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RESEARCH

Loss and preservation of case in Germanic non-standard varieties

Raffaela Baechler[1] and Simon Pröll[2]

[1] University of Edinburgh, Dugald Stewart Building, 3 Charles Street, Edinburgh, EH8 9AD, GB

[2] LMU München, Schellingstr. 3 RG, 80799 München, DE

Corresponding author: Raffaela Baechler (raffaela.baechler@ed.ac.uk)

This paper deals with inflectional change in Germanic standard and non-standard varieties, challenging the standard model of phonologically driven case loss in favour of a model that allows for interaction between phonological, syntactic, and purely morphological processes. After providing evidence from the language histories of the modern, standardised varieties of High German and Swedish which calls into question the exclusive role of phonology, we concentrate on two Germanic non-standard varieties: Visperterminen Alemannic, a successor of Old High German, and Övdalian, which stems from Old Dalecarlian (Old Swedish is used as a proxy to Old Dalecarlian). Both can serve as a testing ground for system-internal morphological change, as they carry on specific phonological aspects of their ancestral varieties, and have not been subject to excessive language contact that could have triggered external simplification processes. Using these non-standard varieties as an empirical base, we examine the patterns of loss of inflectional case marking and corresponding compensation strategies on the level of the nominal phrase. It can be shown that, while there are extensive syncretisms in noun inflection, these are systematically compensated for in the noun phrase for dative, but not for the nominative-accusative syncretism. The systematic (non-)compensation in the noun phrase can be explained by word order. Based on our results, we propose an alternative model for morphological change in Germanic that is less prone to counterevidence from non-standard varieties.

Keywords: inflectional morphology; German dialect; Övdalian; language change; nominal phrase; syncretism

1 Introduction

The aim of this paper is to examine the loss of inflectional case markings and strategies of compensating for them on the level of the NP in two highly inflecting non-standard varieties of the Germanic dialect continuum. By compensation at the level of the NP we mean that the loss of case marking on the nouns may be compensated for by case marking on the articles and/or adjectives. For this task, we proceed in two steps.

In Section 2, we reflect on the current issues of positions on Germanic morphological change that seem to be most prevalent: Firstly, there is the reductionist notion of textbooks and handbooks that case reduction is (more or less exclusively) a symptom of pan-Germanic phonological processes. We address and discuss it briefly – drawing on the evaluation of changes from Old High German (OHG) and Old Swedish (OS)[1] to the modern standard varieties of German and Swedish – for reasons of clarity, but also because it is the basis for the more complex hypothesis that we wish to support and expand upon

[1] Throughout the text, Old Swedish is used as a proxy to Old Dalecarlian, as the oldest attested longer text in Övdalian is dated from the beginning of the 17th century (Bentzen et al. 2015: 5).

with our analysis: The interplay of phonology, morphology and syntax is much more complicated. Obviously, there are results of phonological processes, a lot of analogical (along with purely morphomic) changes in morphology, plus compensational strategies on the syntactic layer. The results a) support the notion that purely phonological processes cannot explain the modern morphological structure in Germanic, and b) add to the picture that modern standardised languages (which are the focus of most microtypological studies on Germanic language history) are not the best candidates for assessing system-internal processes of change.

Standard German and Standard Swedish are highly affected by language contact; additionally, especially Standard German shows a radically reduced vocalism in unstressed syllables[2] – and both of these traits might be catalysts of loss of case. To control for these possible effects, we thus concentrate on two non-standard Germanic varieties in Section 3 that can serve as a testing ground far better suited to the question at hand: Visperterminen Alemannic (VA), a German variety spoken in the Swiss Alps, and Övdalian (Ö), a Dalecarlian variety spoken by a small language community in northern Dalarna in western Sweden. Their rather isolated status as well as their full vocalism in unstressed syllables and rich inflection allows for an alternative grasp on change in the Germanic case system that is closer to the ideal of a "linguistic laboratory". More precisely, VA and Ö are sociolinguistically in a very different situation than the standard varieties. These are small language communities in rather remote places with high social stability, dense social networks, and few language contacts outside the language community (Trudgill 2011: 146). It has been shown for many languages that varieties/languages spoken by isolated language communities tend to have higher structural complexity than varieties/languages spoken by non-isolated communities (e.g. Nichols 1992; McWhorter 2001; Szmrecsanyi & Kortmann 2009; Sinnemäki 2011; Garzonio 2016). This has also been shown for Germanic languages (Braunmüller 1984 for Icelandic, Baechler 2017 for different German varieties). Thus, the special sociolinguistic conditions of these varieties can help to provide further insights into changes in the case marking system that could not possibly be obtained through the analysis of standard varieties.

Visperterminen Alemannic and Övdalian stem from varieties (OHG,[3] OS) which had primary stress on the first root vowel, but still maintain full vowels in non-stressed syllables. At the same time, their inflectional case marking is reduced (i.e. more case syncretisms and/or loss of the case marking suffix) compared to OHG and OS. We examine which cases are syncretised in the noun inflection, and which of these syncretisms are compensated for by case marking on the articles and/or adjectives. It will be shown that the dative is compensated for at the level of the NP; the nominative-accusative syncretism, however, is not compensated for in most instances. Finally, we propose an explanation for the increase of syncretism as well as for the compensation and the non-compensation (e.g. by the article). We suggest analysing these changes (increase of syncretism and ± compensation) as a reaction to the more or less fixed positions of the subject, direct object and indirect object in a sentence.

We conclude with an outlook in Section 4. Based on Sections 2 and 3, we propose a refined analysis regarding the interaction between loss of case marking and fixed word order on one hand, and regarding the interaction between phonological changes and the loss of case marking on the other hand. Furthermore, we show that the language-internal

[2] For Standard Swedish, this is less obvious, because there are full vowels in unstressed syllables nowadays – however, this is at least partially due to standardisation processes that counteracted natural change (see Braunmüller 1999: 19, 50).

[3] Highest Alemannic dialects (like Visperterminen Alemannic) derive from Old High German (and not from Middle High German) because they have preserved OHG characteristics at different linguistic levels (Wiesinger 1983: 835; Hotzenköcherle 1984: 153–236).

and language-external causes of the three mechanisms (fixed word order, loss of case marking, phonological change) are far from being fully understood.

2 Basics and issues

2.1 Reductionist assumptions

A still rather widespread consensus (be it explicitly stated or implied) in the handbook/textbook literature on language history and change in Germanic seems to be the notion that morphological changes in the case system are phonetically driven (see e.g. Roelcke 1998: 1005; von Polenz 2000: 23, 87–88; Stedje 2007: 59–61; Roberge 2010: 410; König 2015: 45). The idea is that the shift from a mobile pitch accent in Proto-Indo-European to a stress accent fixed on the first syllable – an innovation of Proto-Germanic[4] – lead to loss of phonetic substance in unstressed syllables. This loss led to ambiguities in the morphological system expressed in unstressed syllables throughout the Germanic languages. Syncretisms were the result – to compensate for this, fixed word order became necessary in a higher number of contexts (cf. Figure 1).

While at first glance this chain of events seems plausible, it is not without counterevidence, as has been repeatedly put forward before (see for example Härd 2003: 2571; Salmons 2012: 195–201; Enger 2013) – nevertheless, this reductionist view seems to prevail, at least in condensed accounts of textbooks and handbook articles. As a backdrop for the following empirical examination and subsequent refinement of the theoretical viewpoint, we will recount some major issues of this hypothesis in the following section. Additionally, we intertwine the alternative, more resilient explanations for parts of the overall change process (using the varieties we focus on subsequently in Section 3) to further substantiate the notion of a complex interplay of various factors.

2.2 Counterevidence

First, let us consider what modern Standard High German (SHG) paradigms would look like if they were straight linear results of nothing more than phonological processes applied to OHG paradigms (all data Braune 2004). Table 1 shows the evolution of the strong a-stem masculine paradigm (*tag* > *Tag* 'day'). In the word forms with two syllables, the short stem vowel experiences open syllable lengthening (König 2015: 153), unstressed vocalic elements other than *e* collapse into [ə]/<e> (Schmidt 1998: 994), while – as a last step – the old *e* tends to be lost in Standard (New) High German (Roelcke 1998: 1004–1005). Additionally, *-m* and *-n* regularly collapse to *-n* in inflectional endings of nouns during the ninth century. While open syllable lengthening is a regular phonological process in the history of German, the change from *m* to *n* is not, as it seems to be limited to the noun inflection: In the coda of stems, *m* is preserved after long and short vowels, after diphthongs, in unstressed syllables, and in derivational suffixes (f. ex. SHG *Kamm* 'comb', *Arm* 'arm', *Atem* 'breath', *Leichnam* 'corpse', *angenehm* 'pleasant', *geheim* 'secret', *schwamm* 'swam') as well as in the inflection of determiners and adjectives (*dem* 'the.DAT.SG.M.', *gut-em* 'good-DAT.SG.M.').[5]

Figure 1: Linear hypothesis on phonologically-driven syncretism.

[4] This shift from free accentuation in Proto-Indo-European to fixed stress in Proto-Germanic might be due to typical processes in language contact situations (see e.g. Salmons 1992; Vennemann 2010): At some point, a critically large number of speakers of Germanic might have been L2 users that generated a simplified system (or even had an L1 with initial stress that served as a substratum).

[5] Interestingly, the same applies to Middle English, where *-m* changes to *-n* in inflectional suffixes, but remains stable in stems, f. ex. *seldom*, *bottom*, *ham*, *ram*.

Table 1: Linear phonological processing, strong a-stem masculine (OHG > SHG) (Braune 2004: 184).

		OHG		projection	SHG
singular	NOM	*tag*	stressed (open syllable): lengthening	/tak/	[ta:k] *Tag*
	ACC	*tag*		/tak/	[ta:k] *Tag*
	DAT	*tag-e*		/ta:gə/	[ta:k] *Tag-(e)*[6]
	GEN	*tag-es*		/ta:gəs/	[ta:ks] *Tag-(e)s*
	INST	*tag-u*		/ta:gə/	→ PP
plural	NOM	*tag-a*	unstressed: reduction (or loss) *-m* > *-n*	/ta:gə/	[ta:gə] *Tag-e*
	ACC	*tag-a*		/ta:gə/	[ta:gə] *Tag-e*
	DAT	*tag-um*		/ta:gən/	[ta:gn̩] *Tag-en*
	GEN	*tag-o*		/ta:gə/	[ta:gə] *Tag-e*

It appears that consonants (here: *m* and *n*) do not follow a general phonological rule, but express a regularity limited to noun inflection. But there are also signs of morphological processes concerning the vocalism: The singular nominative/accusative forms feature only one (closed) syllable – thus, they are not subject to open syllable lengthening. Yet, SHG forms feature a long vowel that seems to have been introduced by paradigmatic levelling through analogy (cf. König 2015: 153).

Additionally, Table 1 illustrates a phenomenon of case loss: OHG (like Old English) inherited a fifth morphological case from Germanic, the instrumental. As with the other cases, it featured full vowels. However, it was only used infrequently in early sources and vanished during the tenth and eleventh century (cf. van der Wal & Quak 1994: 92) – its function was taken over by prepositional phrases, where the preposition governs dative case (Heine & Kuteva 2006: 187). It seems that there is no "merger" of the instrumental and dative case in the assumed form that 1. instrumental forms and dative forms phonologically collapse into one single exponent, and 2. as a result, this missing distinction eliminates the instrumental as a syntactic case; rather, phonologically distinct instrumental forms are replaced, either by prepositional phrases or by dative forms (cf. Seiler 2003: 225 for a parallel explanation for the ongoing loss of German genitive). There are instances of both expressions – old instrumentals and new prepositional phrases – appearing together in one sentence (cf. van der Wal & Quak 1994: 103; Schmidt 2013: 73).

Table 2 shows an example of analogy and iconicity: A linear, purely phonological evolution of OHG *naht* > SHG *Nacht* 'night' should again result in a modern paradigm that is rather similar to actual modern forms. But instead, it shows multiple markings for the plural that do not systematically arise from phonological change: All plural forms are bisyllabic, they show (analogical) umlaut of the stem vowel and [ə]/<e> in flexives in contrast to a syncretised monosyllabic singular without umlaut and zero endings.

Thus, the modern paradigm is clearly the result of morphological changes that even counteract phonology by adding segments and thus creating an additional syllable in nominative/accusative plural. These analogical change processes in the morphological system of German are highly obvious and widely documented in grammars, handbooks and articles (often attributed to "Numerusprofilierung", see e.g. von Polenz 2000: 155–156). But can they be fit into a general pattern or process of change?

Let us consider a third example, weak neuter nouns, to illustrate syncretisms and non-syncretisms (Table 3, *Herz* 'heart'): Here, phonological processes should reduce both vowel quality and quantity, as the OHG dative/genitive plural forms feature long vowels that shorten during the OHG period. However, the bisyllabic suffix of genitive plural is

[6] Bracketed elements are limited to old-fashioned written language use and do not appear in the modern spoken standard.

