

Token stability and type stability: What didn't happen to German?
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1. Gender Differentiation

- 3-way grammatical gender: German (High and Low), Icelandic, Færoese (and Polish, Sorbian, Czech etc.)
- 2-way grammatical gender: Norwegian, Swedish, Danish, Dutch, Frisian (and French, Italian etc.)
- Gender shift grammatical > semantic: English, Afrikaans
- Binary gender systems are typologically the most frequent (Nichols 1992: 129): natural binarity preference in morphology (Dressler 2003: 465).

2. Gender Acquisition

- German children acquire categories of the NP in the order
 - number > case > gender
- The acquisition of gender represents a 'grammatical burden' as children 'have difficulty learning meaningless elements' (Wegener 2011: 540–541, but cf. also Müller (2011)).

3. Narrative of Stability vs Narrative of Change

O(ld) H(igh) G(erman)

- noun morphology 'clearly marks three genders (masc./neut. – fem.)'
- changes during OHG include the development of a definite article and prepositions to support the case system
- OHG is conservative and 'preserves the character of an inflecting language'

(Braune/Reiffenstein 2004: 181, *my translation*)

O(ld) E(nglish)

- noun morphology was 'relatively inexpressive and ambiguous'
- it was 'eroded by later phonological changes [...] in particular, collapse of weak vowels in *-e* and merger of final /m/ and /n/ [in E(arly) M(iddle) E(nglish)]
- grammatical gender is 'not necessarily based on properties of the real-world denotata of nouns'
- gender was a 'covert noun category [...] overtly realised only in concord and anaphora [...] and the same [is] true to a large extent of case'
- 'Such a situation was ripe for analogical remodelling'

(Lass 1992: 103–6 cf. similar points in Markus 1988: 242–4)

4. Distribution of nouns between genders in OE and OHG

Table 1. OE: Number/percentage of nouns in each gender/category

	Hogg (a) %	Hogg (b)	Bosw.-Toller		PROIEL	
			No.	%	No.	%
masculine vocalic	35	32	3050	43	2191	49
masculine <i>n</i> -stem	10	4				
neuter	25	29	1455	21	1193	27
feminine vocalic	25	21	2522	36	1093	24
feminine <i>n</i> -stem	5	4				
other		10				
TOTAL	100	100	7027	100	4477	100

(Hogg (a) = Hogg: 1992a: 126; see also Quirk and Wrenn (1957: §25). Hogg (b) = Hogg and Fulk 2011: 12, a count based on the 100 most frequent nouns in OE. The high number for 'other' is accounted for by high-frequency athematic and *r*-stems, which as types are very rare: they divide as 6 masculine, 4 feminine. Bosw.-Toller = a search in the on-line Bosworth-Toller dictionary of all the nouns beginning with B (1940), F (2203), L (773) and S (2111). The dictionary may assign the same noun tentatively or definitely to more than one gender/class: the advanced search does not permit a search for noun class. PROIEL = a search in the corpus of five OE texts included in the PROIEL project. PROIEL does not tag for stem-class in nouns)

Table 2. OHG : Number/percentage of nouns in each gender/category

	OHG (Köbler)		OHG (RKA)		OE av.
	No.	%	No.	%	%
masc. <i>a, ja, wa, u</i>	1499		5756		
masculine <i>i</i>	155		787		
masculine <i>n</i>	706		2136		
masculine other	20		1035		
masculine total	2380	34	9714	43	45
neuter <i>a, ja, wa</i>	1312		5758		
neuter <i>n</i>	3		355		
neuter total	1315	19	6113	27	25
feminine <i>ō, jō, wō</i>	1506		3199		
feminine <i>i</i>	1057		2550		
feminine <i>n</i>	726		788		
feminine other	24		169		
feminine total	3293	47	6706	30	30
Total	6988	100	22533	100	100

(Köbler = a search in the on-line dictionary of all the nouns beginning with B (1538), F (1426), L (1059) and S (2954). RKA = *Referenzkorpus Altdeutsch*. The search was carried out over all of the OHG monuments, excluding the OS texts (*Heliand* and *Genesis*). Both sources may assign the same noun tentatively or definitely to more than one gender/class, so that the actual number of nouns occurring is lower.)

