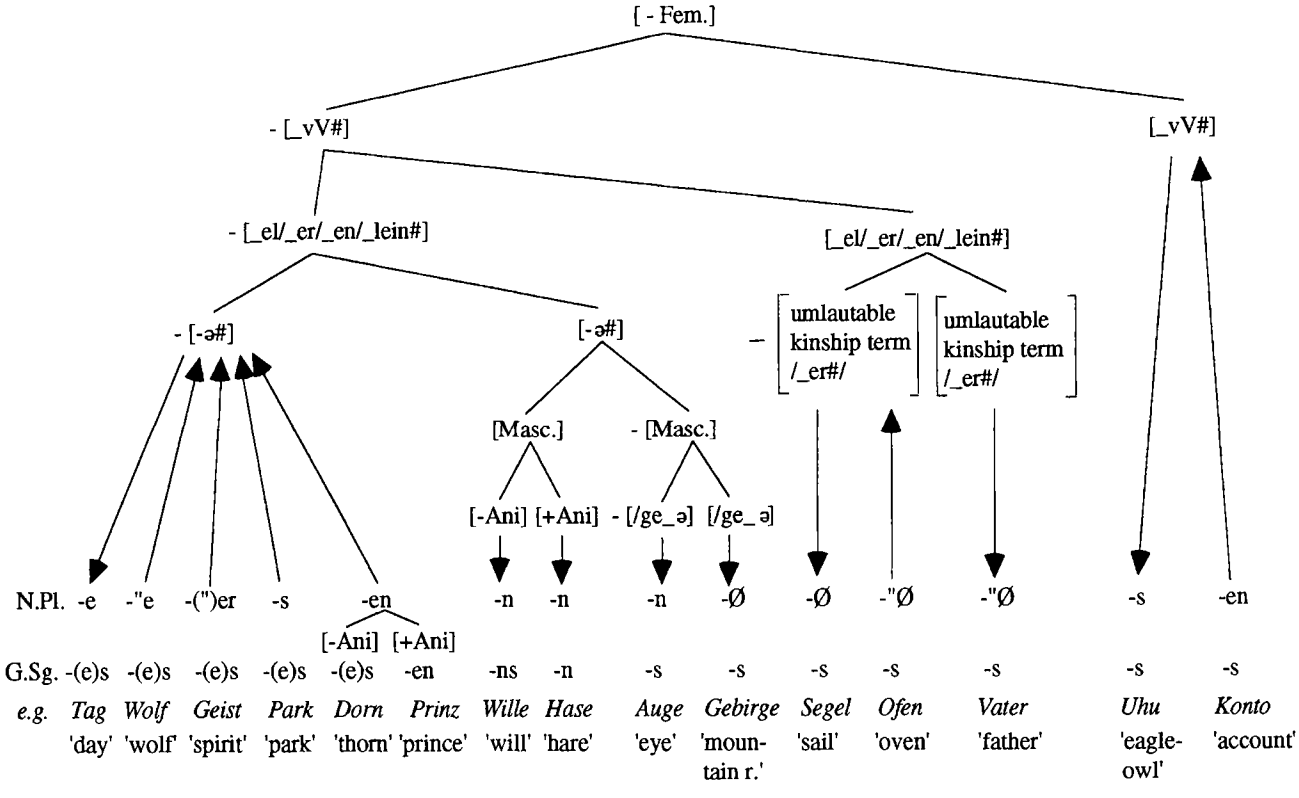

Figure 2. Nonmorphological motivation of the inflectional behaviour of nonfeminines

8. The general structural pattern of German nominal inflection

Whereas the older analyses, which take the properties of the word end as primary criteria for plural inflection in German nouns, are forced to refer to gender as well, in an analysis that starts with gender as the central criterion, reference to a long series of word end properties (consonant, diphthong, schwa, etc.) is superfluous. Moreover, such an analysis need not assume a separate set of rules for singular inflection. The individual rules and the rule system in general are thus much less complex than previously thought. But at the same time—and I believe this is the decisive advantage of the gender-based approach—a general implicative structure becomes evident, which is responsible for the organization of the entire inflectional system. This basic pattern, which is concretely realized by the implications given in table 9 and in table 11, is given in table 13:

Table 13. The basic structural pattern

[Gender]	⊃	[G.Sg.] [Pl.]

This is, so to speak, the atomic formula of German nominal inflection. It belongs to the set of system-defining structural properties of this inflectional system (cf. Wurzel 1984; Bittner 1994). To this structural pattern linking morphological properties to lexical properties are added the structural patterns for the intraparadigmatic structure, in other words, for the further organization of the paradigms:

Table 14. The intraparadigmatic structural patterns

a)	[G.Sg.]	⊃	[D.A.Sg.]
and			
b)	[Pl.]	⊃	[D.Pl.]

The pattern under (a) in table 14 finds concrete realization in the following implications:

Table 15. The genitive singular morpheme implies the dative and accusative singular morpheme

a)	[	-(e)s --Ø	}	/ G.Sg.	]	⊃ [-Ø / D.A.Sg.]
b)	[	-(e)n --ns	}	/ G.Sg.	]	⊃ [-(e)n / D.A.Sg.]