Table 2: Linear phonological processing, cons. stem feminine (OHG > SHG) (Braune 2004: 217).

		OHG		projection	SHG
singular	NOM	*naht*	reduction *-m* > *-n*	/naχt/	[naχt] *Nacht*
	ACC	*naht*		/naχt/	[naχt] *Nacht*
	DAT	*naht*		/naχt/	[naχt] *Nacht*
	GEN	*naht*		/naχt/	[naχt] *Nacht*
plural	NOM	*naht*		/naχt/	[nɛçtə] *Nächt-e*
	ACC	*naht*		/naχt/	[nɛçtə] *Nächt-e*
	DAT	*naht-um*		/naχtən/	[nɛçtn̩] *Nächt-en*
	GEN	*naht-o*		/naχtə/	[nɛçtə] *Nächt-e*

Table 3: Linear phonological processing, weak neuter (OHG > SHG) (Braune 2004: 207).

		OHG		projection	SHG
singular	NOM	*herz-a*	reduction (both quality and quantity) *-m* > *-n*	/hɛʀtsə/	[hɛʀts] *Herz*
	ACC	*herz-a*		/hɛʀtsə/	[hɛʀts] *Herz*
	DAT	*herz-in*		/hɛʀtsən/	[hɛʀts] *Herz*
	GEN	*herz-in*		/hɛʀtsən/	[hɛʀtsəs] *Herz-e(n)s*
plural	NOM	*herz-un*		/hɛʀtsən/	[hɛʀtsn̩] *Herz-en*
	ACC	*herz-un*		/hɛʀtsən/	[hɛʀtsn̩] *Herz-en*
	DAT	*herz-ōm*		/hɛʀtsən/	[hɛʀtsn̩] *Herz-en*
	GEN	*herz-ōno*		/hɛʀtsənə/	[hɛʀtsn̩] *Herz-en*

Table 4: Linear phonological processing, strong a-stem masculine (OS > RS) (Noreen 1904: 281).

		OS		projection	RS
singular	NOM	*fisk-er*	reduction (quality)	/fɪskər/	[fɪsk] *fisk*
	ACC	*fisk*		/fɪsk/	[fɪsk] *fisk*
	DAT	*fisk-e*		/fɪskə/	[fɪsk] *fisk*
	GEN/POSS	*fisk-s*		/fɪsks/	[fɪsks] *fisk-s*
plural	NOM	*fisk-ar*		/fɪskər/	[fɪskar] *fisk-ar*
	ACC	*fisk-a*		/fɪskə/	[fɪskar] *fisk-ar*
	DAT	*fisk-om*		/fɪskəm/	[fɪskar] *fisk-ar*
	GEN/POSS	*fisk-a*		/fɪskə/	[fɪskaˌs] *fisk-ar-s*

reduced to one syllable; all plural forms syncretise. In contrast to the scenarios illustrated above, the phonological weight of the older forms does not have consequences for their modern equivalents.

In contrast to the masculine a-stem forms in Table 1, *-a* as a case-marking suffix is reduced to zero; while the dative singular *-in* is lost, the genitive singular is not. Again, there is the emphasis (typical of SHG) on marking the singular-plural distinction.

The same principle holds true for the changes from Old Swedish (OS) to modern Rikssvenska (RS), illustrated in Table 4 (*fisker* 'fish'): Here, the OS forms already show a completely syncretised singular.

A linear process of reducing unstressed syllables would result in a modern system with no morphological differences to the old one. But this is not what we observe in modern Standard Swedish: It features an agglutinative system with the plural marker *-ar* and a new possessive marker *-s* (a reanalysed form of the OS *-s* for genitive masculine neuter, strong inflection).[7]

[7] As can be seen in the phonetic spell-out of the genitive plural form, phonological processes of modern spoken Swedish are beginning to dissolve this agglutinative system.

The examples above also clearly reveal that at least nominative-accusative syncretism – in some classes even complete syncretism of number – is not a new development.[8] As it was already common in OS and OHG (note that nominative and accusative neuter are not distinguished morphologically even back in Proto-Indo-European), the change that lead to it thus has to have happened during a period of language history that undoubtedly featured full vocalism. Furthermore, the inflectional paradigm of nouns in RS is reduced to a +/– possessive opposition.

Additionally, the dative case was lost, despite its plural form being both distinct and marked. This seems odd: Germanic dative plural forms do in fact have more phonological substance than other case endings (cf. e.g. Eyþórsson et al. 2012: 221 for Old Norse) – we could see these characteristic heavy *-um/-ōm* forms for OHG throughout Table 1 to Table 3, where this markedness through weight is more or less preserved in the modern exponents as well.[9] At first glance, this seems to support the hypothesis of a phonology-driven change. But the greater phonological weight of the dative plural seems to prevent neither plural syncretism in the weak paradigm of SHG (Table 3) nor complete dative loss in RS (Table 4). Concerning the big picture, the evidence is mixed: While for some inflection classes in modern SHG, the dative plural remains the marked form with greater phonological weight, it is unmarked in others (for example in ō-stems and the complete weak declensions). This means that the historical situation of a stable, uniform dative weight is eroding; the dative is not protected in all circumstances simply because of phonological weight.

In Standard German derivation, native affixes with non-reduced vowels (but without primary stress) are highly productive: {-heit}, {-bar}, {-lich}, {-sam}, {-ung} (cf. van der Wal & Quak 1994: 92). This means that there is actually less phonological substance in modern German case endings than in other parts of morphology. Why are these parts not affected equally by two millennia of fixed stress pattern? It is thus worth noting that stress is not a purely binary feature, but a relative one. Phenomena like secondary stress, effects surrounding loanwords (Kleiner & Pröll 2014), or the central Scandinavian vowel balance (Sandøy 2005: 1858) play a major role in the overall picture. There is also typological evidence that reduction of unstressed syllables is not an automatic consequence of stress: Like Germanic, Finnish, Czech and Slovak have initial stress – still, they do not have reduced vowels in unstressed syllables (cf. Salmons 2012: 37). The opposite is also possible, i.e. no initial stress and centralisation of vowels (e.g. in central Catalan, see Caro Reina 2014: 104). Last but not least, the Proto-Germanic generalisation of initial stress is most persistent in modern Icelandic, where the first syllable of a word is stressed almost independently of whether the first syllable forms part of the root or is a prefix (see Sandøy 2005: 1861; Árnason 2011: 271–284 for details and exceptions). Thus, as a factor of change, stress is anything but ubiquitous and continuous.

2.3 Consequences

In summary, the modern representations of the Germanic case system in Standard German and Standard Swedish did not evolve entirely due to phonological processes: Phonology does not predict the loss of the instrumental case at a point in time where unstressed

[8] Eyþórsson et al. (2012: 221–222) come to similar conclusions for Old Norse: "In many declensional classes there was already much syncretism of nominative and accusative". This will also be shown in Section 3.3, see Table 5 and Table 6 in Section 3.1.2 as well.

[9] It should also be noted that dative plural forms tend to be uniform in Germanic and Slavic dialects (see also Dahl & Koptjevskaja-Tamm 2006: 71). This seems like a chicken-and-egg problem: Did markedness and uniformity prevent loss of the dative or did maintenance of the dative provoke markedness and uniformity? While there is probably a feedback loop between both, reconstructions of Proto-Indo-European (with a less prominent appearance of the dative, both in forms of weight and markedness, cf. e.g. Meier-Brügger 2010) seem to support the latter.

syllables still feature full vowels; it does not predict systematisation of the umlaut or syllabic iconicity as plural markers in SHG; neither does it motivate the special status of the genitive. We have to assume that there were (and are) processes at work that might interact with phonology, but follow their own trajectories (we will revisit this thought in Section 4). In addition to that, standardised languages such as SHG and RS might not be the best data source for investigating morphological change: The spoken modern non-standard varieties of German are considerably closer to being the natural descendants of the non-standardised, conceptually oral ("language of immediacy", cf. Koch & Oesterreicher 1985) OHG than the standard language that went through centuries of standardisation processes, contact and literacy – thus, there is a considerably less clear historical continuity between OHG and SHG (cf. Elspaß 2012: 213–220; Pröll & Kleiner 2016: 209–211; for older references see von Polenz 2000: 89–90). The same applies to OS and Standard Swedish.

For this study, we thus concentrate on non-standardised varieties that a) can be seen as more natural descendants of early documented Germanic dialects and at the same time b) limit obvious confounding factors to a minimum. Despite originating from the same dialect continuum, not all contemporary Germanic varieties have an equal state of qualitative reduction concerning their vocalism in unstressed syllables. Although we have seen above that vocalism might not offer a straightforward, linear explanation for all aspects of morphological change, this obviously does not promote the idea that it has no impact whatsoever. To facilitate the focus on "purely" morphological change, it is methodologically reasonable to choose varieties that were subject to as few changes in vocalism as possible. Also, language contact is an obvious candidate for massive changes (cf. Trudgill 2011); thus, for the questions at hand it is advisable to rely on data from isolated varieties with full vowels in unstressed syllables. These can serve as a "laboratory" for conditions that are simply not obtainable in European standard languages.

3 Change in case marking in Visperterminen Alemannic and Övdalian

In this section, we compare the changes in the case marking system from Old High German (OHG) to Visperterminen Alemannic (VA) and from Old Swedish (OS) to Övdalian (Ö). It will be shown that VA and Ö have a rich inflectional morphology and full vowels in non-stressed syllables – however, they show a reduced inflectional case marking system, i.e. fewer cases are distinguished by inflection in the noun inflection. The loss of dative marking is in most instances compensated for in the NP (by the inflection of articles and/or adjectives). The syncretism between nominative and accusative, however, is in most cases not compensated for. Sociolinguistic but also system-internal mechanisms account for these changes.

We will start by presenting the sample and data source (Section 3.1) as well as the theoretical background and methods (Section 3.2). Section 3.3 investigates the changes in the noun inflection, Section 3.4 the changes in the noun phrase. Section 3.5 tackles the question of whether the reduction/loss of case marking in the noun inflection is compensated for by articles and/or adjectives. Finally, we provide an analysis and some explanations in Section 3.6.

3.1 Sample and data

3.1.1 Sample

Ö and VA are the two non-standard varieties investigated here. VA is a German dialect spoken in a small village in the Swiss Alps. It forms part of the Highest Alemannic branch of the Alemannic dialects which are spoken in the southwestern part of the German-speaking area. The second, Ö, is spoken by a small language community in northern Dalarna in

western Sweden. Both varieties may be considered as isolated. Isolation (as opposed to contact) signifies that a variety is situated in a remote place, for example in a valley or in the mountains, and has few contacts with other varieties, as well as a stable social network (Trudgill 2011). Finding such a place in Europe today is rather difficult. However, the data is based on descriptions published in the beginning of the 20th century (Wipf 1910 for VA, and Levander 1909 for Ö, see Section 3.1.2) when mobility in these regions was limited. Thus, both varieties were only marginally influenced by other varieties (c.f. Wipf 1910: 1–5 for VA, and Garbacz 2010: 28, 31–33 for Ö). Compared to other Germanic dialects and the respective standard varieties, VA and Ö show a rich nominal and verbal inflection. Although the first syllable of the root was stressed in OHG and OS as in all Germanic varieties, VA and Ö show full vowels in non-stressed syllables.

VA and Ö split from the other dialects before the centralisation and later loss of non-stressed syllables (Garbacz 2010: 29 for Ö; Wiesinger 1983: 835 and Hotzenköcherle 1984: 153–236 for VA). Therefore, OHG and OS may be considered as the suitable varieties for a diachronic comparison.

3.1.2 Data

All data used for the subsequent analyses regarding inflection are based on neogrammarian descriptions (OS: Noreen 1904; Ö: Levander 1909; OHG: Braune 2004; VA: Wipf 1910). Thus, the datasets are highly comparable, both concerning the time periods in question as well as methodological decisions during data collection. In addition to Levander's data for "Classical" Övdalian, Svenonius (2015) provides data for "Traditional" Övdalian which is based on the NORMS project (Svenonius 2015: 178; see Section 3.5.6 for additional information). However, Svenonius (2015) does not report data for every possible NP, so the main analysis is based on Levander (1909).

Table 5 to Table 18 report the paradigms of the definite and indefinite article, adjectives and nouns in OS, OHG, Ö and VA.

