#### DEFECTIVATION AND PARADIGM STRUCTURE: CAN A NUMBER BE A GENDER?

Frans Plank (U Konstanz)

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## A. The basics of paradigm design

- distinguishing, grouping, ordering,
   and identifying what is being distinguished, grouped, ordered
- distinctions: TERMS; groups: CATEGORIES; order: RELATIONS among terms and among categories, including affinity (licensing non-distinction), markedness (among terms), and dominance (among categories)
- On which grounds to distinguish, group, order?
  - contrasts of form.

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or also of co-varying (=agreeing or agreement-controlling) form 
you ... yourself, you ... yourselves

vs. identity of forms and patterns of identity (neutralization),
and the interpretation of the rationale of an identity as "deep" or "superficial",
as synchronic or diachronic (e.g., are<sub>1</sub> vs. are<sub>2</sub>)
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• (plausible construal of) corresponding contrasts in meaning; e.g., as to (1):

speech-act roles and sets formed from elementary roles:

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{sp}, {ad}, {-sp/-ad}, {sp, ...}, {ad, ...}, {-sp/-ad, ...};
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meaning-form relation in accordance with referential hierarchy:

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sp > ad > -sp/-ad
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cardinality of sets: 1 vs. 1+

• (in)ability to serve as resolution form in case of conflicts

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e.g., Either you [2SG] or we are [2SG/1PL] wrong
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- forms similar or dissimilar
- distribution similar or dissimilar
- exponence separate or cumulative
- possibilities of combination unlimited (even when exponence is cumulative) or limited
- trade-off with syntax: rules of syntax ought to be general (e.g., the **same** sbj-verb agreement rule for SG **and** PL, and for **all** verbs)
- "simplicity", as defined by your theory of phonology, morphology, syntax, and their interface

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(1) Person and number in an (unusual) English verb

		(pers.pro)	PRESENT	PAST	(1')
SG	1	(I)	am	was	1
	2	(you)	are	were	2
	3	(he/she/it)	is	was	3
PL	1	(we)	are	were	4
	2	(you)	are	were	5
	3	(they)	are	were	6

markedness: Past > present; Plural (associative) > singular; 1/2 > 3

dominance: TENSE > NUMBER > PERSON

?

dominance:	IENSE > NUMI	BEK > PEKSON	
(1″)		PRESENT	PAST
sg 3		is	was
1		am	was
2		are	were
PL 3		are	were
1		are	were
2		are	were
(1"")		PRESENT	PAST
sg 3		is	was
1		am	was
2		are	were
PL		are	were
(1"")		PRESENT	PAST
3		is	was
1		am	was
2		are	were
4		are	were
(1""')		PRESENT	PAST
3		is	was
1		am	was

are

were

(2) Gender and number in the Russian past

SG M ja, ty, on cital 'I (male), you (male), he read' (PAST) 'I (female), you (female), she read' F ja, ty, ona citala 'it read' N ono citalo PL my, vy, oni citali 'we, you-guys, they read'

[[SG.M, SG.F, SG.N], PL] hierarchical? (i.e., with subset grouping)
[M, F, N, PL] flat? (i.e., without subset grouping)

- (3) Dependencies between number and gender
- universal implication: if agreement in gender, then in number (but also: if (agreement for) case, then (agreement for) number)
- frequent cumulation
- frequent defectivization
  - fewer genders in PL/DU/TR than in SG
  - (• also: different genders in PL/DU/TR than in SG)
  - fewer numbers (i.e., no PL distinguished from SG) in non-human/lessanimate nouns than in human/animate nouns
- allomorphy
  - of PL frequently conditioned by gender; inverse number (as in Kiowa-Tanoan) as the most extreme case
  - of gender marking conditioned by number?
- sometimes polarity

e.g., definite article in Somali

SG PL
M kii tii
F tii kii

Still, all such dependencies are in principle consistent with the assumption that number and gender are separate categories.