And the pattern under (b) in table 14 is concretely realized by the following implications:

Table 16. The plural morpheme implies the dative plural morpheme

[	{ -e -er -Ø }	/ Pl.	]	⊃	[-n / D.Pl.][10]

The gender-based structural pattern and the hierarchical relations of the inflectional types, demonstrated by the default regularities, conforms to the unified, systematic organization of inflectional systems expected under a naturalness theoretic approach. There is no division into singular and plural inflection, only a separation into feminine and nonfeminine domains that serves to motivate the distinctions in the inflectional behavior of the nouns. The inflection of both domains is organized on the same basic structural pattern.

9. The naturalness theoretic "explanation" for the structural relations discovered

The hypothesis presented here is supported by the fact that the organization of the inflectional system from the point of view of gender does not function only technically; within the framework of natural morphology, an independent theoretical explanation can be found for the linking of inflectional behavior to gender classification.

Morphological structure building is semiotically based. Morphological structures are semiotically optimal if they conform to principles of uniformity and transparency (Mayerthaler 1981). Thus, the same additive marker must be always used for symbolization of a certain category, and used for that purpose alone; and no changes may occur in the word stem. This is very simple and obvious in inflectional systems without competing morphological markers, that is, with only one morphological class (cf. Turkish): each noun or each verb obeys this one morphological paradigm, this unique set of morphological markers. All words belonging to the same word class inflect alike. In such cases, morphological behavior is bound directly to word class membership. From a purely semiotic point of view, this is the ideal form of inflectional-morphological organization.

Inflectional systems with competing markers and several inflection types are superfluous in at least two ways. They are (again from a semiotic point of view) unnecessarily complex and require the establishment of distributional criteria for the different markers. That is, the grammatical system is burdened with an extra rule component.

From the history of language we know that complex inflectional systems—that is, inflectional systems with competing morphological markers and classes—are not built up to fulfill a goal, but rather are more or less a by-product of nonmorphological, usually phonological, processes. According to the reconstructions, then, the largely unified Indo-European nominal inflectional system was destroyed in Germanic by the fixation of word accent in the first root syllable. The weakening of the final syllable led step by step to a phonological reduction of the originally fully vocalic inflectional morphem contained in the final syllable. Distinctions that arose in this manner give rise to compensatory processes to consolidate the inflectional system. These morphological changes, which themselves occur by degrees, have the goal of optimizing the functionality of the morphological structures and to reduce the extra complexity in the grammatical system. In other words, there is a tendency to push morphological systems back toward the ideal form of inflectional-morphological organization by the principles of uniformity and transparency. So it is not a mere matter of coupling individual morphological forms to arbitrary lexical properties; instead, the system approaches the strongest and most systematic possible combination of the distinctions created.

Independently given nonmorphological classifications, such as gender classification or semantic and syntactic classifications based on criteria like ±modal, ±concrete, ±animate (or in the most con-

venient case, word classes), offer the possibility of binding inflectional behavior to a limited number of lexical properties and restrict the additional morphological complexity in the lexicon. For German nouns, this independently given nonmorphological classification is that of gender. But with the unification of masculine and neuter this process has already taken a step beyond the available gender classification—one step further in the direction of the ideal type of inflectional-morphological organization derived from the principle of morpho-semantic transparency.

The linking of nominal inflectional behavior to gender is already found immediately after the disintegration of the largely unified Indo-European inflection caused by the decay of final syllables. Comparison of the pre-Germanic and Germanic systems shows changes that are not phonological in origin but represent assimilation of inflectional forms on the basis of shared gender (cf. Kern—Zutt 1977): The pre-Germanic masculine and feminine *i*-stem nouns (e.g., *ghostis* 'guest', *graptis* 'strength'), which inflected alike, had distinct genitive/dative forms in Germanic, because the masculine *i*-stems assimilated to the masculine *o*-stems (e.g., *dagaz* 'day'). The same occurred with the stem nouns. Throughout the entire process of nominal inflectional development from pre-Germanic to New High German (NHG), there has been no fusion of morphological classes across the [+Fem] / [–Fem] gender boundary. Although this would have been quite possible; certain of the basic lexical forms have shared phonological properties at the end of the word, and there would have been sufficient nonmorphological motivation for the same inflectional behavior.

The history of language also shows that assimilatory processes do not stop when any arbitrary nonmorphological motivation is realized. Thus we observe a class-change tendency from Middle High German (MHG) to the present for inanimate masculine endings in /ə/, such as MHG *garte* NHD *Garten* 'garden', MHG *flade* NHG *Fladen* 'flat cake', MHG *balke* NHG *Balken* 'beam' and present-day *Friede* 'peace', *Gedanke* 'thought'. They leave the class of weak masculines for that of strong masculines with *-(e)s* in the genitive singular and *-e* in the plural by spreading the *-n* in the oblique cases to the nominative. Yet the inflectional behavior of these masculines was/is motivated nonmorphologically by the property "word final /ə/".

Another case are the monosyllabic neuters with an umlautable stem vowel. It would also have been conceivable to favor the *-er* plural with umlaut for these neuters, in other words, to motivate the

choice of -"*er* plural marking by the nonmorphological criteria [+Neut.], [+monosyllabic], and [+ umlautable stem vowel]. But out of the approximately 70 neuter nouns of this type, currently only about 40 (still) have this plural. Neuters like *As* 'ace', *Lob* 'praise', *Brot* 'bread', *Boot* 'boat', and *Pfund* 'pound', which today take *-e* in the plural, vacillated between -"*er* and *-e* plural already in MHG. So the theoretically thinkable rule mentioned above has never become a stabile rule for the neuters.