Table 5: Noun inflection of OHG (Braune 2004: 184–217).

			singular				plural			
			NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	a-stem	masc	*tag*	*tag*	*tag-e*	*tag-es*	*tag-a*	*tag-a*	*tag-um*	*tag-o*
		neut	*wort*	*wort*	*wort-e*	*wort-es*	*wort*	*wort*	*wort-um*	*wort-o*
	iz/az-stem	neut	*lamb*	*lamb*	*lamb-e*	*lamb-es*	*lemb-ir*	*lemb-ir*	*lemb-ir-um*	*lemb-ir-o*
	ja-stem	masc	*hirt-i*	*hirt-i*	*hirt-e*	*hirt-es*	*hirt-a*	*hirt-a*	*hirt-um*	*hirt-o*
		neut	*kunn-i*	*kunn-i*	*kunn-e*	*kunn-es*	*kunn-i*	*kunn-i*	*kunn-im*	*kunn-o*
	ō-stem	fem	*geb-a*	*geb-a*	*geb-u*	*geb-a*	*geb-a*	*geb-a*	*geb-ōm*	*geb-ōno*
	jō-stem	fem	*sunt-a*	*sunt-a*	*sunt-u*	*sunt-a*	*sunt-a*	*sunt-a*	*sunt-ōm*	*sunt-ōno*
	i-stem	masc	*gast*	*gast*	*gast-e*	*gast-es*	*gest-i*	*gest-i*	*gest-im*	*gest-o*
		neut	*win-i*	*win-i*	*win-e*	*win-es*	*win-i*	*win-i*	*win-im*	*win-o*
		fem	*anst*	*anst*	*enst-i*	*enst-i*	*enst-i*	*enst-i*	*enst-im*	*enst-o*
	u-stem	masc	*sit-u*	*sit-u*	*sit-e*	*sit-es*	*sit-i*	*sit-i*	*sit-im*	*sit-o*
weak	n-stem	masc	*han-o*	*han-un*	*han-in*	*han-in*	*han-un*	*han-un*	*han-ōm*	*han-ōno*
		neut	*herz-a*	*herz-a*	*herz-in*	*herz-in*	*herz-un*	*herz-un*	*herz-ōm*	*herz-ōno*
		fem	*zung-a*	*zung-un*	*zung-un*	*zung-un*	*zung-ūn*	*zung-ūn*	*zung-ōm*	*zung-ōno*
	īn-stem	fem	*hōhī*	*hōhī*	*hōhī*	*hōhī*	*hōhī*	*hōhī*	*hōhī-m*	*hōhī-no*
cons. stem	monosyll.	masc	*man*	*man*	*man, mann-e*	*man, mann-es*	*man*	*man*	*mann-um*	*mann-o*
		fem	*naht*	*naht*	*naht*	*naht*	*naht*	*naht*	*naht-um*	*naht-o*
	r-stem	masc	*fater*	*fater*	*fater-[ ]/-e*	*fater-[ ]/-es*	*fater-a*	*fater-a*	*fater-um*	*fater-o*
		fem	*muoter*	*muoter*	*muoter*	*muoter*	*muoter*	*muoter*	*muoter-um*	*muoter-o*

Table 6: Noun inflection of VA (Wipf 1910: 119–132).

		singular				plural			
		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	MASC + NEUT	*tag*	*tag*	*tag*	*tag-sch*	*tag-a*	*tag-a*	*tag-u*	*tag-o*
	MASC	*chopf*	*chopf*	*chopf*	*chopf-sch*	*chepf*	*chepf*	*chepf-u*	*chepf-o*
	MASC	*santim*	*santim*	*santim*	*santim-sch*	*santim*	*santim*	*santim*	*santim*
	NEUT	*jar*	*jar*	*jar*	*jar-sch*	*jar*	*jar*	*jar-u*	*jar-o*
	NEUT	*chrut*	*chrut*	*chrut*	*chrut-sch*	*chrit-er*	*chrit-er*	*chrit-er-u*	*chrit-er-o*
	NEUT	*lamm*	*lamm*	*lamm*	*lamm-sch*	*lamm-er*	*lamm-er*	*lamm-er-u*	*lamm-er-o*
	NEUT	*ber*	*ber*	*ber*	*ber-sch*	*ber-i*	*ber-i*	*ber-u*	*ber-o*
	FEM	*farb*	*farb*	*farb*	*farb*	*farb-e*	*farb-e*	*farb-u*	*farb-o*
	FEM	*bon*	*bon*	*bon*	*bon*	*bon-a*	*bon-a*	*bon-u*	*bon-o*
	FEM	*sach*	*sach*	*sach*	*sach*	*sach-u*	*sach-u*	*sach-u*	*sach-o*
	FEM	*mus*	*mus*	*mus*	*mus*	*mis*	*mis*	*mis-u*	*mis-o*
weak/strong	MASC	*ar-o*	*ar-o*	*ar-u*	*ar-u*	*ar-m-a*	*ar-m-a*	*ar-m-u*	*ar-m-o*
weak	MASC	*han-o*	*han-o*	*han-u*	*han-u*	*han-e*	*han-e*	*han-u*	*han-o*
	MASC	*bog-o*	*bog-o*	*bog-u*	*bog-u*	*beg-e*	*beg-e*	*beg-u*	*beg-o*
	MASC	*senn-o*	*senn-o*	*senn-u*	*senn-u*	*senn-u*	*senn-u*	*senn-u*	*senn-o*
	NEUT	*öig*	*öig*	*öig*	*öig-sch*	*öig-u*	*öig-u*	*öig-u*	*öig-o*
	FEM	*zung-a*	*zung-a*	*zung-u*	*zung-u*	*zung-e*	*zung-e*	*zung-u*	*zung-o*

Table 7: Noun inflection of OS (Noreen 1904: 280–334).

			singular				plural			
			NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	a-stem	MASC	*fisk-er*	*fisk*	*fisk-e*	*fisk-s*	*fisk-ar*	*fisk-a*	*fisk-om*	*fisk-a*
		NEUT	*skip*	*skip*	*skip-i*	*skip-s*	*skip*	*skip*	*skip-um*	*skip-a*
	ja-stem	MASC	*vœv-er*	*vœf*	*vœf*	*vœf-s*	*vœfi-ar*	*vœfi-a*	*vœfi-om*	*vœfi-a*
		NEUT	*skœr*	*skœr*	*skœr-i*	*skœr-s*	*skœr*	*skœr*	*skœri-om*	*skœri-a*
	ia-stem	MASC	*birghi-r*	*birgh-e*	*birgh-e*	*birghi-s*	*birgh-ar*	*birgh-a*	*birgh-om*	*birgh-a*
		NEUT	*minne*	*minne*	*minne*	*minni-s*	*minne*	*minne*	*minn-om*	*minn-a*
	ō-stem	FEM	*agn*	*agn*	*agn*	*agn-ar*	*agn-ar*	*agn-ar*	*agn-om*	*agn-a*
	jō-stem	FEM	*æg*	*æg*	*æg*	*ægi-ar*	*ægi-ar*	*ægi-ar*	*ægi-om*	*ægi-a*
	iō-stem	FEM	*hēþ*	*hēþ-e*	*hēþ-e*	*hēþ-ar*	*hēþ-ar*	*hēþ-ar*	*hēþ-om*	*hēþ-a*
	i-stem	MASC	*rætt-er*	*rætt*	*rætt-e*	*rætt-ar, rætt-e*	*rætt-ir*	*rætt-e*	*rætt-om*	*rætt-a*
		FEM	*færþ*	*færþ*	*færþ*	*færþ-ar*	*færþ-ir*	*færþ-ir*	*færþ-om*	*færþ-a*
	u-stem	MASC	*son, sun*	*son, sun*	*syn-i*	*son-ar, sun-ar*	*syn-ir*	*syn-i*	*son-um, sun-um*	*son-a, sun-a*
weak	an-stem	MASC	*bit-i*	*bit-a*	*bit-a*	*bit-a*	*bit-ar*	*bit-a*	*bit-um*	*bit-a*
		NEUT	*øgh-a*	*øgh-a*	*øgh-a*	*øgh-a*	*øgh-un*	*øgh-un*	*øgh-um*	*øgh-na*
	ōn-, ūn-stem	FEM	*vik-a*	*vik-u*	*vik-u*	*vik-u*	*vik-ur*	*vik-ur*	*vik-um*	*vik-na, vik-u*
cons. stem	monosyll.	MASC	*maþ-er, man*	*man*	*mann-e*	*man-s*	*mæn*	*mæn*	*mann-om*	*mann-a*
		MASC	*fōt-er*	*fōt*	*føt-e, fōt-e*	*fōt-ar*	*føt-er*	*føt-er*	*fōt-om*	*fōt-a*
		FEM	*bōk*	*bōk*	*bōk*	*bōk-ar*	*bøk-er*	*bøk-er*	*bōk-om*	*bōk-a*
	r-stem	MASC	*faþ-ir*	*faþ-ur*	*faþ-ur, fæþ-er*	*faþ-ur(s)*	*fæþ-er*	*fæþ-er*	*fæþ-rom*	*fæþ-ra*
		FEM	*mōþ-ir*	*mōþ-or*	*mōþ-or*	*mōþ-or(s)*	*møþ-er*	*møþ-er*	*møþ-rom*	*møþ-ra*
	nd-stem	MASC	*bōnd-e*	*bōnd-a*	*bōnd-a*	*bōnd-a*	*bønd-er*	*bønd-er*	*bōnd-om*	*bōnd-a*

Table 8: Noun inflection of Ö (Levander 1909: 11–44).

				singular			plural		
				NOM	ACC	DAT	NOM	ACC	DAT
MASC	strong	decl. I	paradigm a	*kall*	*kall*	*kall-e*	*kall-er*	*kall-a*	*kall-ụm*
			paradigm d	*fugel*	*fugel*	*fugel*	*fugl-er*	*fugel*	*fugl-ụm*
		decl. II	-	*smīð*	*smīð*	*smið-i*	*smið-ir*	*smið-i*	*smið-ụm*
		decl. V	paradigm a	*siū*	*siū*	*siū*	*siū-er*	*siū-a*	*siū-ụm*
			paradigm b	*skūa*	*skūa*	*skūa*	*skụụan-er*	*skụụ-a*	*skụụ-am*
	weak	decl. III	paradigm a	*uks-e*	*uks-a*	*uks-a*	*uks-er*	*uks-a*	*uks-ụm*
		decl. IV	-	*fual-i*	*fual-o*	*fual-o*	*fual-ir*	*fual-o*	*fual-ụm*
FEM	strong	decl. I	paradigm a	*būð*	*būð*	*būð*	*būð-er*	*būð-er*	*būð-ụm*
		decl. II	-	*fyal*	*fyal*	*fyal*	*fyal-ær*	*fyal-ær*	*fyal-ụm*
		decl. III	-	*brauð-ę*	*brauð-ę*	*brauð-ę*	*brauð-ær*	*brauð-ær*	*brauð-ụm*
		decl. VI	-	*silld*	*silld*	*silld*	*silld-er*	*silld-er*	*silld-ụm*
	weak	decl. IV	paradigm a	*kull-a*	*kull-o*	*kull-o*	*kull-er*	*kull-er*	*kull-ụm*
		decl. V	-	*flug-o*	*flug-u*	*flug-u*	*flug-ur*	*flug-ur*	*flug-ụm*
NEUT	strong	decl. I	paradigm a	*akks*	*akks*	*akks-ę*	*akks*	*akks*	*akks-ụm*
		decl. II	-	*nęęt*	*nęęt*	*nęęt-i*	*nęęt*	*nęęt*	*nęęt-ụm*
	weak	decl. III	-	*brād-ę*	*brād-ę*	*brād-ę*	*brād-ę*	*brād-ę*	*brād-ụm*
		decl. IV	-	*ōg-a*	*ōg-a*	*ōg-a*	*ōg-a*	*ōg-a*	*ōg-ụm*
		decl. V	-	*bū*	*bū*	*bū*	*bū*	*bū*	*bụụ-m*

Table 9: Adjectives in OHG (Braune 2004: 217–227).

		singular				plural			
		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	MASC	*-ēr/-[ ]*	*-an*	*-emu*	*-es*	*-e*	*-e*	*-ēm*	*-ero*
	NEUT	*-az/-[ ]*	*-az/-[ ]*	*-emu*	*-es*	*-iu*	*-iu*	*-ēm*	*-ero*
	FEM	*-iu/-[ ]*	*-a*	*-eru*	*-era*	*-o*	*-o*	*-ēm*	*-ero*
weak	MASC	*-o*	*-un*	*-in*	*-in*	*-un*	*-un*	*-ōm*	*-ōno*
	NEUT	*-a*	*-a*	*-in*	*-in*	*-un*	*-un*	*-ōm*	*-ōno*
	FEM	*-a*	*-ūn*	*-ūn*	*-ūn*	*-ūn*	*-ūn*	*-ōm*	*-ōno*

Table 10: Adjectives in VA (Wipf 1910: 134–135).

		singular				plural			
		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	MASC	*-e*	*-e*	*-um*	*-s*	*-i*	*-i*	*-e*	*-er*
	NEUT	*-s*	*-s*	*-um*	*-s*	*-i*	*-i*	*-e*	*-er*
	FEM	*-i*	*-i*	*-er*	*-er*	*-i*	*-i*	*-e*	*-er*
weak	MASC	*-o*	*-o*	*-u*	*-u*	*-u*	*-u*	*-u*	*-o*
	NEUT	*-a*	*-a*	*-u*	*-u*	*-u*	*-u*	*-u*	*-o*
	FEM	*-a*	*-a*	*-u*	*-u*	*-u*	*-u*	*-u*	*-o*

