

Polarisation and the Emergence of a Written Marker.
A Diachronic Corpus Study of the Adnominal Genitive in German

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This article investigates the diachrony of the adnominal genitive in written German by analysing its usage in a diachronic corpus of sermons from the Upper German dialect area spanning the time from the 9th to the 19th century. The wide temporal scope allows for a better assessment of the events relating to the genitive's disappearance from spoken German in Early New High German and its successive rise in written German. While sermons make it possible to cover such a long time frame on a consistent basis in terms of genre and region, they are themselves subject to stylistic trends as a genre that combines characteristics of both spoken and written language, which is valuable for gaining insights in the divergent development of genitive use between these poles. In order to characterise this divergence better, I use the concept of polarisation, which describes the differentiation of linguistic usage between disparate contexts such as speech and writing. It becomes clear that the changes in genitive use found in the corpus cannot be viewed independently of sociopragmatic factors and their impact on the stylistic shape of the texts.*

Keywords: German, adnominal genitive, sermons, diachrony, spoken and written language, historical linguistics

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1. The Adnominal Genitive in German.

The adnominal genitive today is found predominantly in formal standard German; in informal spoken language, only certain forms of the adnominal genitive are used in some regions. “Except for a few set expressions, the genitive is now restricted in the standard language to rather more formal registers; in German dialects it survives only in a few idioms” (Barbour & Stevenson 1990:84). According to Fleischer & Schallert (2011:94), the adnominal genitive has been completely replaced by other constructions in the German dialects. It is, however, used in varieties of colloquial German that are based on written German (cf. Dal 2014:25–26). Hence, while the adnominal genitive is widely used in formal standard German and obsolete in German dialects, there is some variation in registers between these two poles. While the usage patterns of the adnominal genitive in different registers and regions is not documented in great detail, limited insights into the distribution of some of its forms can be gleaned from individual studies. For instance, the *Atlas zur deutschen Alltagssprache* (AdA), which documents everyday usage of spoken German elicited through online surveys,¹ indicates that the prenominal genitive of personal names² is used in northern Germany (cf. Fig. 1), but not in other parts of the German-speaking area.³ Information about types of genitival constructions other than *Annas Schlüssel*, however, is not documented in the AdA.

¹ www.atlas-alltagssprache.de

² It has been argued that this form of the adnominal genitive in modern German is better described as a possessive construction with the generic possessive marker *-s* rather than a realisation of the genitive case (e.g. Scott 2014: 278–292, Ackermann 2018). If we adopt this assessment, there is no evidence for the regular use of the adnominal genitive in any varieties of German other than the standard variety.

³ The area where *Annas Schlüssel* is used is also corresponds closely to the area where first names are used without the definite article (cf. AdA, map 9.2a–b, www.atlas-alltagssprache.de/artikelvorname), except for the Ruhr area, where first names are frequently used with the definite article but *Annas Schlüssel* is also common. Apart from this area, it appears that generally only names can only be prenominal when they are used without the article; this is in line with the constraint in standard German that only names without the article can be prenominal (Nübling et al. 2017: 131).