4.1. Stability of gender in German

Table 3: Gender changes/loss of gender optionality in standard German nouns since attestation in ENHG (1350–1650)

	modern masc.	modern fem.	modern neut.	Loss
former masc.	–	209	107	–316
former fem.	141	–	60	–201
former neut.	133	77	–	–210
Gain	+274	+286	+167	–
Total +/-	–42	+85	–43	

(Absolute figures based on Ebert et al. pp. 175–6, 180, 187.)

- Loss and gain may be based on formal features (e.g. nouns ending in *–a* or *–e* tend to fix as feminine, monosyllables tend to fix as masculine), or semantic features (e.g. abstract nouns tend to fix as feminine), or the reason may be opaque.
- Many of these items were loanwords which were initially used with more than one gender: their integration involves fixing on a single gender. For (Early Middle) English, gender overgeneralization/loss (or perhaps failure to fix?) is commoner in loanwords than in the native vocabulary (Markus 1988: 245).

Table 4: Distribution of genders in modern standard German

Source		Sample size	Masculine	Feminine	Neuter
Meier 1964, based on Kaeding 1897/1898 (cited in Hoberg 2004: 83)	<i>Deutsche Sprachstatistik</i> : 19 th c. elevated written German	500	34.6%	46.6%	18.8%
Oehler 1966 (cited in Hoberg 2004: 83)	<i>Grundwortschatz</i> (basic vocabulary)	953	38.8%	38.8%	22.4%
Rosengren 1977 (cited in Hoberg 2004: 83)	<i>Frequenzwörterbuch der deutschen Zeitungssprache</i>	500	40%	44%	16%
Ruoff 1981 (cited in Hoberg 2004: 83)	<i>Häufigkeitwörterbuch gesprochener Sprache</i>	500	45.6%	31.8%	22.6%
Duden (2015: 143)	<i>Die deutsche Rechtschreibung</i>	ca. 135,000	34%	46%	20%
OHG for comparison, from table 2			34% 43%	47% 30%	19% 27%

(Thanks to Emma Corteen, Cambridge for permission to use this extract from her table).

- At every stage and in both languages the contrast between dictionary and corpus searches reveals that type frequency of feminines is higher than their token frequency. This is attributable to (at least) two factors;
 - relatively many more male than female referents in the texts;
 - the creation of abstract nouns at periods when the domains of written discourse expand. These are mostly feminine in German, and elements recruited as abstract suffixes become feminine, e.g. *–heit*, historically masc., OHG *scaff(t)* m. > : MHG *schaft* f. OE *hād* and

–*scipi* remain masc. as suffixes. This suggests that meaning, beyond that of marking female animates, continues to play a role in gender assignment in German which is lost in (Old) English.

5. Noun inflections

Table 5.1. OE noun endings

	Masc.		Neut.		Fem.	
Nom.	-Ø,	-a	-e	-Ø, -e	-Ø, -u	-e
Acc.	-e, -u	-an	-an	-es	-Ø, -e	-an
Gen.	-es, -a				-e, -a	
Dat.	-e, -a				-e	
Plural						
Nom.	-as,	-an	-Ø, -u	-a, -e	-an	
Acc.	-e, -a					
Gen.	-a	-ena	-a		-ena	
Dat.	-um					

(based on Kastovsky 2011: 716–718: covers the commonest classes)

- Nom.masc.pl. a-stem **-as** (bold) is the only ending to show biuniqueness for case and gender. Other endings are distinctive for case but not gender (masc./neut.gen.sg. *-es*, dat.pl. *-um*).
- Gender lost ‘for sheer lack of gender-distinctive forms’ (Dekeyser 1980: 100).

Table 5.2. OHG noun endings

	Masc.		Neut.		Fem.	
Nom.	-∅, -i,	-o	-a	-∅, -e	-∅, -u	-e
Acc.	-o, -u	-on			-∅, -e	-an
Gen.	-es	-en	-es	-e	-e, -a	
Dat.	-e				-e	
Instr.	-u	–	-u	–	–	–
Plural						
Nom.	-a, -i	-on	-un	-∅, -u,	-a, -i	-ūn
Acc.				-ir		
Gen.	-o	-ōno		-o, -iro	-ōno, -o	-ōno
Dat.	-um, -im	-ōm		-um, -im	-ōm, -im	-ōm

(based on Braune/Reiffenstein 2004: 284–217. Umlaut has been omitted: primary Umlaut will occur before every *-i* ending (whereas it had been levelled in OE noun paradigms, Hogg 1992a: 131.)

- No biuniqueness in German noun endings. There are no more gender-distinctive endings than in OE.