Table 11: Adjectives in OS (Noreen 1904: 337–352).

		singular				plural			
		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
strong	MASC	*-r*	*-an*	*-um*	*-s*	*-i(r)*	*-a*	*-um*	*-ra*
	NEUT	-[ ]	*-a*	*-ri, -i*	*-ra, -ar*	*-a(r)*	*-a(r)*	*-um*	*-ra*
	FEM	*-t*	*-t*	*-u*	*-s*	-[ ]	-[ ]	*-um*	*-ra*
weak	MASC	*-e*	*-a*	*-a*	*-a*	*-o*	*-o*	*-o*	*-o*
	NEUT	*-a*	*-o*	*-o*	*-o*	*-o*	*-o*	*-o*	*-o*
	FEM	*-a*	*-a*	*-a*	*-a*	*-o*	*-o*	*-o*	*-o*

Table 12: Adjectives in Ö (Levander 1909: 45–54).

		singular			plural		
		NOM	ACC	DAT	NOM	ACC	DAT
strong	MASC	-[ ]	*-ąn*	*-ųm*	-[ ]	-[ ]	*-ųm*
	NEUT	-[ ]	-[ ]	-[ ]	-[ ]	-[ ]	*-ųm*
	FEM	*-t*	*-t*	-[ ]	*-ų*	*-ų*	*-ųm*
weak	MASC	*-n*	*-ąn*	*-ąm*	*-ar*	*-ą*	*-ųm*
	NEUT	*-ą*	*-ų*	*-ųn*	*-ur*	*-ur*	*-ųm*
	FEM	*-að*	*-að*	*-ą*	*-ų*	*-ų*	*-ųm*

Table 13: Demonstrative pronoun in OHG (Braune 2004: 247–249).

	singular				plural			
	NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
MASC	*der*	*den*	*demu*	*des*	*die*	*die*	*dēm*	*dero*
NEUT	*daz*	*daz*	*demu*	*des*	*diu*	*diu*	*dēm*	*dero*
FEM	*diu*	*dia*	*deru*	*dera*	*dio*	*dio*	*dēm*	*dero*

Table 14: Definite article in VA (Wipf 1910: 141).

		NOM	ACC	DAT	GEN
singular	MASC	*dr*	*dr*	*dm*	*ds*
	NEUT	*ds*	*ds*	*dm*	*ds*
	FEM	*d*	*d*	*dr*	*dr*
plural	-	*d*	*d*	*de*	*dr*

Table 15: Indefinite article in VA (Wipf 1910: 137).

	NOM	ACC	DAT	GEN
MASC	*a*	*a*	*anum*	*as*
NEUT	*as*	*as*	*anum*	*as*
FEM	*a*	*a*	*anar*	*anar*

Table 16: Definite article in OS (underlying form) (Noreen 1904: 408–409).

	singular				plural			
	NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN
MASC	*-in*	*-in*	*-num*	*-ins*	*-ni(r)*	*-na*	*-in*	*-nna*
NEUT	*-in*	*-ena*	*-inne*	*-inna(r)*	*-na(r)*	*-na(r)*	*-in*	*-nna*
FEM	*-it*	*-it*	*-nu*	*-ins*	*-in*	*-in*	*-in*	*-nna*

Table 17: Definite noun in Ö (Levander 1909: 11–44).

				singular			plural		
				NOM	ACC	DAT	NOM	ACC	DAT
MASC	strong	decl I	paradigm a	*kall-n*	*kall-n*	*kall-ęm*	*kall-ær*	*kall-ą*	*kall-ųm*
		decl I	paradigm c	*bōg-ęn*	*bō-n*	*bō-ęm*	*bō-ær*	*bō-ą*	*bō-ųm*
		decl II	-	*smī-n*	*smī-n*	*smið-įm*	*smið-ir*	*smið-į*	*smið-ųm*
		decl V	paradigm a	*siųų-n*	*siųų-n*	*siųų-m*	*siū-ær*	*siū-ą*	*siū-ųm*
	weak	decl III	paradigm a	*uks-n*	*uks-ąn*	*uks-ąm*	*uks-ær*	*uks-ą*	*uks-ųm*
		decl IV	-	*fual-in*	*fual-ǫn*	*fual-ǫm*	*fual-ir*	*fual-ǫ*	*fual-ųm*
FEM	strong	decl I	paradigm a	*būð-ę*	*būð-ę*	*bū-n*	*būð-ær*	*būð-ær*	*būð-ųm*
		decl VI	-	*silld-ę*	*silld-ę*	*silld-n*	*silld-ær*	*silld-ær*	*silld-ųm*
		decl VII	paradigm b	*tǭn-ę*	*tǭn-ę*	*tǭ-n*	*tǭn-ær*	*tǭn-ær*	*tǭ-m*
	weak	decl IV	paradigm a	*kull-ą*	*kull-ų*	*kull-ųn*	*kull-ur*	*kull-ur*	*kull-ųm*
		decl V	-	*flug-ǫ*	*flug-ų*	*flug-ųn*	*flug-ur*	*flug-ur*	*flug-ųm*
NEUT	strong	decl I	paradigm a	*akks-eð*	*akks-eð*	*akks-ę*	*akks-ę*	*akks-ę*	*akks-ųm*
		decl II	-	*nęęt-eð*	*nęęt-eð*	*nęęt-į*	*nęęt-ę*	*nęęt-ę*	*nęęt-ųm*
	weak	decl IV	-	*ōg-ad*	*ōg-ad*	*ōg-ą*	*ōg-ų*	*ōg-ų*	*ōg-ųm*
		decl V	-	*bū-t*	*bū-t*	*bųųn-ę*	*bųųn-ę*	*bųųn-ę*	*bųų-m*

Table 18: Indefinite article in Ö (Levander 1909: 59).

	NOM	ACC	DAT
MASC	*ie-n*	*ie-n*	*ien-ųm*
FEM	*ie*	*ie-n*	*ie-n*
NEUT	*ie-t*	*ie-t*	*ie-n*

3.2 Theoretical background and methods

We do not aim to model the changes discussed here, thus, we try to keep our analysis as theory-independent as possible. However, some basic assumptions that our analysis is based upon are presented in the following. We take an inferential-realisational (also called Word & Paradigm) approach to morphology. In very general terms this signifies that form and meaning are strictly distinguished, that lexemes are connected with a morphosyntactic meaning and only this connection licences the introduction of an inflectional exponent (Ackermann & Stump 2004: 112–116). This conception has proven itself to appropriately analyse highly inflecting languages which are notorious for mismatches between form and meaning (e.g. one form – multiple meanings, multiple forms – one meaning, one form – no meaning, etc.) (for an overview see for example Anderson 1992; Stump 2001; Spencer 2004). More precisely, we adopt Stump's (2016) model which distinguishes between a content paradigm, a form paradigm and a realised paradigm. The cells of the content paradigm contain a lexeme (L) with a complete set of syntactic functions (σ) required by the syntax. Syntax has access only to this paradigm. The realised paradigm has the actual word forms (w) (the phonetic shape of a word form) with a set of morphosyntactic features (τ). This paradigm is subject to phonological phenomena. The intermediate paradigm is the form paradigm which mediates between pure function (content paradigm) and pure form (realised paradigm). It combines the roots of a lexeme (Z) with a set of morphosyntactic properties (τ) which are realised in the realised paradigm. The mapping between the three paradigms is defined by different

Content paradigm

<L, {nominative}>	<L, {accusative}>	<L, {dative}>

Form paradigm

<Z, {NomAcc}>	<Z, {dative}>

Realised paradigm

<w, {NomAcc}>	<w, {dative}>

Figure 2: Content, form and realised paradigm.

functions. To illustrate the model (Figure 2), we assume that a language has one word form for nominative and accusative and another word form for the dative. However, the three cases are distinguished in the paradigms of other lexemes or parts of speech (Baerman 2009: 219), and at the syntactic level.

Thus, three cases are differentiated at the level of the content paradigm, but only two cases at the level of form and realised paradigm. The syntactic distinction between nominative and accusative is neutralised by a morphomic property (NomAcc) in the form and realised paradigm. The languages investigated here show this type of syncretism which is called morphomic syncretism by Stump (2011: 179–182).

OHG, OS, and VA distinguish four cases (nominative, accusative, dative, and genitive), Ö three cases (nominative, accusative, and dative).[10] There are many instances to show that four cases can be distinguished in OHG and OS; for example nominative and accusative singular differ from each other in the weak masculine and feminine singular (Table 5 and Table 7, Section 3.1.2), accusative, dative and genitive are distinguished in the masculine a-stem. In VA nominative and accusative are syncretised in the noun inflection (Table 6, Section 3.1.2), but they show distinct forms in the personal pronouns (e.g. third person masculine singular) (Wipf 1910: 140). In Ö nominative, accusative and dative differ from one another in the masculine plural (Table 8, Section 3.1.2). We analyse the systems of syncretism in the singular and plural separately because we focus specifically on case syncretisms and not on syncretisms in general (note that there are only very few syncretisms between a singular and a plural form at the level of the NP).[11]

But what are systems of syncretism? For the purposes of this paper we are not interested in the single case markers. We focus on the question whether cases differ from one another or not. Thus, we aim to find systems of syncretism. For example, Table 19 reports the singular of the masculine a-stems (*tag* 'day'), ja-stems (*hirti* 'herder'), and u-stems (*situ* 'custom') in OHG. All these inflection classes (IC) mark the dative with *-e* and the genitive with *-es*. However, they differ from one another in the nominative and accusative: no suffix in the a-stems, *-i* in the ja-stems, and *-u* in the u-stems.

[10] As in Standard Swedish (RS), reflexes of the old genitive exist, but should most reasonably be described as agglutinative possessive markers; in Ö, genitive forms are consistently constructed by adding *-(e)s* to the dative form (cf. Dahl & Koptjevskaja-Tamm 2006: 64–66; Åkerberg 2012: 121).

[11] There are some syncretic forms between singular and plural in OS and OHG, but only in indefinite NPs without adjectives (thus, bare Ns). Ö has one syncretism between neuter dative singular, nominative and accusative plural if the NP is definite and without adjectives. VA shows no singular-plural syncretism.

Table 19: Singular of masculine a-stem, ja-stem, and u-stem in OHG (Braune 2004: 184, 189, 205).

stem	NOM	ACC	DAT	GEN
a-stem	*tag*	*tag*	*tag-e*	*tag-es*
ja-stem	*hirt-i*	*hirt-i*	*hirt-e*	*hirt-es*
u-stem	*sit-u*	*sit-u*	*sit-e*	*sit-es*

Table 20: Systems of syncretism in the noun inflection of VA.

number	gender	NOM	ACC	DAT	GEN
singular	MASC				
	NEUT				
	FEM				
plural	MASC/NEUT/FEM				
	MASC/NEUT/FEM				
	MASC				

Although these inflection classes show different suffixes in the nominative and accusative, they have the same system of syncretism (indicated by shading in Table 19), i.e. nominative = accusative ≠ dative ≠ genitive.

In the following, we show step-by-step how we proceed from the neogrammarian descriptions to the systems of syncretism. We illustrate our procedure by the noun inflection of VA (paradigm in Table 6, Section 3.1.2):

- As a first step, we copy all of the paradigms into a table.
- In the second step, we remove the stems. Stem allomorphy does not need to be taken into account, because there is a correlation between stem allomorphy and suffixes. Thus, there is no instance where two different cases are marked by the same suffix but distinct stem forms. Note that we analyse singular and plural separately.
- Thirdly, we remove inflection classes with the same sets of endings, so each IC has a different set of suffixes.
- Fourthly, we note the systems of syncretism (Table 20). In this example, grey shading visualises cases that are not distinguished by form. If there are two different systems of syncretisms at once, one is visualised by grey shading (nominative-accusative syncretism in the feminine singular), and one is visualised by bold framing (dative-genitive syncretism in the feminine singular). At first glance, it may be surprising that there are no inflection classes in Table 20, but numerous inflection classes in the paradigm in Table 6 (Section 3.1.2). This is due to the fact that for example all masculines show the same syncretism system (nominative = accusative ≠ dative ≠ genitive), but there are different realisations for the syncretic nominative/accusative form (cf. Table 6). An example addressing the difference between systems of syncretism and inflection classes is displayed in Table 19 and discussed in the paragraph previous to Table 19.

Once this procedure is also applied to the adjectives and articles, the systems of syncretism for each possible NP can be determined. For example, a possible NP in VA is the definite article followed by a noun. Table 21 reports the systems of syncretism of the definite article in VA.

If the systems of syncretism of the noun (Table 20) and the systems of syncretism of the definite article (Table 21) are combined, the following systems of syncretism arise for the definite NP without adjective (Table 22).