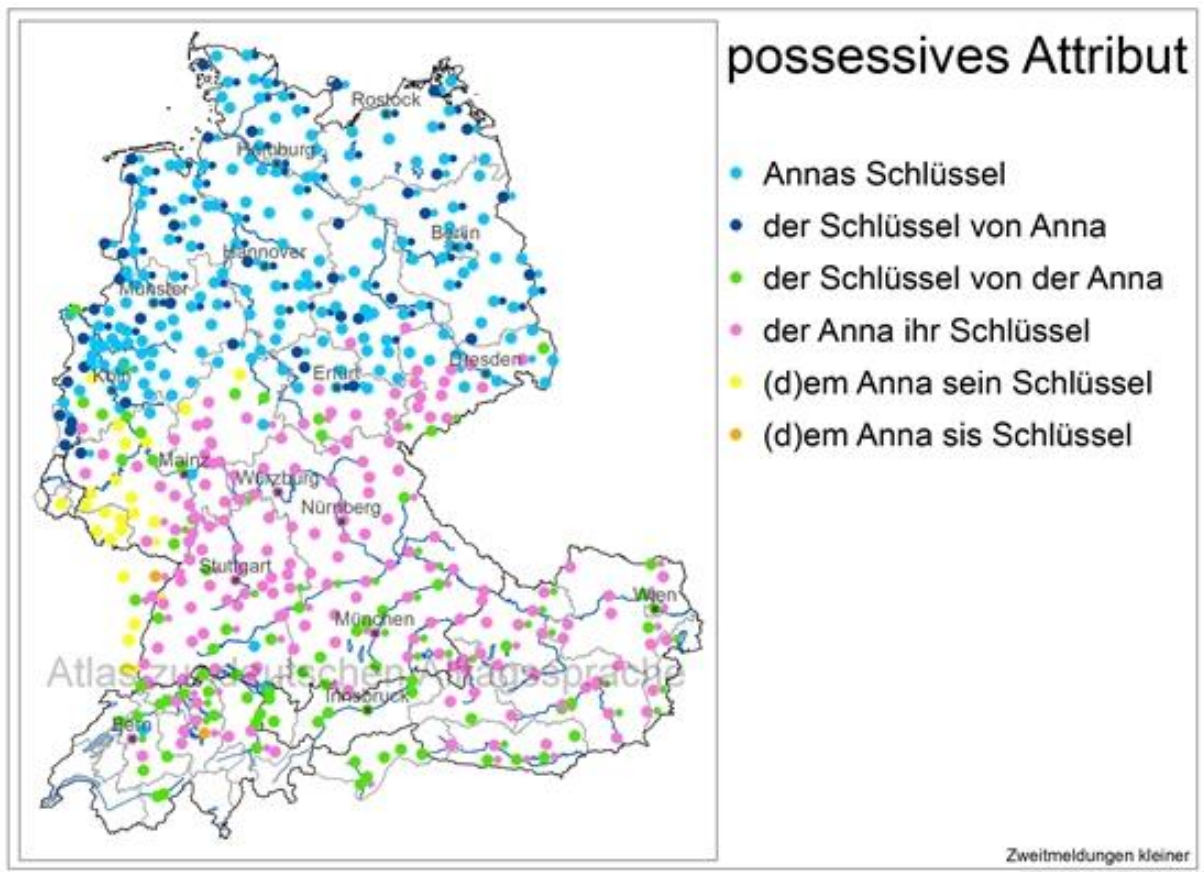


Fig. 1: Forms of the possessive attribute in everyday German (*Atlas zur deutschen Alltagssprache*, map 9.2f)⁴

Dal's (2014:25–26) observation that only colloquial German ‘based on written German’ (“auf der Schriftsprache fußend”) uses the adnominal genitive appears to hold true also in a geographical sense: the area where the genitive is used according to Fig. 1 is largely congruent with the traditional Low German area (although extending somewhat further south), where today’s colloquial High German variety has ultimately derived from a re-oralsation of written High German, later dubbed “Nieder-Hochdeutsch” (‘Low High German’; cf. Wells 1990:304, 469), which became the model for standard German pronunciation (cf. Schmid 2017:112). It seems plausible that a syntactic feature such as the adnominal genitive might also have found its way into northern spoken language following the model of written High German. Alternatively, the presence of the adnominal genitive in northern German could be a consequence of a Low German substrate effect – assuming that Low German had retained the

⁴ www.atlas-alltagssprache.de/attribut/

adnominal genitive longer than High German dialects.⁵ Generally, the genitive is only found sporadically in recent spoken Low German dialects (cf. Kasper 2017:303) – again, it is unclear whether these instances are remnants of the original (West-)Germanic genitive or a result of standard German influence (cf. Kasper 2017:306 for Westphalian in Hesse).

Since Behaghel (1923–1932 I:489–480) and as recently as Fleischer & Schallert (2011:84–87), several statements can be found in the literature regarding those areas where remnants of the genitive can be found, but on balance only fossilized forms of the genitive have survived until the most recent times. One exception is the presence of the prenominal genitive of personal names in northern Germany, which, as discussed above, might well be a secondary development resulting from standard German influence on the northern spoken varieties rather than a continuation of the original (West-)Germanic genitive – if we do count it as a true genitive at all (cf. Fn. 2). Since the adnominal genitive is largely absent from modern spoken German but attested in historical written sources of (West-)Germanic languages in general, it must have been lost in spoken language at some point. Behaghel (1923–1932 IV:189) notes that with the beginning of the early modern period, the genitive as a case started to disappear from spoken German, dating its loss in the 15th century (Behaghel 1923–1932 I:479–483) on grounds of examples of the insecurity of its usage (“der Unsicherheit seines Gebrauchs”) as well as certain developments in personal names. A more rigorous dating of genitive loss that goes beyond such indirect indicators is almost impossible because it is not reflected directly in written sources. Despite its age and conjectural nature, Behaghel’s attempt at dating the loss of the genitive has been neither refined nor refuted since then and is therefore to be taken as the current state of research.

While the adnominal genitive has largely disappeared in spoken German, it is very much alive in written standard German. Indeed, it has been characterised as a marker of standard language:

⁵ It is unclear whether the genitive in spoken styles of Low German was preserved longer than in High German, because studies on historical Low German typically focus on the position of the genitive relative to the governing noun (e.g. Lundemo 1990, Solling 2015, 2016) in written language rather than the preservation of the genitive in spoken language.

The genitive case is common only in formal standard German, and its presence in a sentence can mark that sentence out as formal and standard. (Barbour & Stevenson 1990:161)

This differential development in spoken and written German is difficult to analyse historically because of the lack of any spoken sources (cf. Fleischer & Schallert 2011:27), even though conceptually oral sources have the potential to yield some indirect insights (cf. Auer et al. 2015:7). This discrepancy between speech and writing, however, is not always reflected explicitly in accounts of the ‘overall’ development of the adnominal genitive in German, which can lead to seemingly contradictory portrayals of events. Fleischer & Schallert (2011:99) state that despite the adnominal genitive’s stability in standard German, the genitive ‘on the whole’ (“insgesamt”) has been disappearing continuously in the history of German, and Dal (2014:26) declares that the frequency of the adnominal genitive plummeted in New High German.⁶ Conversely, Reichmann (2003: 47) asserts an expansion (“Ausbau”) of the adnominal genitive from the 16th century onward (cf. also von Polenz 2013:262). In New High German, according to Ágel (2000:1889) usage of the adnominal genitive in written New High German increased rather than decreased. Admoni (1987), Scott (2014) and Niehaus (2016) find an increase of the use of the adnominal genitive in New High German data (literary prose and newspapers) – peaking in the 19th century (cf. Niehaus 2016:192). This points to a development in written language that is almost opposite to that in spoken language. Scott (2014:311–326) also draws a more nuanced general picture in which the adnominal genitive was on the decline until the 15th century, after which codification and prescription halted and even reversed its disappearance (cf. Vezzosi 2000 for a similar portrayal of developments regarding the genitive in the history of Dutch). This would explain both its persistence in written language and its status as a feature of formal standard language. However, this reversal appears to have started before the advent of codification; prescription, therefore, cannot have been the only reason for the preservation of the genitive (cf. Scott 2014:315–316; see 4 for a discussion of this problem).