## B. Gender defectivation in relation to number in German

# (4) Agreement in the NP, and agreement and coreference with the NP, in German NOMINATIVE

ein-Ø neu-es Zebra	welch-es]	komm-t	Ø-es
ein-Ø neu-er Gorilla	welch-er]	komm-t	Ø-er
ein-e neu-e Kobra	welch-e]	komm-t	s-ie
(viel-e) neu-e Zebra-s	welch-e]	komm-en	s-ie
(viel-e) neu-e Gorilla-s	welch-e]	komm-en	s-ie
(viel-e) neu-e Kobra-s	welch-e]	komm-en	s-ie
ein-Ø neu-es Zebra	welch-es]		Ø-es
ein-en neu-en Gorilla	welch-en]		ih-n
ein-e neu-e Kobra	welch-e]	•••	s-ie
(viel-e) neu-e Zebra-s	welch-e]		s-ie
(viel-e) neu-e Gorilla-s	welch-e]		s-ie
(viel-e) neu-e Kobra-s	welch-e]		s-ie
ein-es neu-en Zebra-s	welch-es]*		sein-er
ein-es neu-en Gorilla-s	welch-es]*		sein-er
ein-er neu-en Kobra	welch-er]*	•••	ih-r-er
(viel-er) neu- <u>er</u> /-en Zebra-s	welch-er]		ih-r-er
(viel-er) neu- <u>er</u> /-en Gorilla-s	welch-er]		ih-r-er
(viel-er) neu- <u>er</u> /-en Kobra-s	welch-er]		ih-r-er
ein-em neu-en Zebra	welch-em]		ih-m
ein-em neu-en Gorilla	welch-em]		ih-m
ein-er neu-en Kobra	welch-er]	•••	ih-r
(viel-e <u>n</u> ) neu-en Zebra-s	welch-e <u>n</u> ]	•••	ih-n-en
(viel-e <u>n</u> ) neu-en Zebra-s (viel-e <u>n</u> ) neu-en Gorilla-s	welch-e <u>n</u> ] welch-e <u>n</u> ]		ih-n-en ih-n-en
	ein-Ø neu-er Gorilla ein-e neu-e Kobra  (viel-e) neu-e Zebra-s (viel-e) neu-e Gorilla-s (viel-e) neu-e Kobra-s  ein-Ø neu-es Zebra ein-en neu-en Gorilla ein-e neu-e Kobra  (viel-e) neu-e Zebra-s (viel-e) neu-e Gorilla-s (viel-e) neu-e Kobra-s  ein-es neu-en Zebra-s ein-es neu-en Gorilla-s ein-er neu-en Kobra  (viel-er) neu-er/-en Zebra-s (viel-er) neu-er/-en Gorilla-s (viel-er) neu-er/-en Kobra-s  ein-em neu-en Zebra-s	ein-Ø neu-er Gorilla welch-er] ein-e neu-e Kobra welch-e] (viel-e) neu-e Zebra-s welch-e] (viel-e) neu-e Gorilla-s welch-e] (viel-e) neu-e Kobra-s welch-e] ein-Ø neu-es Zebra welch-es] ein-en neu-en Gorilla welch-en] (viel-e) neu-e Zebra-s welch-e] (viel-e) neu-e Gorilla-s welch-e] (viel-e) neu-e Kobra-s welch-e] (viel-e) neu-e Kobra-s welch-es]* ein-es neu-en Zebra-s welch-es]* ein-er neu-en Kobra welch-er] (viel-er) neu-er/-en Zebra-s welch-er] (viel-er) neu-er/-en Kobra-s welch-er] (viel-er) neu-er/-en Kobra-s welch-er]	ein-Ø neu-er Gorilla welch-er] komm-t ein-e neu-e Kobra welch-e] komm-t (viel-e) neu-e Zebra-s welch-e] komm-en (viel-e) neu-e Gorilla-s welch-e] komm-en (viel-e) neu-e Kobra-s welch-e] komm-en ein-Ø neu-es Zebra welch-e] ein-en neu-en Gorilla welch-en] (viel-e) neu-e Zebra-s welch-e] (viel-e) neu-e Gorilla-s welch-e] (viel-e) neu-e Kobra-s welch-e] ein-es neu-en Zebra-s welch-e] ein-es neu-en Gorilla-s welch-es]* ein-es neu-en Gorilla-s welch-er] (viel-er) neu-ef/-en Zebra-s welch-er] (viel-er) neu-ef/-en Gorilla-s welch-er] (viel-er) neu-ef/-en Gorilla-s welch-er] (viel-er) neu-ef/-en Gorilla-s welch-er] ein-em neu-en Zebra welch-er]

* indef without DET (as with mass nouns):	neu-en Wein-s, neu-es Has-en?
	neu-en Bier-s, neu-es X
	neu-er Milch