6. Cues for gender: Demonstrative pronouns > definite articles

Table 6.1. Demonstrative Pronoun/Definite article in OE (Late West Saxon)

	Masc.	Neut.	Fem.	Plural
Nom.	sē	þæt	sēo	þā
Acc.	þone		þā	
Gen.	þæs		þære	þāra
Dat.	þæm			þæm
Instr.	þȳ, þon		–	–

(adapted from Hogg and Fulk 2011: 192. There was a similar suppletive paradigm available in Old Norse, nom.sg.masc. *sá* / neut. *þat* / fem. *sú*)

Middle English

- *þe* for masc. nom. sg. first in 10th century, in variation with *se*. By the final continuation of the Peterborough Chronicle (1132–55) there are only two gender-neutral forms of the article for all cases: *þe* (sg) – *þa* (plural) (Lass 1992: 112). This change took place against a background of huge variation: Markus (1988: 246) notes 10 different masc.nom.sg forms and 26 variants for nom. pl. in EME.

Table 6.2. Demonstrative Pronoun/Definite article in OHG (East Franconian)

Singular	Masc.	Neut.	Fem.
Nom.	der	daz	diu
Acc.	den		dia
Gen.	des demo diu		dera
Dat.			deru
Instr.			–
Plural			
Nom.	dē	diu	dio
Acc.			
Gen.	dero		
Dat.	dēm		

(simplified from Braune/Reiffenstein 2004: 247)

Table 6.3. Demonstrative Pronoun/Definite article in Old Saxon (sg.)

Singular	Masc.	Neut.	Fem.
Nom.	thē, thie	that	thiu
Acc.	thena		thia
Gen.	thes themu thiu		thera
Dat.			theru
Instr.			–

(simplified from Gallée 1993: 238. Old Frisian is very similar (i.e. nom sg. masc. *thī*, neut. *thet*, fem. *thiu* (Bremmer 2009: 54))

- On the Continent, the initial dental is levelled across the paradigm, so that the suppletion is eliminated.

Table 6.4. Pronominal Endings in OE

	3 rd Person	Possessive	Demonstrative	Interrogative
nom.sg.masc.	he	mīn; unsar	þēs	hwā
acc.sg.masc.	hine	mīne	þisne	hwone
n/a.sg.neut.	hit	mīn	þis	hwæt
nom.sg.fem.	hēo	mīn	þēos	–

(simplified from Hogg and Fulk 2011: 195–201)

Table 6.5. Pronominal Endings in OHG

	3 rd Person	Possessive	Demonstrative	Interrogative
nom.sg.masc.	er	mīn(er);unsēr	dese(r)	(h)wer
acc.sg.masc.	inan	mīnan	desan	(h)wenan
n/a.sg.neut.	iz	mīn(az)	diz	hwaz
nom.sg.fem.	siu	mīniu	desiu	–

(simplified from Braune/Reiffenstein 2004: 243–252)

- In High German, unlike elsewhere in WGmc, the masc. nom. sg. ending *-er* is spread through the forms of most pronouns and into the adjective declension (see table 6.6. below). This innovation is still establishing itself in OHG (see table 6.7. below).
- The association of *-er* with masc.nom.sg. is very strong in OHG, as the other forms which contain an *-r-* are still disyllabic (*deru*, *dero*).

6.1. Cues for gender: Adjectives

Table 6.6. Strong adjectives in OHG. Example: ‘blind’

	Masculine	Neuter	Feminine
Nom.sg.	blint, blint ēr	blint, blint az	blint, blint iu
Acc.sg.	blint an		blint a
Nom.acc.pl.	blint e	blint iu	blint o

(based on Braune/Reiffenstein 2004: 220. The bold endings are pronominal in origin.)

Table 6.6.1. Strong adjectives in OHG: frequency of ending variants

	Distinctive ending	Ø ending
Masc. nom. sg <i>-er</i>	245	174
Masc. acc. sg <i>-an</i>	338	10
Neut.nom.sg. <i>-az</i>	84	89
Neut.acc.sg. <i>-az</i>	120	119
Fem.nom.sg <i>-iu</i>	73	58
Fem.acc.sg. <i>-a</i>	214	26

(based on a search in RKA)

- The distinctive masculine *-er* ending has gained in frequency in OHG.
- The accusative endings are also distinctive for all genders: for the feminines and neuters, highest token frequency is in the accusative.