Both the disappearance from spoken German and the persistence or expansion in written German are non-trivial facts that need to be accounted for. According to Fleischer & Schallert (2011:100), standard

⁶ I use the usual terminology of the periodisation of German language history: Old High German (750–1050), Middle High German (1050–1350), Early New High German (1350–1650), New High German (since 1650).

German is atypical in having retained the genitive, which is as much in need of explanation as the loss of the genitive in dialects. While there has been research into the question of genitive loss (Behaghel 1923:479–480, van der Elst 1984, Donhauser 1998), even though no conclusive explanation has been reached (cf. Fleischer & Schallert 2011:99), the question of genitive maintenance has only been tackled recently (Scott 2014). Apart from Admoni (1987), Scott (2014) and Niehaus (2016), studies of the genitive in German have typically focussed on word order rather than frequency of usage (e.g. Carr 1933, Ebert 1988, Demske 2001, Solling 2011, Pickl forthcoming; cf. Fn. 5 for Low German). Tükör (2008:87) reports absolute numbers from a corpus of Early New High German charters, but they are difficult to interpret because we do not know the text sizes. A consistent investigation of the development of genitive usage in written sources over time, with a particular focus on the time of its loss in spoken language and the centuries leading up to and following it, is therefore called for.

2. Approach and Data.

Because the distinction between written and spoken language is crucial for these goals, I will briefly discuss these two concepts and how they are used in this article. Ever since Koch & Oesterreicher (1985), it has been clear that a distinction has to be made between phonic and graphic mode or medium on the one hand and spoken and written styles or varieties on the other. Either of the latter two can be realised in either mode, but they are strongly associated with their respective modal counterpart. Written and spoken varieties⁷ are primarily characterised by certain linguistic features that can be traced back to the prototypical conditions of production and reception in the respective mode and, secondarily, by features that have historically become associated with speech or writing. We can

⁷ The concept of linguistic variety used in this article is based on the notion of fuzzy sets of co-occurring features which are associated with each other and with particular extralinguistic conditions and thus give rise to ‘condensations’ (cf. Berruto 2010:236) in a continuum (cf. Pickl 2016 for a more thorough discussion of the concept in the context of spatial variation). Styles are understood as varieties in the diaphasic dimension (cf. Biber & Conrad 2009).

thus distinguish between primary (or universal) written/spoken features and secondary (or historically contingent) written/spoken features (cf. Koch & Oesterreicher 2012:454, Hennig 2009:36–37). While written and spoken styles are prototypically associated with graphic and phonic mode, they are themselves not binary but form a continuum of variation between two poles. As varieties, they form fuzzy entities which overlap along a scale between what Koch & Oesterreicher (2012) call “language of immediacy” and “language of distance” (cf. Section 4). involving gradual transitions (similar to varieties in geographical space, cf. Pickl 2016), and have their highest concentrations at the two end poles in the respective mode. Between these poles, however, they can be realised in either mode with variable mixing ratios of varying combinations of features associated with spoken and written varieties: the graphic and the phonic mode are permeable for features of the opposing variety. This entails that some features associated with spoken varieties can be observed in the graphic mode and vice versa.

I will use the term polarisation to describe a stark difference between language usage in different contexts (in this case, in speech and writing) as well as the process leading to it.⁸ One can further distinguish between micro-polarisation (Fig. 2), with respect to individual features that show a marked difference between the two modes, and macro-polarisation (Fig. 3), which describes linguistic divergence between the two contexts across features that is indicative of different spoken and written varieties or styles, and which goes beyond universal effects of the conditions of writing and speaking. In both cases, while the association of polarised features or varieties with the respective mode can be very strong, they are not restricted to that mode but can be used in either mode randomly or for stylistic effect. In this sense, the adnominal genitive is a feature that is (micro-)polarised between speech and writing, while the varietal spectrum of modern German is (macro-)polarised because such a large number of features are polarised that they form sets of co-occurring variants in both modes and spoken and written varieties or styles can be distinguished.

⁸ Cf. Mattheier (1981: 298), Biber et al. (2002), Biber (2006:180) and Mæhlum (2010:22) for similar uses of the term. Taeldeman (2000, 2006) uses it for the emergence of clear-cut spatial differences in dialect geography.