(5) Agreement in German: Agreement classes						
analysis A	analysis B	analysis C				
SG.N	SG.N	N				
SG.M	SG.M	M				
SG.F	SG.F	F				
		PL				
PL.N						
PL.M	PL					
PL.F						
exponents shared	terms reduced	terms and categories				
among terms	in presence of	reduced everywhere:				
	marked partner term;	1 category of 4 terms				
paradigm hierarchical:	paradigm hierarchical:	paradigm flat:				
[[SG.N, SG.M, SG.F],	[[SG.N, SG.M, SG.F], PL]	[N, M, F, PL]				
[PL.N, PL.M, PL.F]]						
NUMBER dominates GENDER	NUMBER dominates GENDER	dominance irrelevant				
		analysis C´				
		N				
		M				
		F/PL				
		[2, 2, 5/5]				
		[N, M, F/PL]				
		but see underlinings in (4)!				

(6) Exponents in (4), their domains, and what they express (minimizing homonymy so far as reasonable)

-Ø indefinite article:

NOM, if N: ACC = NOM,

N and M;

-as, -(e)s<sub>1</sub> CASE MARK: NOM required (being the first word in an NP able to get such marking), N, and always if N, then ACC = NOM;

- -(e) $r_1$  CASE MARK: NOM required (being the first word in an NP able to get such marking), M;
- -ie, -(e) DIRECT case (NOM or ACC), but no distinctive CASE MARK required,
   owing to a preceding word distinguishing NOM and ACC
   or owing to NOM ≠ ACC distinctness being only imposed for M;
- - $(e)s_2$  CASE MARK: GEN required (being the first/only word in an NP able to get such marking), N and M;
- - $(e)r_2$  CASE MARK: GEN required (being the first/only word in an NP able to get such marking), F and PL,
- -(e)m CASE MARK: DAT required (being the first/only word in an NP able to get such marking),

  N or M,

  (for F: DAT = GEN)
- -(e) $n_1$  CASE MARK: DAT required (being the first/only word in an NP able to get such marking), PL;
- -(e) $n_2$  OBLIQUE case (DAT and GEN, and includes ACC for M, where there is a distinctness requirement NOM  $\neq$  ACC), but no distinctive CASE MARK required, owing to a preceding case-distinctive word;

[-e]- $(e)n_3$  PL after def (with def itself not distinguishing PL and F)

Note: No CASE MARK requirement for ACC

Observation: NPs with an indefinite article in NOM.SG NEUTER and MASCULINE are odd; they ought to be:

ein-es neu-e Zebra

ein-er neu-e Gorilla

(ein-e neu-e Kobra)

(7)	A more familiar alternative of accounting for the exponents in (4)				
NOM	def, adj following indef	N	-as, -es		
		M	-er		
		F/PL	-ie, -e		
	indef	N/M	-Ø		
		F/PL	-е		
	adj following def	SG (N/M/F)	-е		
		PL	-en		
ACC	def, adj following indef	N	-as, -es	(=NOM)	
		M	-en		
		F/PL	-ie, -e	(=NOM)	
	indef	N	-Ø	(=NOM)	
		M	-en		
		F/PL	-е	(=NOM)	
	adj following def	N	-е	(=NOM)	
		M	-en		
		F	-е	(=NOM)	
		PL	-en	(=NOM)	
GEN	def, indef	N/M	-es		
		F/PL	-er		
	adj following def or indef	N/M/F/PL	-en		
		(or after indet	f - <i>er</i> )		
DAT	def, indef	N/M	-em		
		F	-er	(=GEN)	
		PL	-en		
	adj following def or indef	N/M/F/PL	-en	(=GEN)	

	(8) What is the status of, and relation between, number and gender on agreement controllers? (inspired by Antonsen 1973)							
Noun tem	• Noun template: [[Root–Formative] <sub>Stem</sub> –Inflection]							
• possibly [	Root] <sub>Stem</sub> e.g.,		Frau, Haus					
What kind	ls of stems the	re are:						
direct	direct e.g., Kirch-e, Balk-e							
obliq	ıe	Balk-er	, Mensch-en					
plural		Balk-er	, Mensch-en, Frau-en, Kind-er, Uhu-s					
deriva	ational?	Kirch-	(or is this the bare root?)					
• Can stems	be formed of	stems?						
yes, i	n particular, a	plural sten	n from a direct or an oblique stem: [Kirch-e-n]					
• Are there	regular relation	ns between	n oblique stems and plural stems?					
• There is c	onsiderable div	versity of	(lexically and semantically conditioned) stem formation,					
with plura	l stem formati	ves includ	ing:					
-e (w)	ith or without	umlaut)						
-er (v	-er (with or without umlaut)							
-(e)n	-(e)n							
-S	- <i>S</i>							
umlaı	ıt							
• Stem form	nation is deriva	ational;						
• Stems are	controllers of	agreemen	e: categories distinguished by stems are possible agreement					
categories	, including dir	ect vs. obl	ique vs. plural					
• Gender is	assigned to ste	ems	e.g., die Bind-e, das Band, der Band, der Bund, die Band-e					
• There are	four genders:	MASC, FEM	, NEUT, PL					
• Exponents	s of case (not c	cumulated	with number):					
NOM	I	II I	II					
NOM	_		<del>-</del>					
ACC	- (a)a		-					
GEN	-(e)s		-					
DAT	-(e)	-n -	<del>-</del>					