It is thus obvious that tendencies to systematize in inflectional systems go beyond the simple ability to participate in an implicational relationship. Even if, concretely and directly, they always used to work locally, they are subject to the general organizational principles of inflectional systems (cf. Bittner 1993, 1994). The linking of German nominal inflectional classes to gender classes is the currently available compromise between the semiotically optimal structure and the inherited formal structure of the inflectional system.

Notes

1. Perhaps, indeed, gender is not associated with any grammatical function and I am asking the wrong question. Nonetheless, if there is no grammatical reason for the existence of gender, there ought to be a reason of some other kind, perhaps a universal cognitive condition on the classification of objects. Such a reason, however, likewise has yet to be explicitly stated.
2. The IP model is an extremely categorial rule model. Its object is to sharply define the groups with a minimum of rules. Consequently, certain border areas cannot be described, and the inflectional forms that cannot be captured by the rules must be registered as "exceptions". However, I do not wish to support the conclusions drawn by others (e.g., Wiese 1988; Clahsen—Rothweiler—Woest 1990) regarding the organization of inflectional knowledge on different levels of grammar and corresponding qualitative differences between inflectional forms. The sharp delineations inherent to the IP model are simply convenient for my present purpose of describing the fundamental properties of the inflectional system and the relation of the inflectional classes to gender classes.
3. The symbol Ø means that the word contains no morphological marking. I do not assume a so-called null morpheme.
4. Inflectional morphology in general and German noun inflection in particular have in recent years been intensely scrutinized from apparently very different points of view. In addition to the 1970s studies already mentioned, the following may be enumerated: Steche 1927; Kloeke 1982; Wurzel 1984, 1987, 1994; Carstairs 1986, 1987; Harnisch 1987; Köpcke 1988, 1993; Bittner 1991, 1993, 1994. Common to most of the recent works is the attempt to describe the organization of the system as a whole, or at least fairly large portions of it. The goal is no longer to compile the most

exhaustive list possible of the individual regularities and their "exceptions", but rather to investigate how the individual regularities are related to one another, how the different inflectional patterns, including the "exceptions", are affected by the others within the system as a whole, and which principles of morphological structure building are responsible. An important starting point is the obvious fact that the individual forms of morphological behavior sometimes vary considerably in their productivity, as seen in their applicability to new words and in their transferability to words which originally belonged to other inflectional patterns.

5. An exception to this regularity is the neuter nouns with the prefix /ge_/, such as *Gebirge* 'mountain range' (see below).
6. Augst considered only native nouns. However, the nonnative final-stressed, animate masculines (*Poet* "poet', *Kommandant* 'commander') behave exactly like masculines in /ə/ in the plural as well.
7. The distribution of umlaut is phonologically determined only in *-er* plurals, not in *-e* and Ø plurals. Strictly speaking, in the latter cases it represents a separate (additional) plural marker defining independent paradigm types. On the regularities of umlaut distribution in monosyllabic masculines, see Köpcke 1994.
8. At this point one runs into the problem for categorial rule models of where to draw the line between rules and lexically stored "exceptions", cf. the case of *Mutter* 'mother' and *Tochter* 'daughter', two single nouns showing a morphological behavior fully motivated by extra-morphological criteria. How many lexical items are required before a rule can be assumed: three, five, ten? Can rules be assumed only for productive groups, or are there also inactive or nonproductive rules (cf. Becker 1990:116-117)?
9. For a detailed description of the weak masculines, see Bittner 1991 and Köpcke (1993).
10. Since beside *-n* no other dative plural flexive exists, it is possible that the lack of *-n* in the dative plural with the *-s* and *-(e)n* plurals is phonologically determined. I assume the same for the flexive *-(e)s* in the genitive singular. This would obviate the rule under (9b). As could be seen I assume similar phonological restrictions for the flexive -(e)s in the genitive singular.

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Gender in North Germanic: A diasystematic and functional approach*

Kurt Braunmüller

1. Gender systems in Scandinavian languages

The Nordic or Scandinavian languages[1] and their dialects show a broad range of different gender systems and subsystems.

1.1. Three-gender system

We find languages with the typical Indo-European gender classification in masculines, feminines, and neuters.

This system correlates with the most archaic and isolated (insular) Nordic languages, Icelandic and Faroese. It is also to be found in nearly all Scandinavian dialects; the majority of Jutish (western Danish) dialects, however, form the only exceptions (cf. map 23 in Brøndum-Nielsen 1927 [two-/zero-gender systems] and (3) below). This observation is by no means surprising, since this three-gender system is represented in nearly all older Indo-European languages and in most of their dialects.

This system can, however, also be found in a rather new standard language, in New Norwegian (*nynorsk*). New Norwegian, or at that time called *landsmaal*,[2] was created by Ivar Aasen in the middle of the 19th century on the basis of a selection of (mostly western and some southern) Norwegian dialects. It was supposed to become a new and more genuine Norwegian standard language in opposition to the *riksmaal (riksmål)* dominant up to that time, later (after 1929) called *bokmål*. Its English translation, Dano-Norwegian, coined by Einar Haugen (cf. Haugen 1976), takes account of its Danish origin, the formerly common (written) standard language of the Danish kingdom, of which Norway was a part until 1814. The planning of a

new standard language with such an archaic gender system was only possible on the basis of the widely known and spoken local dialects in this country. Seen from this point of view, New Norwegian represents just a new, unified Norwegian (written) dialect and thus cannot be considered a true exception to the linguistic situation described above.