Tables 23 to 26 show which parts of speech the noun phrases are composed of, and in which order. Note that the definite article follows the noun in OS and Ö, while it precedes the noun in VA. The OHG varieties of the 9th century do not have a grammaticalised article, but the demonstrative pronoun may precede the noun (and the adjective). As the other varieties under investigation here have a grammaticalised definite article, and in order to compare comparable NPs, the OHG NP composed of demonstrative pronoun (+adjective) + noun is taken into account, too. The indefinite article is obligatory in the indefinite NPs in the singular of VA and Ö, but not in the plural. An indefinite article is also lacking in OHG and OS.

Finally, to distinguish stem and suffix as well as two suffixes from one another is not trivial (see e.g. Baechler 2017 regarding OHG and VA). It may depend, for example, on the theoretical framework whether a final vowel is considered as belonging to the stem or as a suffix. Moreover, especially in the case of suffixed articles, case-marking suffixes and the suffixed definite article are often merged into one suffix. However, as we aim to

Table 21: Systems of syncretism of the definite article of VA (Wipf 1910: 141).

number	gender	NOM	ACC	DAT	GEN
singular	MASC				
	NEUT				
	FEM				
plural	MASC/NEUT/FEM				

Table 22: Systems of syncretism of the definite NP without adjective of VA.

number	gender	NOM	ACC	DAT	GEN
singular	MASC/NEUT				
	FEM				
plural	MASC/NEUT/FEM				

Table 23: NPs in OHG (Schrodt 2004: 24–31).

NP	parts of speech composing NP
def NP + adj	dem pron + weak adj + noun
def NP – adj	dem pron + noun
indef NP + adj	strong adj + noun
indef NP – adj	noun

Table 24: NPs in OS (Faarlund 2004: 57–58, 67–68).

NP	parts of speech composing NP
def NP + adj	weak adj + noun + def art
def NP – adj	noun + def art
indef NP + adj	strong adj + noun
indef NP – adj	noun

Table 25: NPs in VA (Wipf 1910: 134).

NP	parts of speech composing NP
def NP + adj	def art + weak adj + noun
def NP – adj	def art + noun
indef NP + adj (SG)	indef art + weak adj + noun
indef NP + adj (PL)	strong adj + noun
indef NP – adj (SG)	indef art + noun
indef NP – adj (PL)	noun

Table 26: NPs in Ö (Levander 1909: 51–54).

NP	parts of speech composing NP
def NP + adj	def adj + noun + def art
def NP – adj	noun + def art
indef NP + adj (SG)	indef art + indef adj + noun
indef NP + adj (PL)	indef adj + noun
indef NP – adj (SG)	indef art + noun
indef NP – adj (PL)	noun

determine systems of syncretism, it is not necessary to make a detailed morphological analysis. Thus, for our purposes, if it cannot be determined (without an in-depth analysis) what belongs to the stem and what belongs to the suffix, it is sufficient to compare the word forms.

3.3 Change in the noun inflection

In this section, we compare the changes in the systems of syncretism in the noun inflection: Firstly, from OHG to VA, secondly from OS to Ö. The analysis mainly focuses on the major strong and weak inflections, that is, on the a-stems, ō-stems, and n-stems. The systems of syncretism of OS, Ö, OHG, and VA are reported in Table 28. The paradigms of the noun inflection are in Section 3.1.2. However, we will not discuss the word forms but only the changes in the systems of syncretisms.

3.3.1 Old High German vs. Visperterminen Alemannic

In VA in the singular strong inflection of all genders, the dative is not distinguished from the nominative and accusative (see Table 6, Section 3.1.2).[12] Furthermore, these three cases are not marked at all, i.e. there is no suffix but only the stem in the cells of the strong paradigm (cf. Table 5 and Table 6, Section 3.1.2). This loss in VA is not due to phonological changes, because full vowels appear as suffixes in the weak singular inflection as well as in the plural (cf. Table 6, Section 3.1.2). The dative marker is also lost in the neuter singular weak inflection in VA. At first glance, it seems that there is a new neuter genitive distinction in the weak neuter. However, the strong and weak neuter singular inflection merged, showing one set of marker: -[ ] (no marking) in the nominative, accusative, and dative, and *-sch* in the genitive (cf. Table 6, Section 3.1.2), whereas the plural neuter has four different sets of markers (three strong, one weak) (Wipf 1910: 130). In

[12] There is one masculine inflection class (*aro*, *arma* 'arm') in VA with a strong plural and an originally strong, now weak singular. Hence, nominative and accusative singular are distinguished from dative singular (nominative, accusative and dative are syncretised in the strong inflection). Although this is a very interesting inflection class (consisting of merely eight lexemes, Wipf 1910: 122), we will not discuss it further in the following, as all the other inflection classes (with more lexemes) show a syncretism between nominative, accusative and dative singular.

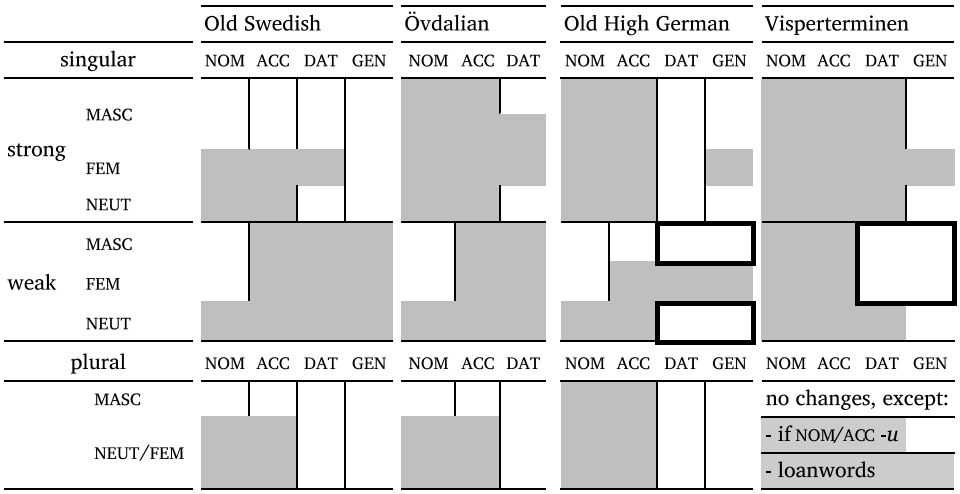
the masculine and feminine singular weak inflection, the nominative and accusative are syncretised. The dative feminine, however, differs from the nominative and accusative in VA, whereas in OHG the accusative, dative and genitive show a syncretic suffix. This may be interpreted as a partial merger of the weak masculine and feminine because this is not due to phonological changes. Table 27 shows the weak masculine (*hano* 'cock') and feminine (*zunga* 'tongue') inflection in OHG and VA. The accusative has the same suffix as the nominative (*-o* in the masculine, *-a* in the feminine, shaded), whereas the dative and the genitive are syncretised (*-u*, bold-framed) and display no distinction between masculine and feminine. There is no phonological explanation for the change *-un* > *-o* (masculine), and *-ūn* > *-a* (feminine), nor for the change *-in* > *-u* (masculine).

Finally, the plural (cf. Table 6, Section 3.1.2) seems to be very stable with the following system of syncretism: nominative = accusative ≠ dative ≠ genitive. There are two exceptions to this general pattern. Firstly, French loan words do not distinguish case. Secondly, as the only dative plural marker is *-u*, the nominative, accusative, and dative plural do not differ from one another if the nominative and accusative are also marked with *-u* (this happens only in two inflection classes). Thus, in almost all inflection classes, the dative is distinguished from the other cases. This is an interesting observation, because the dative suffix apparently does not have more phonological weight than the suffixes of the other cases. It is often assumed that the dative is preserved (as opposed to the accusative) because the dative is marked with more phonological material than for example

Table 27: Weak masculine and feminine singular inflection in OHG and VA (Braune 2004: 207; Wipf 1910: 128–132).

		Old High German	Visperterminen
weak MASC	NOM	*han-o*	*han-o*
	ACC	*han-un*	*han-o*
	DAT	*han-in*	*han-u*
	GEN	*han-in*	*han-u*
weak FEM	NOM	*zung-a*	*zung-a*
	ACC	*zung-ūn*	*zung-a*
	DAT	*zung-ūn*	*zung-u*
	GEN	*zung-ūn*	*zung-u*

Table 28: Systems of syncretism in the noun inflection of OHG, OS, VA, and Ö.



the accusative (cf. the discussion in Section 2.2). This explanation clearly does not apply to the plural of VA as the dative is marked by one full vowel like the other three cases (cf. Table 6, Section 3.1.2). We can therefore conclude that there is a reduction in inflection (i.e. increase of syncretism) and loss of inflection (i.e. loss of suffixes, except the weak masculine and feminine inflection) in the singular, and a rather stable situation in the plural. This results in a typologically unexpected situation, namely that more cases are marked and distinguished in the plural than in the singular.

3.3.2 Old Swedish vs. Övdalian

First of all, it can be observed that the genitive is lost in Ö (see Table 28). Secondly, there are no changes in the systems of syncretism, except in the masculine strong inflection: The OS *-r* in the nominative is lost in Ö and syncretised with the accusative (cf. Table 7 and Table 8, Section 3.1.2). This results in a non-marking of these two cases, i.e. only the stem appears in the nominative and accusative cells of the paradigm. In some strong inflection classes, the dative is marked with *-e* or *-i*. In other strong inflection classes, the dative is not marked, and thus syncretised with the nominative and accusative (cf. Table 8, Section 3.1.2). Thus, very similarly to VA, there is not only an increase of syncretisms in the singular in Ö, but also a loss of suffixes. However, suffixes are mainly preserved in the singular weak inflection as well as in the plural (the same applies to VA) (cf. Table 8, Section 3.1.2). Thus, these changes essentially are morphological and not phonological changes, i.e. restructuring of inflectional case marking.

3.4 Change in the noun phrase

In this section, we present and discuss the changes at the level of the NP, thus including determiners and adjectives. Firstly, we compare the NPs of OHG and VA, secondly, the NPs of OS and Ö. Table 29 gives an overview regarding the NPs of OHG and VA, Table 30 regarding the NPs of OS and Ö.

Table 29 and Table 30 show that OHG, VA, and OS have one set of systems of syncretism, i.e., the different types of NPs display the same systems of syncretisms. Ö, however, has four sets of systems of syncretism depending on whether the NP is definite or indefinite (def and indef in Table 30), and whether or not an adjective precedes the noun (+adjective and –adjective in Table 30). Note also that OHG, VA, and OS show different systems of syncretism depending on gender and number, but no differences can be observed regarding ICs (thus, ICs have the same systems of syncretism within the same gender and number). This also applies to Ö, however, with the following exceptions distinguishing weak and strong inflection: definite NP without adjective in the masculine and feminine as well as in the indefinite NP without adjective in the masculine. Thus, if ICs play a role regarding systems of syncretism, it is only a minor one in Ö.

For the sake of completeness, we add the paradigms of the determiners and adjectives in Section 3.1.2. However, we will not discuss the changes in these parts of speech but exclusively focus on the changes in the systems of syncretism at the level of the NP.

OHG vs. VA: In the singular feminine, the dative-genitive distinction is lost in VA, as well as the nominative-accusative distinction in the feminine and masculine. As a consequence, the systems of syncretism of the masculine and neuter are identical. No changes are observed in the neuter singular and in the plural. From these changes it results that nominative and accusative never differ from one another in VA, while the dative and genitive are always distinguished from all the other cases (except the syncretism between dative and genitive in the feminine). Note also that only an increase in syncretisms (no decrease) can be observed, which corresponds to a reduction in inflection.

Table 29: Systems of syncretism in the NP of OHG and VA.

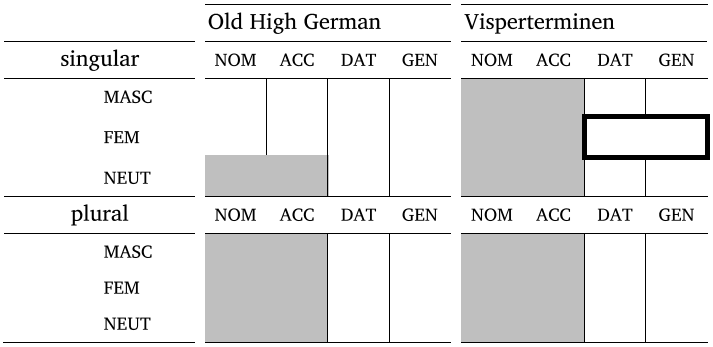
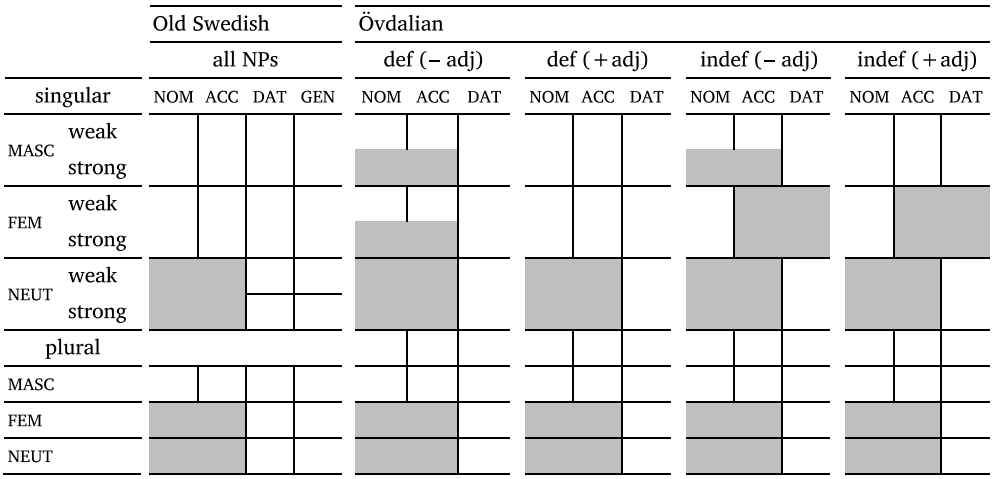


Table 30: Systems of syncretism in the NP of OS and Ö.