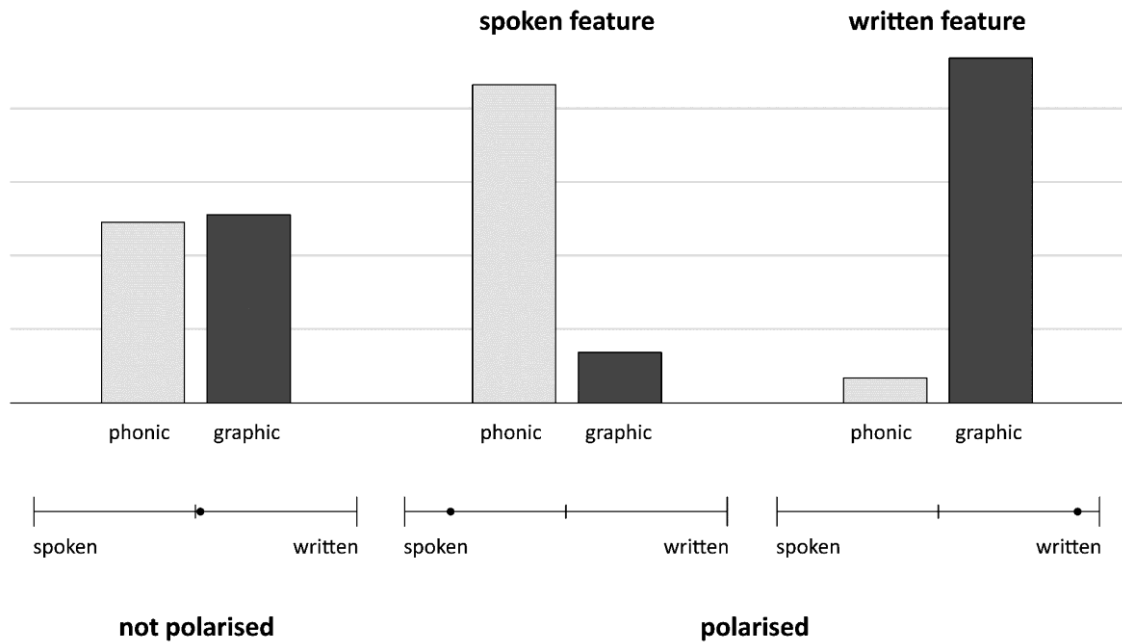


Fig. 2: Schematic diagram of non-polarised vs. polarised and spoken vs. written features. The bars represent frequencies of usage in phonic and graphic mode, while the dots indicate the degree of polarisation between spoken and written language.

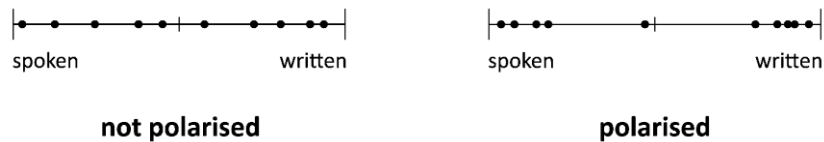


Fig. 3: Schematic diagram of non-polarised and polarised variation. The dots stand for individual linguistic features. In polarised variation, spoken and written styles/varieties can be distinguished.

2.1 A Corpus of Sermons.

Sermons have been chosen as the empirical basis for this study because they appear particularly well suited for a diachronic analysis of genitive usage. While they are in no means representative of ‘the’ German language of any particular time, they have certain advantages which set them apart from other sources and which allow for an effective analysis while keeping the corpus size manageable.

Firstly, sermons in German are attested from very early on (9th century) and are among the earliest sources of German prose. They have a relatively broad and constant history of transmission – with a

‘transmission gap’ from the 9th to the 11th century, which affects virtually all text types – with no major changes as a genre (even though changes in style,⁹ transmission type (e.g. draft vs. recorded speech) etc. could occur).¹⁰ This makes sermons suitable for the diachronic investigation of long-term developments. Most other genres are not long-lived enough to track linguistic change over such a long time.¹¹

Secondly, historical sermons are written texts with a particular relation to oral communication. The characteristic communicative setting of sermons is that of an oral address, which written sermons emulate in three ways:

- by projecting the use of linguistic devices of an orally transmitted sermon in a draft or manuscript intended for recital (making such examples *speech-purposed*, in the terminology of Culpeper & Kytö 2010:17–18)
- by recording and thus reproducing linguistic features of an orally rendered sermon (which makes such examples *speech-based*), or
- by imitating characteristics of oral sermons in texts that are produced for written reception and are not intended for – nor based on – an oral performance in its typical setting (so-called reading sermons or *Lesepredigten*, which are merely *speech-like*).

⁹ “Styles are normally distinguished for the texts *within* a register or genre.” (Biber & Conrad 2009:18)

¹⁰ Biber & Conrad (2009:34) argue that sermons are probably too diverse to be treated as one genre, but in this article, sermons will be treated as a genre. In this I adopt Smitherberg & Kytö’s (2015:118) definition of *genre* as “categories of texts that are defined on extralinguistic or text-external grounds (the term ‘register’ has also been used to cover such categories in previous work)” as opposed to *text types*, which they define linguistically. The focus here is therefore on changes within an externally defined category of language production: the language used in written renderings of the oral practice of the religious instruction of a congregation in an ecclesiastical context.

¹¹ Bible translations are another example of texts which are transmitted from across the history of German; they have the additional advantage of offering real parallel texts. Because of the risk of interferences in translations and the much broader and more consistent transmission of sermons as autonomous German texts (cf. Pickl forthcoming), sermons were given preference over bible translations for the present research study.

According to Kohnen (2010:539), “we may assume that most sermons were actually preached or intended to be preached at some occasion,” but

we do not know whether the texts that have come down to us reflect the version performed in front of a congregation or whether they were edited later to form a more elaborate and literate piece. Thus, sermons are typically situated between orality and literacy. (Kohnen 2010:539)

Irrespective of which of the three possibilities outlined above applies in a particular case, the respective text will be characterised by both spoken and written features. Mertens (1992:41) lists a number of linguistic characteristics that give medieval sermons the semblance of an oral speech, and Wetzel & Flückiger (2010:16) declare that oral markers are a constitutive characteristic of the genre – even in the case of reading sermons. The preference for certain oral features can in part be explained by the prototypical communicative setting of sermons (cf. Koch & Oesterreicher 2012:450, Ágel & Hennig 2006:15).