1.2. Two-gender system

The two-gender system is far more typical for the Scandinavian languages of today. Due to some phonological developments (e.g., the simplification of /n:/ > /n/ in final position), due to analogical adjustments and already existing inflectional similarities in the paradigms of masculines and feminines[3], these two categories coalesced and became a so-called "genus commune" or uter (Swed. *utrum*, Dan. *fælleskøn*, Norw. *felleskjønn*). The other category, neuter, remained unchanged. This two-gender system is the basic system of standard Danish and Swedish, and in principle of Dano-Norwegian, too.

1.3. Hybrid-gender system

Unfortunately, Dano-Norwegian does not exactly fit this general description. Since the language reforms of 1917 and especially of 1938, it developed into a very complicated hybrid system. In most respects, Dano-Norwegian can be characterized as belonging to the two-gender system described above. Language planning in terms of integrating many dialectal words and words, not even known from Danish, as well as permanent contacts with the other standard language, New Norwegian, caused a partial reintroduction of the three-gender system. Roughly speaking, it can be said that if a noun refers to a female person or animal, the three-gender system with its distinction between masculines and feminines has to be used, cf. (1a) and (1b):

(1) Dano-Norwegian: female / feminine

a.	*ei jente*	–	*jenta*
	'a girl'		'the girl'
	ei kone	–	*kona*
	'a woman'		'the woman'
b.	*ei ku*	–	*kua*
	'a cow'		'the cow'
	ei høne	–	*høna*
	'a hen'		'the hen'

(2) Dano-Norwegian: feminine by dialectal impact

[*ei* + N [-def, +sing.], N-*a* [+def, +sing.]]

bok	*sol*	*tid*
'book'	'sun'	'time'

It should also be used in connection with a couple of more or less frequent words such as those mentioned in (2), the feminine gender of which is commonly well known by native Norwegians with a good command of their local dialects. The number of these non-semantically motivated feminines has been vacillating considerably since language planning has taken care of the two standard languages in Norway.

These various reforms and sometimes deeply penetrating restructurings of linguistic (sub-)systems have, however, not always been followed by all Norwegians. An influential group, visually represented by the biggest and most influential daily newspaper in Norway, *Aftenposten*, refuses to use Dano-Norwegian with its hybrid-gender system and adheres to the former (Danish) two-gender system. This conservative variety of Norwegian is still called *riksmål*.[4]

1.4. Count - mass system

The fourth and last gender system can not be found in any Scandinavian standard language but only in some western Danish dialects. These West Jutish dialects show only a semantically motivated gender distinction but no gender marking on the grammatical level at all: Normally, all nouns take the same determiner in a noun phrase, the indefinite article *en* 'a' or the definite article *æ* 'the'. Thus, there is actually no formal difference in "uter/neuter" or in "masculine / feminine / neuter" on the grammatical level, as it is the case in the other Jutish dialects (cf. 3a and 3b). This is the reason, why traditional Danish dialectology used to treat these West Jutish dialects more or less parallel to modern English as a language with only one (recte: no)[5] gender marker.

(3) a. West Jutish: no difference in gender

en man	*en hus*
'a man'	'a house'

b. South Jutish: uter vs. neuter

en man [uter]	*et hus* [neuter]
'a man'	'a house'

However, this analysis fits only the grammatical level (gender assignment and agreement) but not the referential level, including pronominalization. There, a semantic principle comes into play which distinguishes between nouns referring to countable items, co-occurring with the default determiner *en* 'a' or *æ* 'the' (cf. 4a), on the one hand and to non-countable items, i.e., substances (4b) or abstract concepts (4c), marked by *det* 'that', on the other (cf. Ringgaard 1971: 30f. and section 4.2.3.2.). This special (semantic) gender marker *det* 'that' can either occur as a determiner or as a pronoun.

(4) West Jutish

a. pronominalized by *den* 'it'

æ man	*æ hus*
'the man'	'the house'

b. pronominalized by *det* 'it'

det mælk	*det jord*
'that milk'	'that soil'

c. pronominalized by *det* 'it'

det skrigen
'that shouting'

1.5. Summary

The different types of gender systems in North Germanic can finally be summarized in the following diagram (Figure 1). It should be observed that the hybrid Dano-Norwegian gender system actually comprises two variants, a socalled "moderate" and a more "radical" one. The radical version of Dano-Norwegian lies quite close to New Norwegian and shows far more dialectally based feminines[6] (of inanimate nouns) in comparison with the more conservative version, "moderate" Dano-Norwegian.