- Where there is high token frequency, this strengthens the type-marking and gender/case distinctiveness in OHG.

Table 6.7. Strong Adjectives in OE. Example: 'some'

	Masculine		Neuter		Feminine	
	EWS	LWS	EWS	LWS	EWS	LWS
Nom.sg.	sum	sum	sum	sum	sumu	sum
Acc.sg.	sum ne	sum ne			sume	sume
Nom.acc.pl.	sume	sume	sumu	sume	suma	sume

(EWS = Early West Saxon, LWS = Late West Saxon, tables from Hogg and Fulk 2011: 152–3. The bold ending (masc.acc.sg.) is pronominal in origin)

- 'Loss of adjective concord made gender marking less overt' (Paddock 1991: 379).
- Gender 'falls below the level of acquirability' (McWhorter 2002: 262).

7. Case and Gender Interactions

Table 7. Frequency table for occurrence of singular cases in OHG nouns

	Masculine		Neuter		Feminine	
	No.	%	No.	%	No.	%
Nom.	3611	42	884	21	993	22
Acc.	1672	19	1581	39	1535	34
Gen.	1580	18	558	14	512	11
Dat.	1778	21	1056	26	1508	33
Instr.	25	>1	0	0	–	–
Total	8666	100	4079	100	4548	100

Table 7.1. Frequency table for occurrence of singular cases in OHG demonstrative pronouns/definite articles

	Masculine		Neuter		Feminine	
	No.	%	No.	%	No.	%
Nom.	1116	43	302	21	330	22
Acc.	589	23	600	42	425	28
Gen.	347	13	261	18	306	20
Dat.	554	21	272	19	466	30
Total	2606	100	1435	100	1527	100

(Both tables based on searches in the RKA as above. Each gender category encompasses all the regular stem classes).

- Masculine nouns and articles more frequently occur in the nominative than in any other case: conversely, two thirds of all nominative singular nouns are masculine (66%), and nearly as many of the articles (64%). This is attributable to their semantics denoting male animates, which correlates strongly with the agent role.
- Neuter nouns and pronouns more frequently occur in the accusative than in any other case, although the distribution of accusative occurrences of nouns between the three genders is almost equal.

- The pattern for feminines is least likely to reflect ordinary language usage owing to the small number of active women in texts. However, the higher proportion of accusatives than nominatives probably again reflects the high portion of abstract nouns (which are less likely to be subjects).

Table 7.3. Frequency table for occurrence of different singular cases in OE nouns

	Masculine		Neuter		Feminine	
	No.	%	No.	%	No.	%
Nom.	862	41	209	18	212	25
Acc.	464	22	405	35	277	32
Gen.	233	11	126	11	110	13
Dat.	528	25	414	36	254	30
Total	2087	100	1154	100	853	100

(Based on searches in PROIEL as above. Each gender category encompasses all the regular stem classes).

Table 7.4. Frequency table for occurrence of different singular cases in OE demonstrative pronouns

	Masculine		Neutr		Feminine	
	No.	%	No.	%	No.	%
Nom.	529	52	170	28	91	28
Acc.	204	20	215	35	98	30
Gen.	88	8	63	10	31	9
Dat.	202	20	163	27	109	33
Total	1023	100	611	100	329	100

(Based on searches in PROIEL as above).

- For the subject/nominative patterns, the OE data show very similar patterns to those found in OHG, both in these data and in the derived information, i.e. in OE 67% of all nouns in the nominative are masculine, as are 67% of the articles.
- In the accusatives, the distribution is less even than in OHG. The neuter is stronger in OE (35% of all nouns in the accusative) relative to the feminine (24%). This tends to support the hypothesis that the feminines by tokens are a less prominent group in OE.

7.1. Relativizers

- OE has a diverse series of ways of marking the relative function: the one which comes to be most prominent is the use of an invariant particle *þe*, which may or may not be accompanied by a pronoun indicating case.

Table 7.5. Frequency Table for Relative Pronouns in OHG

	Masculine		Neuter		Feminine		Total	
	No.	%	No.	%	No.	%	No.	%
Nom.	727	81	172	36	67	45	966	63
Acc.	113	13	233	49	51	34	397	26
Gen.	12	1	58	12	6	4	76	5
Dat.	46	5	13	3	26	17	85	6
Total	898	100	476	100	150	100	1524	100

(Based on a search in RKA as before).