The primary linguistic character of sermons as historical sources, however, is that of texts in the graphic mode which are subject to factors which endow them with both written and oral features. On the one hand, they are pushed towards the written pole e.g. through their monologic constellation, the opportunity for extensive planning (cf. Biber & Conrad 2009:144, Koch & Oesterreicher 2012:450) and their propensity for what Kohnen (2010:528) calls “elaborate exposition”. On the other hand, they reproduce or imitate (real or imagined) face-to-face communication which requires concessions to the oral speech situation and often shows emotional involvement (cf. Koch & Oesterreicher 2012:450). The language of sermons is therefore neither typically spoken nor typically oral; rather, sermons exhibit a mix of features of spoken and written styles which is subject to many different factors and may thus change over time.

2.2 Corpus Design.

The corpus for this study consists of German sermons from between 800 and 1900 from the Upper German dialect area.¹² The corpus design follows the structure of the *German Manchester Corpus* (GerManC),¹³ which contains texts from all major regions and multiple genres and covers the time from 1650 to 1800, with regard to region and time periods. For the time 1650–1800, this sermons corpus is identical with the Upper German sermons from GerManC. The corpus is divided into time periods of 50 years. For the time up until 1500, up to eleven extracts of up to c. 2,000 words from manuscripts from the West and East Upper German areas for each time period, depending on availability,¹⁴ were included in the corpus. Up until 1150, all the texts are from East Upper German because no West Upper German texts are available, and for 850–1050, there are no texts at all due to the transmission gap. From 1500 onwards, the corpus consists of printed sermons. For each time period, six texts were selected (three for West and East), and extracts of c. 2,000 words were added to the corpus.¹⁵ The corpus size

¹² The corpus for this study is part of a larger corpus project using sermons that is currently underway. The corpus is intended to cover the whole German-speaking area and the time period from the 9th to the 19th century – interrupted by the ‘transmission gap’ mentioned above –, thus encompassing more than a millennium. Currently, only the Upper German part of the corpus is completed and was used for this study. A smaller, Middle High German part of the Upper German subcorpus was used in Pickl (2017). The texts from the Central and Low German dialect areas are currently being prepared for the corpus.

¹³ <http://ota.ox.ac.uk/desc/2544>

¹⁴ Cf. Pickl (2017:4–6) for a more detailed description of the largest section of the manuscripts part of the corpus.

¹⁵ The decision to limit the extracts to c. 2,000 words is on the one hand intended to make the corpus comparable to GerManC, for which the same limitation applies; on the other hand, it was necessary in order to keep the corpus manageable over more than a millennium and 18 time periods (Tab. 1). The goal is to cover this time span extensively rather than focussing on a particular time period. The Upper German part of the sermon corpus used in this article comprises nearly 200,000 words. This is about a third of the size of the *Bonner Frühneuhochdeutschkorpus* (www.korpora.org/FnhdC/), which covers four time periods, ten regions and six genres, and about a quarter of the size of GerManC, which covers three time periods, five regions and eight genres.

and structure are displayed in Tab. 1. The total size of the corpus is 203,838 words. Not counting passages in Latin, it comprises 197,802 words.

	West Upper German	East Upper German	Sum	
		3 / 2,038	3 / 2,038	Manuscripts
800–850				
?				
1050–1100		3 / 2,628	3 / 2,628	
1100–1150		4 / 6,562	4 / 6,562	
1150–1200	5 / 9,758	6 / 9,284	11 / 19,042	
1200–1250	2 / 4,091	5 / 8,466	7 / 12,557	
1250–1300	4 / 8,529	5 / 8,187	9 / 16,716	
1300–1350	4 / 7,424	2 / 3,482	6 / 10,906	
1350–1400	3 / 6,627	3 / 3,826	6 / 10,453	
1450–1450	1 / 1,276	4 / 6,815	5 / 8,091	
1450–1500	3 / 4,985	2 / 3,418	5 / 8,403	
1500–1550	3 / 6,244	3 / 6,265	6 / 12,509	
1550–1600	3 / 6,347	3 / 6,609	6 / 12,956	
1600–1650	3 / 6,178	3 / 6,301	6 / 12,497	
from GerManC				
1650–1700	3 / 6,363	3 / 5,932	6 / 12,295	
1700–1750	3 / 5,883	3 / 6,105	6 / 11,988	
1750–1800	3 / 6,083	3 / 6,150	6 / 12,233	
1800–1850	3 / 6,348	3 / 6,490	6 / 12,838	
1850–1900	3 / 6,510	3 / 6,598	6 / 13,108	
Sum	46 / 92,646	61 / 105,156	107 / 197,802	

Tab. 1: Corpus size and structure (number of texts / word count without Latin passages).

3. Analysis and Results.

In order to assess the usage of the adnominal genitive in the sermon corpus on a general level, the frequency of its use across time is analysed by counting all instances of adnominal genitives. This includes cases of discontinuous constructions (cf. Näf 1979:246, Reichmann & Wegera 1993:335) where the genitive is clearly attributive (e.g. in *Als nun die zyt erfüllet ist des götlichen radtschlags*; WUG 1522). Partitive genitives and fixed expressions were not included, in line with most other studies on the adnominal genitive (e.g. Carr 1933, Kopf 2018b). Adnominal genitives in recursive structures where two or more adnominal genitives are used recursively were counted individually.