inflection class I: all neuter stems,

masculine stems except weak [a stem-formational category] animates

(e.g. Jung-e, Mensch) and those with suffix -us;

inflection class II: plural stems except those in -n or -s;

inflection class III: all feminine stems,

plural stems in -n or -s,

weak animate masculine stems,

masculine stems in -us.

- → three classifications: stem classes, inflection classes, agreement classes;
- → as to relationships between classifications,
  - stem classes are not co-extensive with agreement classes;
  - only plural stems are always one agreement class, for all relevant distinctions of case and case-sets (direct, oblique);
  - for all other stem classes (i.e., direct, oblique), agreement classes, for all relevant distinctions of case and case-sets, can only be circumscribed by additional subclassifications of stems (=gender);
  - ditto for inflection classes: one inflection class (II) coincides with an agreement class, the others don't;
  - there are certain dependencies of inflection class on agreement class and on stem class (e.g., If FEM, then not I and not plural stem -er). Or is it the other way round?

## C. What if you are plural but need a(nother) gender?

- C.1. Plural nouns reanalysed as singular
- (9) (native) pluralia tantum nouns used as singulars

## +ANIMATE/+HUMAN

Ahnen der Ahn

Vorfahren der Vorfahr(e) Eltern der/das Elter

Geschwister das Geschwister MHG geswistrede NEUT, collective SG Gebrüder der Gebruder???? as suggested by simplex der Bruder

Zwillinge der Zwilling

Leute das Leut MHG dër liut 'das Volk', PL liuti

Honoratioren Konsorten

#### -ANIM

Akten die Akte, der Akt Bauten die? Baute [der Bau]

Trümmer das Trumm

Scherben die Scherb<u>e</u>, der Scherben die Gliedmaßen die Gliedmaße?, das Gliedmaß?

Ingredienzien

Möbel das Möbel

Lebensmittel das Lebensmittel??? as suggested by simplex das Mittel Rauchwaren die Rauchware?? as suggested by simplex die Ware

Wirkwaren

Altwaren

Umtriebeder Umtrieb???as suggested by simplex der TriebGewissensbisseder Gewissensbiss???as suggested by simplex der Biss

## (10) renalysis of plural nouns as SG, in turn pluralizable:

der BeryllPL Berylle > B(e)rille=>SG die Brille, PL die Brillenbiblíon (NEUT) PL biblía=>SG die Bibel, PL die Bibelnder tranPL trene=>SG die Träne, PL die Tränenborsa SG coll > die Bursch=>SG indiv (male) der Bursch(e)

Frauenzimmer SG coll => SG indiv (female) das Frauenzimmer

#### (11) similarly, ethnonymic nouns in plural (dative!), reanalysed as SG.NOM

(bei den) Bayern, Schwaben, Franken, Sachsen, Hessen, Pommern gender: NEUT (like das Land)

## (12) place names < DAT.PL

Baden, Soden (MHG sôt 'Brunnen'), -X-felden, X-hofen, X-hausen München (ze dën münchen)

gender: also NEUT (towns are NEUT, regardless of die Stadt, die Burg, der Ort, die Furt, der Bach, even if they have these nouns as their second components)

## (13) English plurals reanalysed as singulars

coke-s	der Koks	no PL, mass noun
cake-s	der (das?) Keks	PL: die Keks-e
drop-s	der (das?) Drops	PL: die Drops(-e?)
new-s	die/eine News	PL: die ganzen News
jean-s	die/eine Jeans	PL: diese zwei Jeans

## (14) names of major Christian holidays, extending beyond one day

Ostern, Weihnachten, Pfingsten < DAT.PL governed by zu

MHG ze dën wîhen nahten

formally plural, but partly treated as SG for agreement purposes

PL in wish formulas, outside clause context

(?, or ellipsis: *I wish you* \_\_\_\_, i.e. these forms are accusative,

e.g. Schön-en Feiertag!)

frohe Ostern, gesegnete Weihnachten, erholsame Pfingsten!