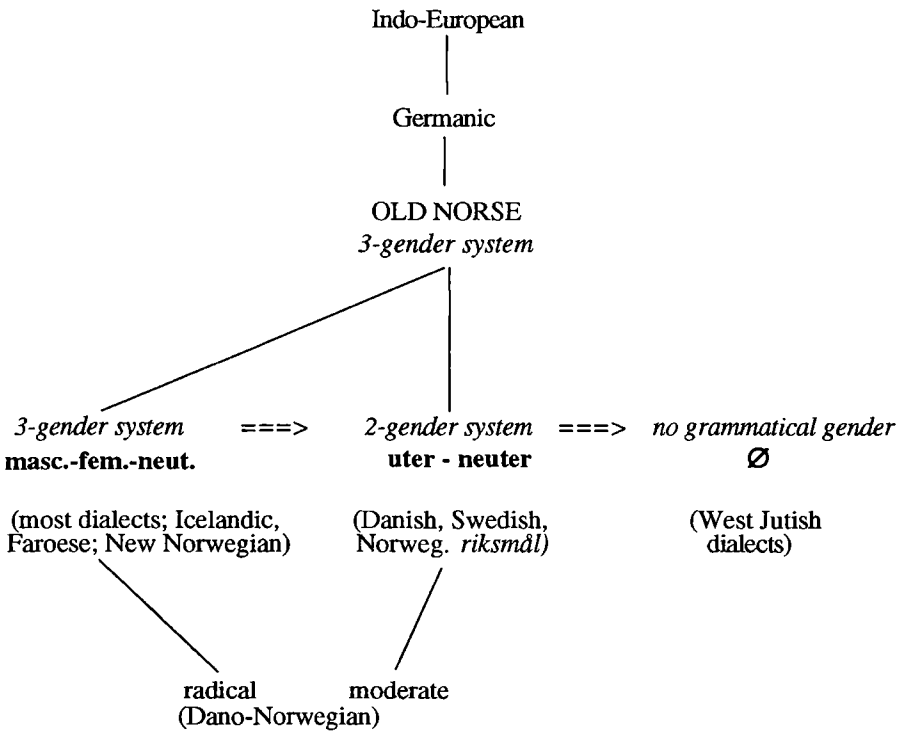

Figure 1. Gender systems in North Germanic

2. Gender and pronominalization: Two basic principles

There are two basic principles according to which pronominalization operates in Scandinavian languages:

(a) the grammatical principle,
(b) the semantic principle.

"Grammatical principle" means here that only (overt or inherent) morphological features[7] are involved, whereas the semantic principle says that this kind of pronominalization is based on natural gender, i.e., on sex, or on other semantic distinctions, e.g., "animate / non-animate" or "partitive / non-partitive".

2.1. The grammatical principle

The grammatical principle is to be found in all languages with a three-gender system, i.e., in Icelandic, Faroese and New Norwegian (cf. section 1.1.). In these languages, mainly[8] this principle of grammatical reference is in use when pronominalization rules apply, no matter whether the noun to be referred to can be classified as "animate" (and then further as "male" or "female") or "inanimate" (Figure 2):

[+ animate]			[– animate]		
maður	–	*hann*	*bátur*	–	*hann*
'man'		'he'	'boat'		'it'
kona	–	*hún*	*stofa*	–	*hún*
'woman'		'she'	'room'		'it'
barn	–	*það*	*borð*	–	*það*
'child'		'it'	'table'		'it'

Figure 2. Pronominalization in Icelandic

This principle says that the gender of the nouns or noun phrases to be pronominalized has to be carried by the respective third person pronouns without taking semantic information into consideration. This mechanical way of copying gender features according to agreement rules (cf. section 3.) is very well known from many other European languages, e.g., from German (5):

(5) a. German

der Tisch	–	*er*
'the table'		'it'
die Küche	–	*sie*
'the kitchen'		'it'
das Mädchen	–	*es*
'the girl'		'she'

b. Icelandic

Þau	*eru*	*systkini*
they [neuter pl.]	are	brother and sister

'they are brother and sister'

Only plural pronouns, representing a mixed group of referential objects with different gender features, demand special pronominalization rules. In Icelandic and Faroese, the third person neuter pronouns (*Þau* and *tey* 'they', respectively) have to be used in these cases.[9] New Norwegian, however, has not (re)established a gender differentiation in the plural (*dei* 'they' is the only form).

2.2. The semantic principle

A semantic principle forms the basis for pronominalization in those Scandinavian languages which show a two-gender or a hybrid-gender system (cf. 1.2. - 1.3.).

2.2.1. The first rule of pronominalization operates on the distinction between "human" or "animate" on the one hand and "inanimate" on the other. In the case of inanimate objects, such as 'table' or 'chair', the grammatical principle mentioned above applies again (6).

(6) Scandinavian

bord	–	*det*	*stol*	–	*den*
'table	–	it'	'chair	–	it'

Human beings and (some) higher animals are, however, subject to a (further) semantic pronominalization rule, the assignment of sex. In this respect, Swedish, Danish, and Dano-Norwegian very closely resemble the English pronominalization system:

(7) Swedish

mannen	–	*han*	*kvinnan*	–	*hon*
'the man	–	he'	'the woman	–	she'

Sometimes it may not always be clear whether, e.g., a (normal, not a riding) horse or a cow has to be considered as a kind of thing (to be pronominalized according to (6)) or rather as an animal with a deeper relationship to man (pronominalization such as in (7)). This semantic system can be diagrammed as follows:

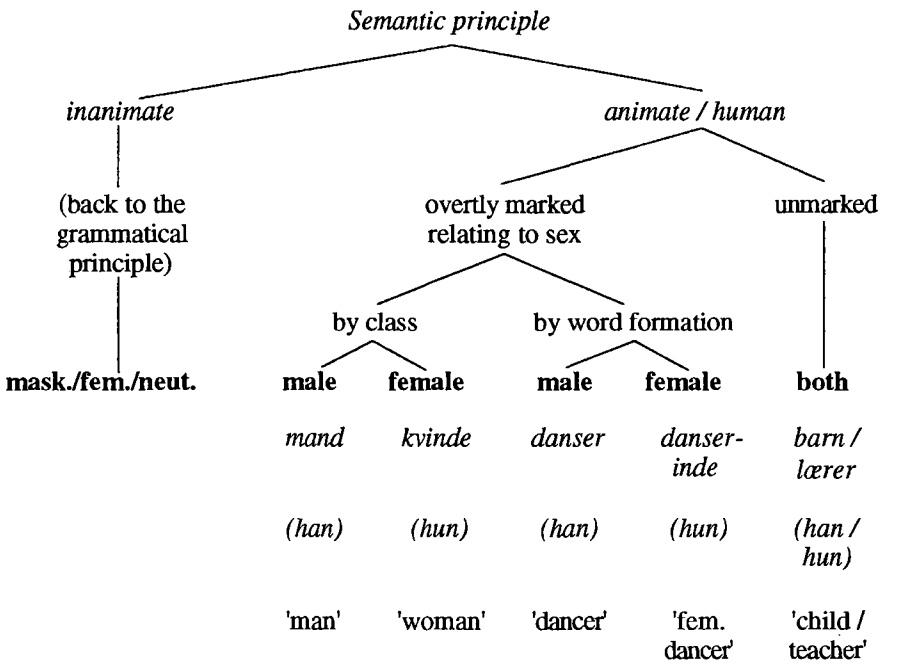

Figure 3. Gender in Scandinavian (Danish)

Unmarked nouns referring to humans (such as Dan. *barn* 'child' or *lærer* 'teacher') or certain animals can also be considered as "substantiva communia" (cf. 8):

(8) Latin

parens	*canis*
'father / mother'	'male / female dog'

This kind of semantic unmarkedness (here: unspecified in respect of sex), should, however, not be mixed up with cases like ((9), esp.

(9b)), where one reading comprises a more global / generic meaning and the other a more restricted / specific one:

(9) a. *day* (cf. Germ. *Tag*)
'24 hours'[10] vs. 'day [not night]'

b. *cat* (cf. Germ. *Katze*)
'cat' vs. 'female cat'

2.2.2. In the case of 'child' (Scand. *barn*, normally pronominalized by the corresponding neuter pronoun *det* [Icel. *það*, Far. *tað*] 'it'[11]), it depends of course on the child's sex, if a gender-marked personal pronoun (*han(n)* 'he' or *hon/hun* 'she') is to be chosen. This same rule, which has to disambiguate referential objects without a clear semantic distinction in respect of sex, applies to professional occupations, too: Swed. *lärare* 'teacher', *läkare* 'physician', *professor* or even Dan. *købmand* 'shopkeeper'[12] can be pronominalized either by *han* 'he' or *hon/hun* 'she'. Swed. *lärarinna* / Dan. *lærerinde* 'female teacher' is (officially) no longer in use and sounds nowadays quite depreciating (cf. also Braunmüller 1991: 41–43).[13]

2.2.3. Only a few words do not conform to this semantic system. Swed. *en människa* (uter / 'genus commune') or Dan./Dano-Norweg. *et menneske* (neuter) 'person' are pronominalized according to former gender assignments. Whereas *människa* in Swedish always has to be referred to by the female (!) form *hon* 'she',[14] *menneske* in Danish can either be pronominalized grammatically by using the neuter form *det* 'it' or occasionally by *han* or *hun* 'he / she', if you should have a more concrete idea about the person you are taking about. The same rule applies also for Swed. *klokka* 'time, hour', which has to be pronominalized by *hon* 'she' (and not by *den* 'it', according to the semantic principle under discussion; cf. Figure 3). Dan. *postbud* 'mailman (!)' is neuter in gender, but pronominalized either by *han* 'he' or *hun* 'she', depending on the respective person's sex.

It should be observed that in all these cases, agreement rules still operate according to grammatical principles: Swed. *en fin människa* [uter]/Dan./Dano-Norweg. *et fint menneske* [neuter] 'a nobel person' and Dan. *et langsomt postbud* 'a slow postman [male / female]'.

3. Gender and agreement

3.1. General agreement rules

There can be no doubt that one of the main functions of gender is to mark agreement between nouns and adjectives, both in attributive and predicative position. In some languages, e.g., Latin, agreement relations often result in morphologically identical patterns (10a), but this is not mandatory (10b):

(10) Latin

a. *puell<u>a</u> pulchr<u>a</u>*
'beautiful girl'

bell<u>um</u> gallic<u>um</u>
'Gaulish War'

b. *poet<u>a</u> doct<u>us</u>*
'learned poet' [masc.]

man<u>us</u> dextr<u>a</u>
'right hand' [fem.]

gen<u>us</u> commun<u>e</u>
'uter' [neut.]