The distinction between a prenominal genitive construction and a compound is not always clear (cf. Reichmann & Wegera 1993:338). Kopf (2018b:110–170) provides a thorough discussion of how (and to what extent) the two can be distinguished. The distinction is particularly difficult for the time of the emergence of so-called ‘improper’ (*uneigentliche*) compounds,¹⁶ a type which was formed through reanalysis of prenominal genitives, during which orthographical practice was not consistent. These compounds contain a linking element that is often not distinguishable from genitival inflection. Because this is a process of grammaticalisation, the uncertainty is to an extent intrinsic, but the affected cases are in fact rather limited. They concern three types of cases (cf. also Reichmann & Wegera 1993:338–339) attested in the corpus: Firstly, cases like (*bei*) *der stadt pforte* (Ebert 1986:93), where the reference of the article is unclear. Such instances are rare in the corpus; they were disregarded as ambiguous cases (Kopf’s (2018b:76) ‘bridge constructions’). Secondly, cases without any article or determiner, like (*von*) *wibes lib* (WUG 1450–1500). These cases were not treated as genitive constructions because the first element is arguably not a determined noun phrase (cf. Kopf’s (2018b) criterion of specificity).¹⁷ Thirdly, cases in which the article agrees with the head noun, such as in *daz engels gesange* (WUG 1250–1300). These cases were discarded as compounds, too, because the genitive does not constitute a full determined noun phrase. Cases where the genitive is a one-word noun phrase, such as personal names or *Gott*, which is used without an article, as in *den adams ual* (WUG 1150–1200) or *daz gotes wort* (EUG 1300–1350), were counted as genitive constructions. The instances with names are extremely rare, but for *Gott* they were quite frequent long before the emergence of improper compounds. Paul

¹⁶ The English term *case compound* is related but does not comprise cases where the linking element is not identical with a case ending of the modifying noun.

¹⁷ Reichmann & Wegera (1993:338) state that such cases can be analysed as genitive constructions rather than compounds in Early New High German given the usage patterns of the article at that time. This conclusion, however, is problematic because a systematic description of the article usage in Early New High German seems currently out of reach (cf. Reichmann & Wegera 1993:314); Reichmann & Wegera’s (1993:315–316) own examples for noun phrases without articles, at any rate, seem to be of a different type than the ones adduced for genitive constructions without an article.

(2007:330) argues that these cases have to be analysed as genitive constructions for Middle High German; Ebert (1986:93) and Reichmann & Wegera (1993:338–339) imply the same for Early New High German. For this study, only cases where the two nouns were spelled as separate words were counted (cf. Kopf 2018b:151–155 for a discussion of the spelling criterion), which is a mere heuristic but leads to a cut-off point around 1500, roughly when improper compounds were grammaticalised (cf. Ágel 2000:1859).

Because the text sizes in the individual time periods are not uniform, especially for the manuscript subcorpus, the frequency of adnominal genitives per 1,000 words is considered (Fig. 5). The black dots represent the values for individual texts, and the grey squares connected by a dotted line indicate the weighted average for each time period (i.e. the total number of occurrences per 1,000 tokens across texts).

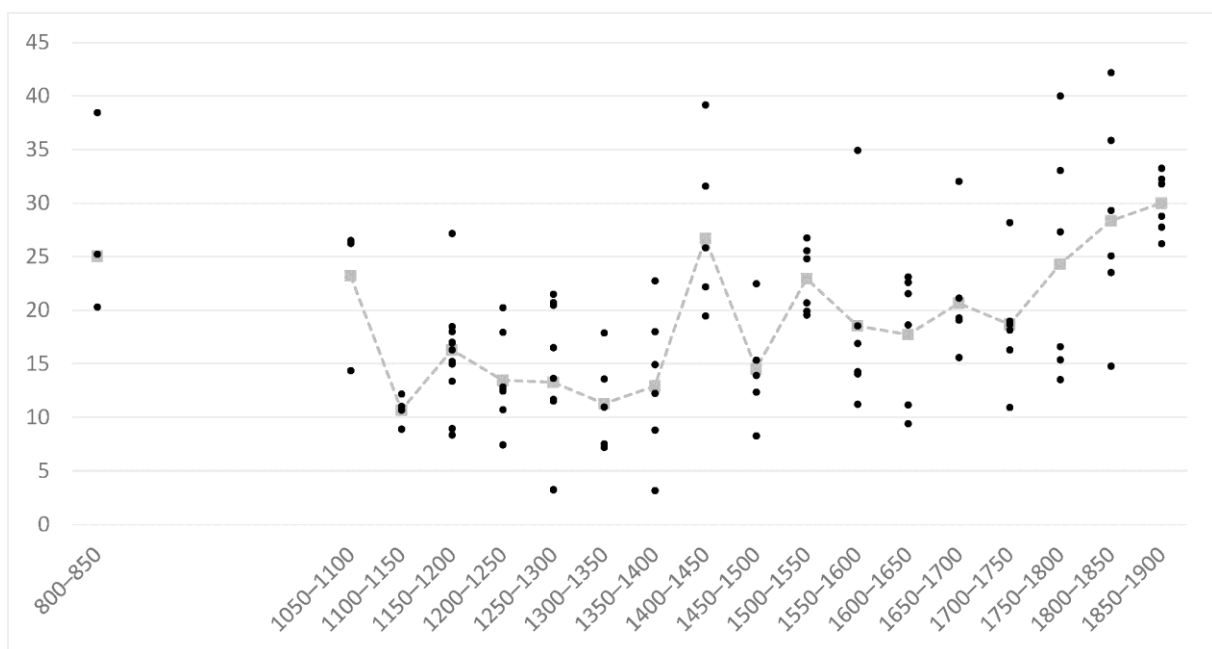


Fig. 4: Number of adnominal genitives per 1,000 tokens per text (black dots) and per time period (dotted line) ($N = 3755$)