(PL)/SG NP-internal agreement, with PL dialectal

diese Weihnachten, nächste Ostern, nach den Ostern

SG NP-internal; verb-agreement

Wir haben ein verregnetes Ostern gehabt

Weihnachten ist längst vorbei

Diese [PL] Weihnachten/Ostern/Pfingsten waren [PL]/\*war [SG] recht turbulent if SG, which gender? NEUT, formerly also FEM or MASC;

Weihnachten reformed as Weihnacht, with PL inflection dropped, and then FEM like the basic noun Nacht

old genitives: GEN.SG [dies] Michaelis, Martini

GEN.PL [dies] Allerseelen, Allerheiligen => gender in SG: NEUT

- C.2. Low numerals as overdifferentiated agreement targets
- (15) Plural gender agreement in earlier German, disappearing in MHG, but maintained a little longer (13/14/15 c.) in Upper German

MASC	FEM	NEUT	
blind-e	blind-e	blind-iu / blind-e	'blind' (strong declension)
d-ie	d-ie	d-iu	'the, those'
d-is-e	d-is-e	d-is-iu	'these'
s-ie/s-î/s-i	s-ie/s-î/s-i	s-iu	'they'

(16) Low numerals in Germanic, with gender contrasts only innovated in Germanic times rather than inherited from IE

	MASC	FEM	NEUT	
Gothic	twai	twós	twa	'two'
	*πreis	*πreis	$\pi rija$	'three'
Old Norse	tveir	tvær	tvau	'two'
	πrír	πriár	πriú	'three'
	fjórer	fjórar	fjogor	'four'

Old English	twégen	twá	twá / tú	'two' (twain)
	bégen	bá	bá / bú	'both'
	πríe	πréo	πréo	'three'
Old Saxon	twéne	twá / twó	twé	'two'
	thria	threa	thriu	'three'
Old High German	zwéne	zwá / zwó	zwei	'two'
	drí	drío	driu	'three'
early Modern				
High German	zween	zwo	zwei	'two'

(17) OHG/MHG numerals 4-12 uninflected when preceding their noun, inflected when following their noun and when nominalized:

OHG	uninflected	MASC/FEM	NEUT
	feor, fior	fiori	fior(i)u
MHG	vier	viere	vieriu

forms: i-declension for MASC/FEM, pronominal/strong adj decl for NEUTER

- (18)da geh-en Männ-er zw-een there go-3PL two-pl.masc  $man_{masc}$ -pl Frau-en zw-o woman<sub>FEM</sub>-PL two-PL.FEM Weib-er zw-ei two.PL-NEUT  $female_{NEUT}$ -PL zw-ei ... two-PL.NEUT [any mixture of genders of antecedents]
- (19) Züüritüütsch (similarly elsewhere in "deep" Alemannic and Bavarian), with neuter tending to be generalized everywhere

	MASC	FEM	NEUT	
NOM/ACC	zwee	zwoo	zwäi	'two'
DATIVE	zeene(n)	zwoone(n)	zwäine(n)	
NOM/ACC	drei	drei	drüü	'three'

DATIVE dreine(n) dreine(n)  $dr\ddot{u}ine(n)$ 

(20) Low numerals as overdifferentiated targets also in some Central Dravidian lgs (Parji, Kuruk2h2, Kol, Naikr`i, Gadba), Chechen-Ingush, and Nakh

(21) How does a complex higher numeral containing a very low numeral agree in gender (and number, if number isn't gender) in Chichewa (Bantu)?

chi-pewa chi-modzi

VII.SG-hat VII.SG.one 'one hat'

zi-pewa zi-sanu

VIII.PL-hat VIII.PL.five 'five hats'

zi-pewa zi-sanu ndi chi-modzi

VIII.PL-hat VIII.PL.five and VII.SG-one 'six hats'

(22) Possessive "adjectives" in Upper Sorbian, and how to agree with them:

moj-eho muz-ow-a sotr-a

my-GEN.SG.MASC husband<sub>MASC</sub>-ADJCT-NOM.SG.FEM sister<sub>FEM</sub>-NOM.SG

'my husband's sister'