OS vs. Ö: Comparing VA and Ö, differences and parallels can be observed. Unlike VA, Ö has four sets of systems of syncretism (VA has only one), i.e. one for each logical possibility (+/–definite, +/–adjective). Moreover, the feminine (strong and weak) in Ö shows an additional syncretism, namely between the accusative and dative (indefinite with and without adjective). Finally, Ö does not show such a clear tendency regarding nominative-accusative syncretism and dative-nominative/accusative distinction.

However, there are striking parallels between the changes in OHG/VA and OS/Ö. Firstly, there are no changes in the neuter singular and plural. Secondly, in the strong masculine (definite and indefinite without adjective) and in the strong feminine (definite without adjective), the nominative-accusative distinction is lost. Thirdly, all changes show an increase in syncretisms.

3.5 Compensation

In the previous sections, we observed that case marking is reduced at the level of noun inflection as well as at the level of the NP. In this section, we investigate whether the losses in the noun inflection are compensated by case marking in the articles and/or adjectives. It is a typical trait of literature on the loss of case marking in German to assume that articles are grammaticalised in order to mark case (in addition to marking definiteness), because case marking is reduced in the noun inflection (see among others Schmidt 2013: 271–273).

Due to the fact that VA has one set of systems of syncretism in the NP, whereas Ö has four sets, Section 3.5.1 is dedicated to VA, Sections 3.5.2 to 3.5.5 to Ö. Section 3.5.6 is a brief

digression: Svenonius (2015) provides newer data, however, only for the noun inflection and the definite NP without adjective. A summary of the patterns of compensation is given in Table 37 in Section 3.5.7.

3.5.1 Old High German vs. Visperterminen Alemannic

Table 31 displays the systems of syncretism in the OHG noun inflection as well as in the VA noun inflection and NP. The syncretisms in the noun inflection are shown in the second column for OHG and in the third column for VA. The fourth column reports the systems of syncretisms at the level of the NP in VA. The fifth column (case) shows which cases are syncretised in the VA noun inflection[13] (thus, comparing the noun inflection of OHG with the noun inflection of VA). The sixth column (status) displays whether or not the syncretism is inherited from OHG. Finally, the last column (compensation) reports whether or not the syncretism in the noun inflection of VA is compensated (disambiguated) in the NP, thus, by the article or the adjective (i.e. comparing the column noun inflection with the column NP). Note that Tables 32 to 36 follow the same pattern.

VA shows a very regular pattern of compensation and non-compensation. The syncretism between nominative and accusative (inherited and new) in the noun inflection is never compensated for in the VA NPs. Thus, in articles and adjectives too, nominative and accusative are not distinguished. In opposition to that, if the dative has the same form as the nominative and accusative in the noun inflection (new syncretism), the dative differs from the nominative and accusative in the VA NPs. As for the genitive, the pattern is slightly more complex: The new or inherited genitive syncretism is compensated for in the

Table 31: Compensation in the NP of VA.

		Old High German				Visperterminen										
		noun inflection				noun inflection				NP				case	status	compensation
singular		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN			
MASC	weak													NOM = ACC	new	– comp
														= GEN	inherited	+ comp
	strong													NOM = ACC	inherited	– comp
														= DAT	new	+ comp
FEM	weak													NOM = ACC	new	– comp
														= GEN	inherited	– comp
	strong													NOM = ACC	inherited	– comp
														= DAT	new	+ comp
														= GEN	inherited	– comp
NEUT	weak													NOM = ACC	inherited	– comp
														= DAT	new	+ comp
	strong													NOM = ACC	inherited	– comp
														= DAT	new	+ comp
plural		NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN	NOM	ACC	DAT	GEN			
MASC/NEUT/FEM														NOM = ACC	inherited	– comp
MASC/NEUT/FEM -*u* for NOM/ACC														NOM = ACC	inherited	– comp
														= DAT	new	+ comp
MASC (French loanwords)														NOM = ACC	inherited	– comp
														= DAT	new	+ comp
														= GEN	new	+ comp

[13] "= dat" means nominative = accusative = dative, "= gen" means nominative = accusative = dative = genitive or nominative = accusative ≠ dative = genitive.

NP of the masculine singular and of the plural, but it is not compensated for in the NP of the feminine singular. Thus, excepting the genitive, we observe a reduction in or loss of inflection in the noun, and a systematic non-compensation in the NP regarding the nominative and accusative, but a systematic compensation in the NP regarding the dative. Note also that the dative is often redundantly marked, that is, by more than one part of speech.

3.5.2 Old Swedish vs. Övdalian: definite NP (–adjective)

This section and the subsequent ones are dedicated to OS and Ö. Tables 32 to 35 show the results and follow the same pattern as Table 31 regarding compensation in VA. The plural is only reported in Table 32 because the systems of syncretism in the plural – i.e. which cases are syncretised or distinguished – are identical in all possible plural NPs (definite, indefinite, with or without adjective). As was already mentioned in Section 3.3, the genitive is lost in Ö, where it applies to all parts of speech, thus also to the NP.

Table 32 shows the results of the comparison between the definite NP without adjective in OS and Ö. The pattern of what is or is not compensated for is exactly the same one as in VA. In Ö, there is no compensation for the new or inherited nominative-accusative syncretism. The dative, however, always differs from the nominative/accusative, independently of whether the (nominative-)accusative-dative syncretism is new or inherited from OS.

Table 32: Compensation in the NP of Ö: definite NP (–adjective).

		Old Swedish				Övdalian								
		noun inflection				noun inflection			NP			case	status	compensation
singular		NOM	ACC	DAT	GEN	NOM	ACC	DAT	NOM	ACC	DAT			
MASC	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	new	– comp
												= DAT	new	+ comp
FEM	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	– comp
												= DAT	inherited	+ comp
NEUT	weak											NOM = ACC	inherited	– comp
												= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	– comp
plural		NOM	ACC	DAT	GEN	NOM	ACC	DAT	NOM	ACC	DAT			
MASC												–	–	–
NEUT/FEM												NOM = ACC	inherited	– comp

Table 33: Compensation in the NP of Ö: definite NP (+adjective).

		Old Swedish				Övdalian								
		noun inflection				noun inflection			NP			case	status	compensation
singular		NOM	ACC	DAT	GEN	NOM	ACC	DAT	NOM	ACC	DAT			
MASC	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	new	+ comp
												= DAT	new	+ comp
FEM	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	+ comp
												= DAT	inherited	+ comp
NEUT	weak											NOM = ACC	inherited	– comp
												= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	– comp

3.5.3 Old Swedish vs. Övdalian: definite NP (+adjective)

Table 33 reports the results of the definite NP with adjective. Again, if the dative is syncretised with the nominative and accusative, this syncretism is compensated for at the level of the NP. Like in VA and in the Ö definite NP without adjective, nominative and accusative remain syncretised, but only in the neuter and plural, while nominative and accusative differ from one another in the masculine and feminine singular. Thus, by adding the adjective, more syncretisms in the noun inflection are compensated for in the NP than in the Ö definite NP without adjective and in VA.

3.5.4 Old Swedish vs. Övdalian: indefinite NP (–adjective)

The results regarding the indefinite NP without adjective are shown in Table 34. The masculine and neuter display the following pattern of (non-)compensation: The nominative-accusative syncretism (masculine and neuter) in the noun inflection is preserved in the NP, and the syncretism between nominative/accusative and dative is compensated for in the NP by the indefinite article. This corresponds to the compensation pattern in the Ö definite NP without adjective and in VA. The feminine, however, shows the opposite pattern: compensation in the NP of the nominative-accusative syncretism in the noun inflection (by the indefinite article), non-compensation of the syncretised dative.

3.5.5 Old Swedish vs. Övdalian: indefinite NP (+adjective)

The changes regarding the (non-)compensation in the indefinite NP with adjective are shown in Table 35. By adding the adjective to the indefinite NP, the same pattern of

Table 34: Compensation in the NP of Ö: indefinite NP (–adjective).

		Old Swedish				Övdalian								
		noun inflection				noun inflection			NP			case	status	compensation
singular		NOM	ACC	DAT	GEN	NOM	ACC	DAT	NOM	ACC	DAT			
MASC	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	new	– comp
												= DAT	new	+ comp
FEM	weak											= DAT	inherited	– comp
	strong											NOM = ACC	inherited	+ comp
												= DAT	inherited	– comp
NEUT	weak											NOM = ACC	inherited	– comp
												= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	– comp

Table 35: Compensation in the NP of Ö: indefinite NP (+adjective).

		Old Swedish				Övdalian								
		noun inflection				noun inflection			NP			case	status	compensation
singular		NOM	ACC	DAT	GEN	NOM	ACC	DAT	NOM	ACC	DAT			
MASC	weak											= DAT	inherited	+ comp
	strong											NOM = ACC	new	+ comp
												= DAT	new	+ comp
FEM	weak											= DAT	inherited	– comp
	strong											NOM = ACC	inherited	+ comp
												= DAT	inherited	– comp
NEUT	weak											NOM = ACC	inherited	– comp
												= DAT	inherited	+ comp
	strong											NOM = ACC	inherited	– comp

compensation arises as in the indefinite NP without adjective. The only exception from this pattern can be seen in the masculine: The adjective compensates for the syncretism between nominative and accusative like in the definite NP with adjective.

3.5.6 Classical vs. Traditional Övdalian: Definite NP (–adjective)

Svenonius (2015) reports data from Traditional Övdalian, the variety spoken by people born between 1920 and 1950. The data was collected by linguists in the NORMS project in 2007 (Svenonius 2015: 178). The Övdalian variety documented by Levander (1909), spoken by people born in the 19th century, can retrospectively be labelled Classical Övdalian (Garbacz 2010: 34). Svenonius (2015) focuses on the noun inflection and the definite NP without adjective. This is why this section may be considered a digression because we compare Classical and Traditional Ö based on these two contexts alone. The results are displayed in Table 36.

As for compensation, Traditional Ö shows the same pattern as VA and as most of the NPs in Classical Ö: The nominative-accusative syncretism is not compensated for in the NP, while the syncretism between dative and nominative/accusative is compensated for in the NP. Interestingly, Traditional Ö and VA do not only have the same pattern of compensation, but they also show the same systems of syncretism in the noun inflection as well as in the NP (leaving aside the preserved genitive in VA). In the singular noun inflection, no cases are distinguished (except the dative in the weak inflection in VA), while in the plural the dative differs from nominative/accusative. At the level of the NP, both varieties show syncretic forms for nominative and accusative, and differing forms for dative. Thus, in both varieties, there seems to be a clear tendency towards a syncretic form for the nominative and accusative, and a different marking for the dative.

3.5.7 Summary

For a better understanding, Table 37 gives an overview of the results discussed in Section 3.5 regarding the patterns of compensation. It can be observed that the nominative-accusative syncretism in the noun inflection is in most instances not compensated for in the NP, while the dative-accusative(/nominative) syncretism is compensated for.

Table 36: Classical Ö vs. Traditional Ö: definite NP (–adjective).