While there is a degree of dispersion among the texts which reflects the variation within the individual timespans, the development of the average indicates that there are some overarching tendencies. The average, however, is also affected by some statistical fluctuations which are not necessarily meaningful but can be regarded as ‘noise’. In order to identify overall trends in the data, the data are subjected to

temporal density estimation, resulting in a smoothing effect, in order to stabilise numbers across time and compensate for statistical fluctuations. Temporal kernel density estimation is in effect a temporally weighted implementation of a moving average, a common tool for smoothing patchy data along time (Blaxter 2015, Lameli 2018). Kernel density estimation is a popular method for stabilising scarce or unsystematic data in order to assess trends in the underlying population better. It is typically used spatially in dialectology (cf. Pickl et al. 2014; Pröll et al. 2015:175–180) but is used in diachronic studies as well (e.g. Blaxter 2017:106–107). In kernel density estimation, the individual data points are distributed across all other data points in such a way that closer data points have a larger weight in relation to each other than data points which are further apart. This weighting is defined by a so-called kernel function, in this case the Gaussian distribution, which is further weighted by the individual sample sizes. The resulting smoothing effect depends on the so-called bandwidth h , which determines the distribution’s standard deviation, i.e. how far it is spread out in time – a higher bandwidth results in a stronger smoothing effect. For this application, a bandwidth of 50 years was chosen, which leads to a gentle but effective smoothing. In Fig. 5, the (dotted) data line indicating the underlying raw average from Fig. 4 for reference is complemented by a (solid) trend line which is the result of temporal density estimation.

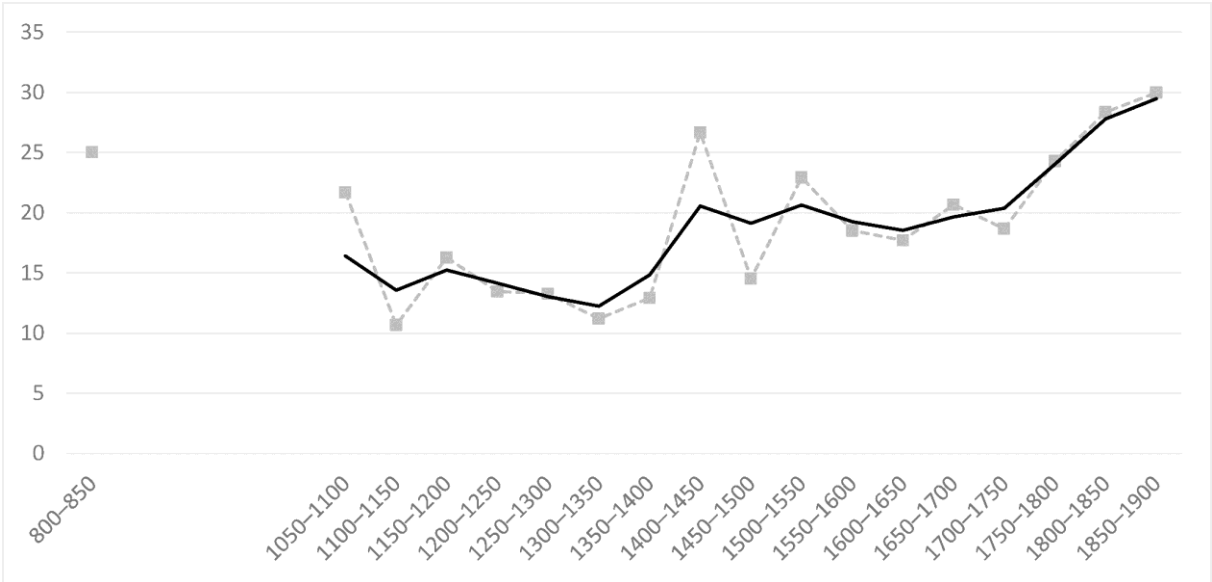


Fig. 5: Number of adnominal genitives per 1000 tokens across time ($N = 3755$, $h = 50y$)

Generally, it can be seen that Fleischer & Schallert's (2011:94–100) picture of a decline of the adnominal genitive does not seem to apply here. Neither can Dal's (2014:26) assertion that the adnominal genitive has strongly declined in the New High German period be confirmed. Rather, the opposite seems to be the case: from 1050 onwards,¹⁸ the general trend of the usage of the adnominal genitive is an upward one. At least for sermons, there is no evidence of genitive loss – on the contrary: usage of the adnominal genitive increases, corroborating the assessments of Admoni (1987), Ágel (2000), Reichmann (2003), von Polenz (2013) and Niehaus (2016) – all of which explicitly concern written German (“Schriftsprache”).

Overall, three main stages of development can be discerned. Up until 1400, usage is fairly stable, showing only a slight decline which might reflect a decreasing usage in spoken language, at around 13 instances per 1000 tokens. From 1400, usage rises quite abruptly to about 20 per 1000 tokens,¹⁹ at which point it remains relatively stable again (not taking into account the pronounced swings in the raw data). From 1750 onwards, usage increases further, but this time gradually, and reaches almost 30 per 1000 tokens by 1900.

Such a dramatic rise in the usage of the adnominal genitive as such must at least partly be associated with an adoption of new syntactic functions. Which exactly these functions were is difficult to establish because adnominal genitives represent only one of a range of syntactic means to integrate constituents that can be expressed as noun phrases. This range not only includes the established “Ersatzformen” (‘surrogate forms’; a term which, questionably, implies that the genitive is some sort of default), which are associated primarily with spoken usage, such as the possessive dative or prepositional phrases with

¹⁸ The high value for 800–850 is likely due to Latin influence: at least 37, perhaps 41, of the 49 adnominal genitives in the texts from this period translate a Latin genitive. In 1050–1100, a minimum of 14 out of 41 genitives correspond to a Latin genitive; at least nine do not. In both cases, the uncertain cases result from the fact that the Latin parallel texts are not complete or missing.