- The OHG data again show the prominence of the nominative within the masculines and of the accusative within neuters.
- The data correspond to the universal Accessibility Hierarchy (AH) (a measure of relative accessibility to relativization):
 Subject > Direct Object > Indirect Object
 (cf. Keenan and Comrie (1977:65))

7.2. Case and gender in acquisition: Types and tokens meet

Wegener's (2011) study shows that

- Case is acquired before gender, and gendered endings are interpreted as having syntactic case functions.
- Overgeneralizations in child acquisition of German show a pattern of favouring (masc.) *-r* to mark subjects and (neuter) *-s* to mark objects: *-e* is primarily a (feminine) gender marker (2011: 537).
- 'fusion of gender, case, and number markers in German is probably what keeps gender marking alive' (Wegener 2011: 540)

In OHG, where the pronominal endings strengthen the iconity and salience of the masc.nom.sg. as a type, this is bolstered by its high token frequency, with the result that it becomes one of the main cues for gender in language acquisition. In the next most frequent form, the accusative, the high token frequency of neuters and feminines with their distinctive endings keeps them as types in the system.

8. Binariness as a 'natural' choice

Table 8. Demonstrative pronouns/ definite articles in Middle Dutch

	Masc.	Fem.	Neut.
Nom.	die (de)	die (de)	dat ('t)
Acc.	dien (den)		
Gen.	dies (des/'s)	dier(e) (der)	dies (des)
Dat.	dien (den)	dier (e) (der)	dien (den)

(From Burridge 1993: 241, based on texts from Brabant and Holland, 1250–1650. Simplified, in that 'case syncretism, collapse of gender and number distinctions was already very apparent in the documents investigated here').

- Modern Dutch preserves a binary choice common : neuter (*de : het*), although fossilized forms show case and by implication gender, and anaphoric reference may use gender for discourse tracking, especially in the south (cf. Dekeyser 1980).

Table 9. Distinction of cases on determiners in the singular in German dialects

	Nom. : (Acc.+Dat)	(Nom.+Acc.) : Dative
North Saxon	de, de, dat : den, de, dat	
West- and Eastphalian	de, de, dat : den, de, dat/den	
East Low German	de, de, dat : den, de, dat	
Central Franconian		de(n), d', d' : dem, der, dem
Hessian		de, di, des : dem, de, dem
Palatine		de, di, s : dem, dere, dem
Thuringian	<i>masc.</i> da : dan	<i>fem.</i> de : da, <i>nt.</i> dos : dan
Upper Saxon	dr, de, das : den, de, das	
Low Alemannic		ter, t(i), s : (i)m, (in)ter, (i)m (<i>dat. only +prep</i>)
Swabian		der, d, s : em, der, em
High Alemannic		de, d, s : em, der, em
East Franconian	<i>masc.</i> de : den	<i>fem.</i> di : dere, <i>nt.</i> dez : den
North Bavarian	<i>masc.</i> da : n	<i>fem.</i> dei : der, <i>nt.</i> s : n
Central & Southern Bavarian	<i>masc.</i> da : n	<i>fem.</i> de : da, <i>nt.</i> s : n

(The order of forms is masc., fem., neut. This table ignores the genitive, which is either entirely absent (in most dialects), or preserved only in fixed phrases. Some simplifications of stressed/unstressed forms and conversion of IPA to normalized spelling are mine. Based on Russ 1990: 46, 78, 189, 252, 280, 321, 352, 373, 403, 427, 489).

Binarity in English dialects:

- Southwestern ('Wessex-type' dialects) of Late Modern English develop from masc : fem : neut to binary mass : count (adnominals) and to binary neuter: non-neuter in the pronominals (Paddock 1991: 384)

9. In conclusion: The Viking Elephant in the room

Gender loss in OE proceeds from North and East to South and West: 'a process of elimination' leaves contact with the Vikings responsible for the failure of transmission of OE gender between the generations (cf. Danchev 1997: 90, McWhorter 2002: 253).

'One sociolinguistic-typological prediction [...] is: given that "junk" begins to disappear in situations of high post-critical threshold contact, it is not unlikely that languages with large numbers of grammatical devices of little or no functionality, such as grammatical gender, will become less numerous in the decades and centuries to come. And indeed it is not entirely impossible that linguistic gender, except for natural gender in the third person, will one day disappear from the languages of the world.'

Trudgill (2011: 167)

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Corpora & Dictionaries

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