		Classical Övdalian						Traditional Övdalian								
		noun inflection			NP			noun inflection			NP			case	status	compensation
singular		NOM	ACC	DAT	NOM	ACC	DAT	NOM	ACC	DAT	NOM	ACC	DAT			
MASC	weak													NOM = ACC = DAT	new inherited	– comp + comp
	strong													NOM = ACC = DAT	inherited new	– comp + comp
FEM	weak													NOM = ACC = DAT	new inherited	– comp + comp
	strong													NOM = ACC = DAT	inherited inherited	– comp + comp
NEUT	weak													NOM = ACC = DAT	inherited inherited	– comp + comp
	strong													NOM = ACC = DAT	inherited new	– comp + comp
plural		NOM	ACC	DAT	NOM	ACC	DAT	NOM	ACC	DAT	NOM	ACC	DAT			
MASC														NOM = ACC	new	– comp
NEUT/FEM														–	–	–

Table 37: Summary of the patterns of compensation.

variety	type of NP	syncretism	compensation
Visperterminen	all NPs	NOM = ACC	– comp
		= DAT	+ comp
Classical Övdalian	definite (– adj)	NOM = ACC	– comp
		= DAT	+ comp
	definite (+ adj)	NOM = ACC	– comp (NEUT)
			+ comp (MASC/FEM SG)
		= DAT	+ comp
	indefinite (– adj)	NOM = ACC	– comp (MASC/NEUT SG)
			+ comp (FEM SG)
		= DAT	+ comp (MASC/NEUT SG)
			– comp (FEM SG)
	indefinite (+ adj)	NOM = ACC	– comp (NEUT SG)
			+ comp (MASC/FEM SG)
		= DAT	+ comp (MASC/NEUT SG)
			– comp (FEM SG)
Traditional Övdalian	definite (– adj)	NOM = ACC	– comp
		= DAT	+ comp

Deviations from this general pattern of compensations, i.e. non-compensated nominative-accusative syncretism, but compensated nominative/accusative-dative syncretism, can only be found in Classical Ö, and mainly in the feminine. The nominative-accusative syncretism is compensated for in the masculine and feminine singular if the NP (definite and indefinite) contains an adjective, as well as in the feminine indefinite NP without adjective. The dative does not differ from (nominative/)accusative in the feminine indefinite NP.

3.6 Analysis and explanation

Comparing OS with Ö, and OHG with VA, we can observe a reduction of inflection, i.e. an increase in syncretisms both at the level of noun inflection and of NPs (Sections 3.3 and 3.4). Moreover, case marking is being lost in the singular of Ö and VA noun inflection because more cells only contain the stem (without any case marking). Additionally, the genitive is lost in Ö. We therefore observe a reduction in and loss of inflection, although these varieties have all phonological means – that is, a repertoire of full vowels in unstressed syllables – to mark case (as can be seen, among other things, in the plural).

Section 3.5 presented evidence that there is systematic compensation/non-compensation for reduced inflection. The nominative-accusative syncretism in the noun inflection is not compensated for in the NP, while the dative differs from nominative/accusative in the NP. This always applies to VA and Traditional Ö (only definite NP without adjective), and in most cases to Classical Ö (with some deviations, mainly in the feminine, see Table 37). This demands, then, an explanation.

Although Ö and VA have reduced their inflection, they still show a much richer inflectional morphology than most Mainland Scandinavian and German varieties. This may be explained by their sociolinguistic context. Ö and VA are considered to be isolated varieties which are relatively stable socially. In this context, higher complexity is expected (Trudgill 2011). That isolated varieties tend to be more complex than non-isolated ones (regarding the inflectional morphology of Germanic languages) was shown by Braunmüller (1984) for Icelandic and Faroese and by Baechler (2017) for Highest Alemannic varieties.

A sociolinguistic explanation, however, fails if one asks a) why case is reduced or lost, b) what makes it possible that case may be reduced or lost, and c) why the syncretisms between certain cases are systematically compensated for or not. These are questions concerning system-internal mechanisms. In the following, we propose a) a system-internal explanation for the preservation (i.e. non-compensation in NP) and increase of the nominative-accusative syncretism, and b) an explanation for the dative marking. To do this, however, we first need to explain the exceptions from the general compensation/non-compensation pattern in Ö as well as the loss of the genitive in Ö.

3.6.1 Exceptions from the compensation/non-compensation pattern in Övdalian

In the previous sections a reduction and loss of inflection in the nouns as well as in the definite articles was observed from OS to Classical Ö (note that the adjectives and the forms of the indefinite article show a reduced paradigm, too). Compared to Classical Ö, the inflection in Traditional Ö is reduced even more, leading to the same systems of syncretism (at the level of the noun inflection and NP) and the same patterns of (non-) compensation as in VA. Finally, Classical Ö shows the same overall pattern (with only some small exceptions) of (non-)compensation in all four NPs as VA. Therefore, we hypothesise that Ö changes in the same direction as VA (with only some exceptions in Classical Ö, and no exceptions in Traditional Ö) and that the differences between Classical Ö and VA can simply be explained by differing rates in language change. Moreover, the different genders and parts of speech are not affected by the change at the same time – the change starts at different points and progresses through the system. The trajectory on which language change (i.e. the spread of the (non-)compensation pattern also found in VA) progresses in Classical Ö can be summarised as follows ('>' signifies X prior to Y): masculine > feminine (the neuter inherited the pattern), noun > definite article > indefinite article > adjective. The cause for this specific chronology (in lieu of other possible sequences) has yet to be determined.

3.6.2 Loss of the genitive in Övdalian

Unlike VA, Ö lost the genitive. The OS *-s* (genitive singular masculine and neuter, strong inflection) can be suffixed to the dative form in Ö marking possessive. Thus, the dative form is selected when a dative is required by the syntax (for example to encode the indirect object), but the same dative form also serves as a caseless form to which the possessive marker is suffixed. Note that we assume a clear distinction between form and meaning (see Section 3.2), thus, the use of the same form for different purposes does not pose any problem. In contrast to the disappearance of this case in Ö, VA preserves most of the OHG functions marked by the genitive, most importantly the genitive as an object case (Wipf 1910: 119). Thus, it can be assumed that the argument structure changed in Ö, as objects are marked by accusative or dative (by accusative, dative, and genitive in OS). Additionally, *possessive* is morphologically encoded by *-s*. The other former genitive singular and plural allomorphs are lost, while *-s* is reanalysed as a possessive marker that is suffixed to the dative forms. Note that this also affects the structure of the word: from an inflecting structure with portmanteau morphs (stem + case/number) to a slightly agglutinating structure (stem + case/number + possessive).

3.6.3 Nominative-accusative syncretism

As for the nominative-accusative syncretism, a synchronic and a diachronic question arise. Sections 3.3 and 3.4 showed that there is an increase in the number of nominative-accusative syncretisms. As a result, the two cases are never distinguished at the level of the NP in VA, and are often not distinguished in Ö. The synchronic question is how the

two varieties differentiate between the subject and the direct object. Firstly, VA and Ö have a rich verbal inflection: The subject agrees with the verb in number and person.[14] Secondly, the subject and the direct object stay in specific positions to one another if both occur after the inflected verb. Note that the underlying word order in VA is OV, while the underlying word order in Ö is VO. Both varieties are V2 languages, i.e. only one constituent is allowed in front of the finite verb (i.e. in the prefield). In both languages the subject is either in the prefield or immediately after the finite verb in the middle field, while the direct object is in the prefield or after the subject in the middle field (Werlen 1990: 169–171 for Visperterminen:[15] Garbacz 2010: 103, 105, 109 for Ö). These are the possible serialisations: S-V-O and O-V-S for VA and Ö, X-V-S-O-V for VA, X-V-S-V-O for Ö. Thus, if the subject and the direct object are not distinguished from one another by means of inflection, it is in most cases still clear which NP is to be parsed as the subject or as the direct object. This signifies that the nominative-accusative syncretism (if the nominative is the subject,[16] and the accusative the direct object) is in most instances compensated for by word order. However, ambiguous sentences may still occur, namely if the subject or the direct object are in the prefield (only one constituent is allowed before the finite verb) and both are in the third-person singular or in the third-person plural. These sentences may be disambiguated using two strategies: a) Probability, as the subject occurs much more frequently in the prefield than the object for pragmatic reasons. b) Context, as semantic or textual information is taken into account.

The diachronic question that arises is whether the fixation of the word order follows the reduction of case marking (as is often assumed, cf. 2.1), and what the cause of the reduction in inflectional case marking might be. It is often supposed that OS and OHG permit a free word order which is due – for example – to different phrasal categories in the prefield, to left and right adjunction, etc. (Faarlund 2004: 229). However, the possible positions for the subject, the direct object and the finite verb are very few. The most common word order in OS is V2 and VO (Faarlund 2002: 731), in OHG V2 and OV (Näf 1979: 114, 225; Dittmer & Dittmer 1998; Axel 2007; Sapp 2016). In the OHG subordinate clauses, however, there is some variation in the verb preceding or following the object (Schrodt 2004: 206–208). There is an ongoing discussion whether OHG has an underlying OV or VO structure. Axel (2007) and particularly Sapp (2016) argue for a head-final VP with extraposition and Verb (Projection) Raising, while Petrova & Hinterhölzl (2010: 213) and Schlachter (2012) argue for an underlying VO order including a focus position and leftward movement. Schallert (2006) provides evidence for an underspecified OV/VO order. Those who argue for a VO or OV order agree, however, that the variation can be explained by the information structure: Background and contrastive/exhaustive information are pre-verbally (background information is followed by contrastive/exhaustive information, Petrova & Hinterhölzl 2010: 208) while new information appear post-verbally (Petrova & Hinterhölzl 2010: 208; Schlachter 2012: 93–105; Sapp 2016: 377).[17] It was also observed that there are some V3 main clauses in OHG. However, Axel (2007; 2009) shows that mainly personal pronouns and certain adverbs appear between the XP

[14] The verb paradigm consists of six cells: singular and plural, 1st–3rd person. VA shows six different word forms in the present and past indicative (Wipf 2010: 149, 158, 160), whereas Ö has three different word forms in the plural, but only one in the singular (Levander 1909: 84–88; Garbacz 2006: 4).

[15] There is no description of the syntax in VA. Werlen's data is his own variety, which is a Walser dialect from the canton of Valais, thus, the same branch of the Alemannic dialects and the same area as VA. These are the only available data regarding word order in Walser dialects. However, a larger survey could provide more reliable data (although Werlen is a competent native speaker).

[16] Note that there are no oblique subjects in Övdalian (Garbacz 2010: 70).

[17] Note that there are additional factors influencing VO or OV order: weight of the constituent, definiteness, Latin model (see for example Dittmer & Dittmer 1998; Sapp 2016).

in the prefield and the finite verb. Schlachter (2012) argues for an information structural explanation for V3, namely that constituents occurring before the finite verb provide secondary information (meta commentary). The important question here is whether OHG and OS have a fixed word order regarding the relative position of the subject and the direct object. In both languages (assuming that they are V2 languages), the subject and the direct object[18] may be in the prefield (Faarlund 2004: 193 for OS; Bernhardt & Davis 1997: 49–65 and Axel 2007: 4–5 for OHG). In the middle field, the direct object follows the subject (Faarlund 2004: 193–195, 250–251 for OS; Näf 1979: 315–332 based on Notker's Translation of the De Consolatione Philosophiae; Bernhardt & Davis 1997: 49–95 based on the OHG Tatian translation; Axel 2007: 5 based on major early and late OHG texts). This does not mean that subject and object are adjacent. Other constituents may appear between the subject and the object: OS is a VO language, in OHG VO as well as OV are possible serialisations. Thus, already in OS and OHG, the positions of the subject and the direct object to each other were fixed in most cases. There is one exception, i.e. when the subject occurs before the finite verb and the object after the finite verb (or vice versa), and subject and object are in the third person singular or plural. However, as discussed, subject and object can be disambiguated based on information structural or pragmatic cues (Petrova & Hinterhölzl 2010; Schlachter 2012).

This situation can allow for a reduction of case marking. Therefore, we propose that the ongoing fixation of the word order may not only be interpreted as a compensation of the reduction in and loss of case marking, but may also be analysed as a cause or a favourable pre-condition for the reduction in and loss of case marking.[19] Allen's (2006) findings point in the same direction, and she states that "the interaction between the decline of case marking and the fixing of word order is not a one-way street" (Allen 2006: 215). In investigating the increase in syncretisms in accusative and dative marking, and the decline of direct object-indirect object word order from Old English to Middle English, she observes that:

> [T]he development of an unmarked order, which might have resulted to some extent from reduced reliability in the morphological system, in conjunction with the increase in the use of adpositions to mark Case distinctions, would lead to a (further) increase in syncretism of case forms, which would in turn lead to further reliance on word order as a way of processing thematic relations. (Allen 2006: 215)

Instances of changes in the syntax triggering changes in morphology are discussed as early as Anderson (1980). Cole et al. (1980) give further evidence based on a historical cross-linguistic survey that transformational properties of subjecthood (e.g. control of reflexivisation, deletability, and subject-raising rules) are acquired by the NP prior to morphosyntactic properties (such as case marking and verb agreement). Finally, Fischer (2010) shows that word order change triggers the loss of morphology (based on a comparative survey of Catalan, Spanish, French, Icelandic, and English). She explains the loss of non-nominative subjects and stylistic fronting by the loss of the functional category FP and thus change in word order (with a longer period of word order variation). Once a fixed word order is re-established (as the learner prefers structures with less movement), morphology had become superfluous and was lost (Fischer 2010: 7–8). Therefore, our

[18] We focus on nominal NPs (not on pronominal NPs) here, as a) our analysis above is based on nominal NPs as well and b) because case marking in pronouns is preserved to a much larger extent.