This formal identity has, however, nothing to do with gender itself but just results from parallelisms between formally corresponding inflectional classes. They represent in this type of language a complex sign for three grammatical features (case, number, and gender) where gender is only one of them.

Further, this formal principle of grammatical agreement also applies for all Nordic languages. The following examples have been taken from (modern) Icelandic because this language still shows the greatest inflectional variation of all modern Nordic languages:

(a) [sing. masc.]

rík<u>ur</u> maður	*maðurinn er rík<u>ur</u>*
'(a) rich man'	'the man is rich'

(b) [sing. fem.]

ríkØ kona	*konan er ríkØ*
'(a) rich woman'	'the woman is rich'

(c) [sing. neut.]

rík<u>t</u> barn	*barnið er rík<u>t</u>*
'(a) rich child'	'the child is rich'

(a') [plur. masc.]

rík<u>ir</u> menn	*mennirnir eru rík<u>ir</u>*
rich men'	'the men are rich'

(b') [plur. fem.]

rík<u>ar</u> konur	*konurna eru rík<u>ar</u>*
'rich women'	'the women are rich'

(c') [plur. neut.]

ríkØ börn	*börnin eru ríkØ*
'rich children'	'the children are rich'

Figure 4 a: Agreement in Icelandic

In mainland Scandinavian languages (Danish, Swedish, Dano- and New Norwegian) only neuter singular forms and plurals (without any differentiation in gender) are marked (cf. Figure 4b with examples from Danish):

(a") [plural]

rige mænd	*mændene er rige*
'rich men'	'the men are rich'

(c") [sing. neut.]

et rigt barn	*barnet er rigt*
a rich child'	'the child is rich'

Figure 4 b: Agreement in Danish

3.2. Agreement and "sentence equivalency"

There are, however, some interesting exceptions to these general agreement rules.

In Danish, infinitives acquire the feature "neuter", if they function as sentence equivalents (11).[15]

(11) Danish

At ryge er usundt.
'[lit.] To smoke is unhealty.'[16]

But there are cases, where two grammatical rules may come into conflict with each other. Both versions, (12a) and (12b), are grammatically correct, but in different ways:

(12) Danish

a. *Tobaksrygning er usund.*
b. *Tobaksrygning er usundt.*
'[lit.] Tobacco smoking is unhealthy.'

In version (12a), you simply follow mechanically the ordinary agreement rules [(here: predicative) adjectives in agreement with uter singular nouns never get an inflectional *-t*]. In (12b), however, you interpret the compound *tobaksrygning* as a kind of infinitival construction ('to smoke tobacco') which results then in an adjective neu-

ter form (now with a final *-t*, according to the syntactic rule mentioned above; cf. (11)). In the Danish standard language of today, the formally correct use of gender (without a *t*-suffix) is, however, not that expression which generally is preferred. In other words, the grammatical function "sentence equivalency" (12b; 11) (which entails "neuter") overrides any other agreement rules.

3.3. Agreement and specific vs. generic readings

Another interesting issue in connection with gender and agreement was heavily debated in Sweden some decades ago (cf. 13), namely:

(13) Swedish

> *Är färsk sill god eller gott?*
> 'Is fresh herring [uter] "god" ['good', uter] or "gott" ['good', neuter]?'[17]

Can this uncertainty in using gender be seen as another indication for the decline of the Swedish language or should not this phenomenon better be regarded as something quite different?

Gun Widmark argues in favor of a semantic differentiation by making use of different gender forms: When *sill* [uter] is used as a kind of generic term, a mass noun with the feature [–specific], or as a term with non-delimited reference (so Källström 1994: 196), then it is supposed to become a neuter. The same would happen, if the noun under discussion represents an abstract referent, such as (14); (cf. Widmark 1971: 81).[18]

(14) Swedish

> *Politik är roligt.*
> 'Politics [uter] is amusing [neuter].'

But if we are talking about a specific kind of *sill* 'herring' and not about herring as such, we should use the original gender 'uter' and proceed according to the normal grammatical agreement rules of modern Swedish:

(15) Swedish

Nyfångad sill är särskilt god.
'Recently caught herring [uter] is especially good [uter].'

Neuter is, however, absolutely excluded from such a semantic differentiation, when the definite noun/noun phrase the predicative adjective refers to stands in the plural (cf. (16a) vs. the absolutely ungrammatical sentence (16b)). Only indefinite nouns/noun phrases agree with a neuter predicative (16c). But then they get a non-specific, generic interpretation.

(16) Swedish

a. *Ärterna är goda.*
'The peas are good [plural].'

b. **Ärterna är gott.*
'The peas are good [neuter sing.].'

c. *Ärter är gott.*
'Peas are good [neuter sing.]'

3.4. Summary

Both exceptions to the general agreement rules with respect to gender in Danish and Swedish make it obvious that gender is going to take over new (grammatical or semantic) functions. But such a remarkable development could only happen because agreement and the grammatical category gender no longer occur as integral parts of a complex inflectional system with many distinct case markers (as it still is the case in Icelandic, and partly in Faroese, too), but only as a suffix which neither seems to be very distinct nor absolutely necessary. That is why gender can be used under those conditions for other purposes (if it has not yet disappeared as a grammatical category), e.g., in order to refer to whole clauses (11, 12b) or as a semantically based category in order to distinguish between a [+specific] or [–specific/+ generic] reading of a noun / noun phrase.