[19] This does not necessarily have consequences for syntactic complexity, though: In comparing Ö and RS, Dahl (2009: 63) notices that "the claim that the lesser morphological complexity of Swedish is compensated by a greater syntactic complexity is not only hard to demonstrate but is also quite likely a false one".

proposal might not per se be new, but we can add further evidence to the hypothesis that changes in word order trigger changes in inflection. Note that already Teleman (1975) shows that in Middle Scandinavian word order, selectional restrictions (e.g. animacy), and concord provide enough information to the hearer to "find out deep structure relations between full NP's as subjects, direct objects and indirect objects" (Teleman 1975: 700). However, at least to our knowledge it has not been shown that word order may have triggered the reduction and loss of case marking in German varieties.[20]

3.6.4 Dative

It is often supposed that the dative marking is preserved due to its phonological weight. We do not categorically exclude this phonological explanation. However, as was shown in Section 2.2, several dative markers are phonologically not heavier than markers of other cases. We thus suggest two alternative explanations for the preservation of the dative, but are aware that both explanations are controversial and more investigation is probably needed for a full picture.

The dative has numerous functions, in particular it marks the indirect object. The serialisation of the direct and indirect object in OS and OHG varies: The direct object may precede or follow the indirect object (Näf 1979: 362; Faarlund 2004: 165). Additionally, in the previous sections it has been observed that the position of the objects may depend on their weight, definiteness, information structure, etc. In VA a very similar situation can be observed. The direct object follows the indirect object if the NPs are complex (but precedes the indirect object if the NP of the direct object consists of a pronoun). These serialisations correspond to the unmarked word order for complex NPs (respectively for pronominal NPs). The actual word order rules, however, additionally depend on whether the object NPs are definite or indefinite as well as on their weight and on the information structure (focus, topic, theme, etc.; cf. Werlen 1990: 171–172).[21] Regarding Ö, Garbacz (2010) reports that the indirect object precedes the direct object (Garbacz 2010: 72) (like the unmarked word order in VA). However, neither he nor Åkerberg (2012) provide any information on whether there is variation depending on the form of the NPs or the information structure. Based on the similarities between Ö and VA regarding their inflectional morphology and the word order variation in VA, variation at least seems typologically plausible in Ö.[22] Thus, we note that the serialisation of the direct and indirect object varies in OS, OHG, VA, and – lacking statements to the contrary – maybe in Ö as well.[23] Therefore,

[20] Additionally, from a comparative point of view the nominative-accusative syncretism is typologically the most frequent syncretism across languages (Baerman 2009: 223) which is related to more general conditions regarding how core arguments are marked (differential argument marking). According to Baerman (2009) this syncretism pattern has been morphologised in many Indo-European languages, as there is no straightforward relation between animacy and gender, i.e. it cannot be predicted whether the subject or the direct object are marked based on their animacy as gender plays an important role too. For example, the neuter nominative and accusative forms are never distinguished in most Indo-European languages independently of their animacy.

[21] Note that all the other Alemannic dialects (except the high inflecting alpine Alemannic dialects such as VA) lost their case marking morphology, except the dative markers in the articles and adjectives. If Swedish and Norwegian dialects show case marking, they have preserved dative marking, most often after prepositions (Eyþórsson et al. 2012; Garbacz 2014). Moreover, several Alemannic dialects have an additional dative marker, namely a preposition (which exclusively marks dative) (Seiler 2003). Alemannic dialects generally show the same variation regarding the position of the direct and the indirect object as in VA.

[22] It should however be noted that (in contrast to Icelandic) the rather closely related Faroese, which shows a comparatively rich inflectional system (although reduced compared to Icelandic), does not seem to allow direct to indirect serialisation (cf. Þráinsson et al. 2004: 265, who stress that this observation is in contrast to the frequent notion "that it is the loss of morphological case that leads to a more fixed word order").

[23] It was shown that the object word order has been in the centre of interest, especially regarding OHG. Interestingly, at least to our knowledge, the word order of objects has not been investigated in the recent dialectal syntax surveys.

it may be hypothesised that the reason inflectional dative marking is maintained in the noun inflection (and, if it is not, it is compensated for by dative marking in the articles and adjective) is to make variable word order of the direct and indirect object possible. Unlike VA and Ö, variable serialisation of the direct and indirect object remained possible in English after the loss of the dative case. Therefore, the relation between word order and morphological case remains unclear and needs further investigation.

Aside from word order, the status or categorisation of the dative should be further investigated as well: The preservation of inflectional dative marking may be linked with its categorisation as a lexical or structural case. Eyþórsson et al. (2012) show that there are different degrees of preservation of the dative case under topicalisation and passivisation in Icelandic, Faroese and several Norwegian dialects. Topicalisation and passivisation are used to determine whether the dative is a lexical or structural case: Dative is preserved if it is a lexical case, and lost if it is a structural case. The dative is a non-structural case in the investigated languages, because it is "lexically selected and/or semantically conditioned" (Eyþórsson et al. 2012: 244), but it comes in a strong version (dative preserved), as well as in a weak version (dative marking lost under topicalisation and passivisation) (Eyþórsson et al. 2012: 244). Regarding VA and Ö there is no description about the loss or preservation of the dative under topicalisation and passivisation. Wipf (1910) and Garbacz (2010) only discuss the inflection of passivised verbs, Garbacz (2010) in addition the pseudopassives. Levander (1909) and Åkerberg (2012) report a few sentences in the passive but the verbs of these sentences govern accusative. Further investigation regarding the status/categorisation of the dative in VA and Ö may give insights into the inflectional encoding of the dative.

4 Concluding remarks: Untangling cause and effect

The similarities we observed between Visperterminen Alemannic and Övdalian cannot be explained by language contact or a common standard language. They developed independently from each other. Thus, presumably these changes are mainly due to language system internal processes, i.e. changes in word order and inflectional morphology.

From a results-based perspective, we can observe an interrelation between fixed word order and the loss of inflectional case marking, which is one explanation why the loss of dative marking is in most instances compensated for in the NP while the syncretism between nominative and accusative is in most instances not compensated for (another explanation may be the categorisation of the dative as a structural or lexical case). However – and this is critical from a theoretical perspective –, it does not seem to manifest itself as a one-way process, but rather as a positive feedback loop: Restricting possibilities on word order facilitates an increase in syncretism (i.e. reduction in case marking), while a higher number of syncretisms fosters a more rigid word order. As of now, it remains unclear how these changes proceeded in detail. However, the changes observed in Section 3 add further evidence to the hypothesis that word order can trigger changes in inflectional morphology.

At the same time, the role of phonology is less clear than intuition and/or former models (see Section 2) would suggest: There is a degree of change regarding loss of case marking that cannot be explained purely on phonological grounds – and not only in highly inflecting varieties (as shown in Section 3), but also in varieties with reduced unstressed vowels (see Section 2.2). Moreover, correlation does not mean causality: Fixation of word order and increase of syncretisms appeared all over the Germanic varieties, while reduction or centralisation of unstressed syllables merely appeared (in a similar time frame) in some of them. The common denominator of the varieties affected seems to be a language-external one, namely their contact situation: Potentially, these phonological changes were triggered by social factors that characterised the High Middle Ages, like migration, trade expansion and literalisation (cf. Ágel 1999; Machan 2012) – which would also explain

its rather sudden occurrence.[24] After all, if reduction in unstressed syllables were a plain sequitur of the fixed accent, why would it take more than a millennium to show systematic consequences, and only in some varieties?[25] This would mean that for more than 50 generations of speakers (that saw a large array of systematic vocalic sound changes), apparently only miniscule changes took hold concerning the principal configuration of unstressed syllables. Yet, the change from Old to Middle High German and from Old Norse/Old Swedish to Middle Scandinavian varieties – and even more so, from Old English to Middle English – after this long era of relative stability was dramatic, and happened in only a fraction of the time.[26]

If we combine the notion of a system-internal feedback between inflection and syntax in all Germanic varieties as well as the option of morphology-internal processes with a possible system-external influence (on phonology and/or morphosyntax) through contact in some varieties (with the additional option of an interaction of phonology and inflection), we arrive at a model that can be visualised as in Figure 3.

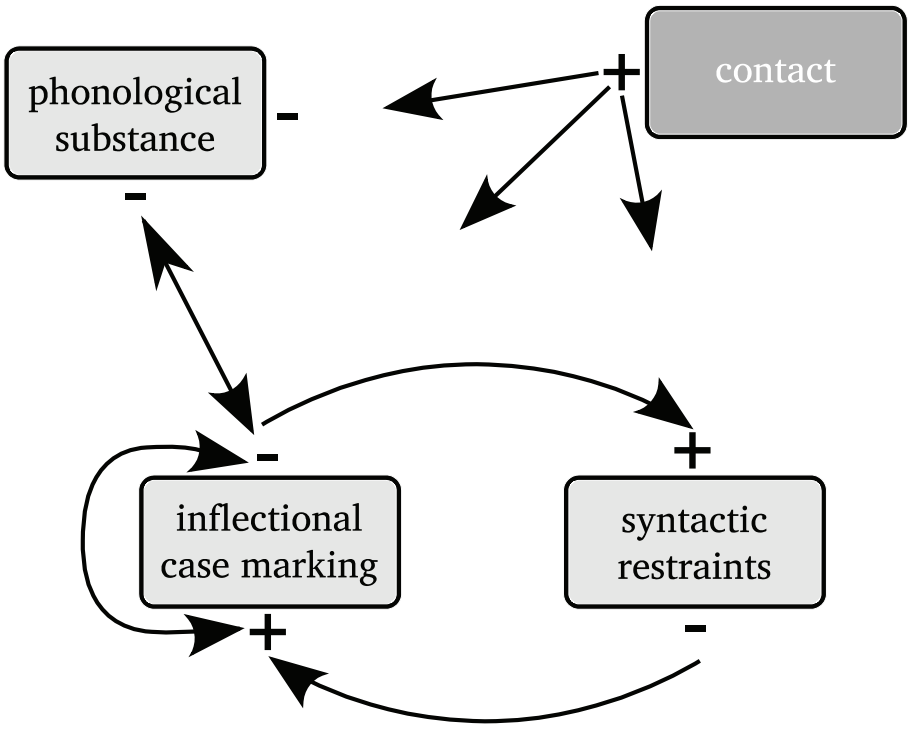


Figure 3: Model of interdependencies.

[24] Of course, this does not exclude the possibility that morphological and syntactic changes may have been triggered by language contact as well.

[25] The dating of the actual transition from the Proto-Indo-European to the Proto-Germanic accent system is controversial, the sequence of all major systematic changes from Proto-Indo-European to Proto-Germanic (Grimm's law, Verner's law, accent shift) is far from being resolved (see e.g. Antonsen 2002: 26–31); however, even the most radical theories assume that all these changes were complete not later than the first century B.C. (or rather earlier, see Ringe 2017: 84). From the eighth century A.D. onwards, there is a rich Old High German manuscript tradition – still with full unstressed vowels. The process of their reduction to *e* only began to clearly (albeit with significant regional diversity) manifest itself during the tenth century (Schmidt 1998: 994). In the early eleventh century, the OHG writing tradition practically ceased, and German was not written for some decades. When writing once again commenced in the middle of the century, the OHG writing tradition was lost and abruptly replaced by the Middle High German system that featured nothing but reduced vowels in unstressed syllables.

[26] Interestingly, the "Germanic foot" was lost in the same period of time (Dresher & Lahiri 1991): The two-mora requirement at a suprasyllabic level became opaque and "had to be satisfied at the level of the syllable" (Dresher & Lahiri 1991: 282). Thus, we suggest surveying a possible correlation between the loss of the Germanic foot and the centralisation of full vowels.

This model should be seen as a tentative proposition about the interdependencies: While the model is based on our data, it goes further than that. To our knowledge, there is no comprehensive and comparative work regarding the interrelation between social factors such as migration, trade expansion and literalisation (contact) and grammatical changes in Germanic language in the Middle Ages. More so than the basic linear model given at the start of this paper in Figure 1 (Section 2.1), which has already been challenged especially regarding Old and Middle English, this model is in accordance with observations based on both standardised and non-standard varieties. At the same time, it has the benefit of embracing both internal and external factors, without misconceiving one of the linguistic subsystems as the sole trigger of change processes: In untangling the relationship between phonology, morphology and syntax in Germanic language change, it might be wise to assume a less linear explanation with causal connections than has been done in the past.

Abbreviations

ACC = accusative, adj = adjective, art = article, comp = compensation, DAT = dative, def = definite, dem = demonstrative, FEM = feminine, GEN = genitive, IC = inflection class, indef = indefinite, INST = instrumental, MASC = masculine, NEUT = neuter, NOM = nominative, NP = nominal phrase, O = object, Ö = Övdalian, OHG = Old High German, ON = Old Norse, OS = Old Swedish, PL = plural, POSS = possessive, PP = prepositional phrase, pron = pronoun, RS = Rikssvenska/(modern) Standard Swedish, S = subject, SG = singular, SHG = (modern) Standard High German, V = verb, VA = Visperterminen Alemannic, VP = verbal phrase

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Competing Interests

The authors have no competing interests to declare.

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