4. A diasystematic description of gender in Scandinavian languages

4.0. General observations

Three general observations can be made when analysing gender systems in (mainland) Scandinavian languages:

(a) The distribution of gender in standard languages can diverge considerably from the use in their dialects. It may even be the case that a standard language shows a basically different gender system as compared with the systems of its dialects.
(b) In a lot of instances, the distribution and application of gender is based on semantic principles. Gender structures as well as gender assignment rules in pronominalization show, however, exceptions due to influence either from dialects, from language history, or even from language planning (especially in Norway).
(c) The appearance of gender systems in Scandinavian which are (at least partly) based on semantic principles gives way to further restructurings. Mainland Scandinavian languages (cf. 3.2. / 3.3.) and dialects of Jutland especially show the way in which languages with reduced gender systems may develop: If gender loses more and more of its grammatical and referential functions, it may be used to represent other (in most cases: semantic) features. This restructuring needs, however, not necessarily lead to the development of systems like the English one, which distinguishes between "male" and "female" on the one hand and "inanimate" or "neuter" on the other.

These observations suggest that only a diasystematic approach to gender in North Germanic can result in really complete and typologically valid linguistic descriptions of the languages under discussion. If only the (written) standard languages were taken into consideration, our description would not be able to account for casual speech or for the various mixtures between standard and dialectal forms.

4.1. Vacillation in gender

4.1.1. In languages which more or less show the old Indo-European gender system, as, e.g., Icelandic or Faroese, the use of gender is restricted to the grammatical (or formal) level. There is normally no vacillation between the use of gender in the standard language and in its dialectal varieties.

In languages with a defective and all the more a rudimentary inflectional system, as, e.g., German and Danish (as well as the other mainland Scandinavian languages), respectively, the use of gender may vacillate[19] not only in loan or foreign words (17a and 18a), but also in native words (17b and 18b).

(17) German (non-standard use underlined):

a. *das / der Radio*
'the radio'

der / das Tunnel[20]
'the tunnel'

b. *der / das Teller*
'the plate'

die / der[21] *Butter* [in southern dialects]
'the butter'

der / das Bund [in northern dialects]
'bundle, bunch'

(18) Danish:

a. *en / et circus*
'a circus'

en / et indeks
'an index'

(en / et) gummi [no clear preference]
'rubber'

b. *en / et kop* [southern Jutish]
'a cup'

et / en hus [West Jutish]
'a house'

Only in those languages which either have lost a great deal of their case markers or show many merged inflectional suffixes can gender additionally be used to keep homonyms[22] apart (cf. (19) and (20)):

(19) German

a. *der See* vs. *die See*
[plural: *Seen*] [no plural]
'the lake' 'the sea'

b. *der Gehalt* vs. *das Gehalt*
[plural: *Gehalte*] [plural: *Gehälter*]
'the content' 'the salary'

(20) Danish

a. *jalousi* [uter] vs. *et jalousi* [neuter]
[no plural] [plural: *jalousier*]
'jealousy' 'jalousie, (Venetian) blind(s)'

b. *vår* [uter] vs. *et vår* [neuter]
[no plural] [plural: *vårene*][23]
'spring (time)' 'ticking; slip'

But yet it seems to be quite unusual that gender (and not other grammatical means) is used in these languages to convey relevant semantic information. The only example for a special semantic differentiation by gender I came across is the German masculine noun *Mensch* 'person'. In southern German dialects it may also be used as a neuter and thus acquires a new meaning: 'bad female person' (*das Mensch*).

In fully inflectional languages like Latin, nouns which show (more or less) different meanings according to their marking with gender are rare:

(21) Latin

dies [masc. / fem.]
a. 'day-light [masc.]'
b. 'period of time [fem.]'
(*dies dominica* 'the Lord's day', sc. 'Sunday')

4.1.2. Icelandic and Faroese[24] can, at least in principle, be seen as parallel to German and its three-gender system (cf. sections 2.1. and 3.1.). But there are no vacillations in gender of the kind described above. One (internal grammatical) reason for this is the fact that gender in a highly inflectional language, such as Icelandic, forms an integral part of its numerous inflectional classes (cf. the dozens of paradigms listed in Thomson 1987) and can therefore not be separated from other morphological features such as case or number which are part of the same inflectional paradigm, too.

New Norwegian, however, differs in some other ways from these linguistic structures. Although it has taken over the function of a (roofing) standard language, it does not happen that the use of gender in the written form diverges from one of its dialectal varieties: the gender structures of the respective dialect will always determine the use of gender in the written standard language. In other words, the norms of the oral / dialectal varieties prevail.

4.1.3. The other Scandinavian languages show many contrasts or even sometimes conflicts between the standard language and its dialects. In Dano-Norwegian these conflicts can often be solved by integrating a certain number of feminine nouns (descending from dialects) into the standard language. In Danish or Swedish, however, unconditioned[25] vacillation in gender of native words nearly always indicates that the speaker has a certain dialect as his / her first language (cf. 18b).

4.2. Towards a typological explanation

4.2.1. As shown above, there may occur deviations from the grammatical (cf. Figure 1 in 1.5.) or semantic principles (cf. Figure 3 in 2.2.1.) governing the different gender systems under discussion. It has further been mentioned (cf. 1.3.) that some of these exceptions