¹⁹ Tükör's (2008:87–88) absolute numbers show a temporary peak around 1450; they have to be taken with a pinch of salt, however, as stated above (cf. 1).

von (cf. Hartweg & Wegera 2005:174, Scott 2014:44–47),²⁰ but also less obviously related forms such as adjectives, relative clauses, compound elements etc. instead of nouns. The exact trade-offs between the adnominal genitive and alternative means of expression are therefore hard to establish; they are, however, not central for the present study as it is not crucial which forms the genitive was in competition with (see however Scott 2014 for the *von*-construction (and Vezzosi 2000 for the equivalent in Dutch) as well as Kopf 2018a, b for N+N compounds in exchange with the adnominal genitive).

A division into personal, non-personal and proper nouns has often been regarded as meaningful for the position of the genitive before or after the noun (e.g. Carr 1933, Demske 2001); sometimes more detailed classifications are used, e.g. by dividing non-human nouns into abstract and concrete nouns (e.g. Ebert 1988). This raises the question of whether such categories have any relevance for the usage of the adnominal genitive generally. In order to explore the relevance of different types of nouns for genitive usage and its development over time, I will use Silverstein's (1976) animacy hierarchy, which distinguishes between proper, human, animate, and inanimate nouns, with a further distinction within the latter between abstract and concrete nouns added later (cf. e.g. Brown et al. 2013). Fig. 6 shows the frequency of usage for the individual classes (all animate genitives in the corpus refer to persons). It is noteworthy that the first, sudden rise is largely due to an increase of genitives of inanimate abstract nouns, which on the whole account for 42 % of all adnominal genitives. The stability of genitives of animate nouns during that time indicates that the prototypical relation of the genitive, that of possession, is not affected by this development; rather, abstract concepts tend to be connected through a genitive construction. The second, more gradual rise affects both abstract and animate nouns, but not concrete and proper nouns. The changes in the frequency of genitives of proper nouns are also noteworthy (cf. Pickl forthcoming for differences in genitive usage between different types of proper nouns); their

²⁰ Even though *von*-constructions are associated with informal speech, they are also a viable alternative in standard German. In certain cases, where the genitive would lack an overt determiner and/or clear case marking, they replace it regularly (e.g. *der Geschmack von Äpfeln* instead of **der Geschmack Äpfel*).

increased usage from 1400 onwards may be indicative of genre change, with more personal names being used in the Reformation and the heyday of the *Leichenpredigten*.

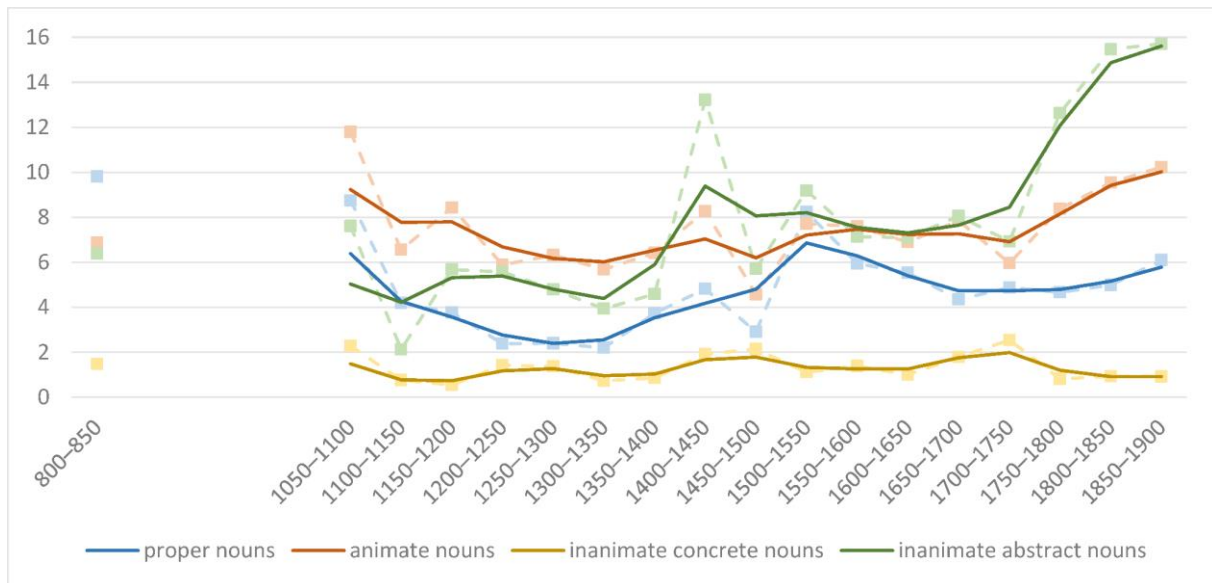


Fig. 6: Number of adnominal genitives per 1000 tokens for proper nouns ($N = 901$), animate nouns ($N = 917$), inanimate concrete nouns ($N = 247$) and inanimate abstract nouns ($N = 1588$) ($h = 50y$)

The adnominal genitive appears in two distinct syntactic variants: a prenominal one (e.g. *der menschen sünd*; EUG 1557) and a postnominal one (e.g. *vergebung der sünden*; EUG 1557). While there is variation between the two variants across the history of German depending on various internal and external factors, the postnominal position has been the clear default form since the 15th century at the latest (cf. Pickl forthcoming). The usage frequencies of pre- and postnominal genitives viewed separately (Fig. 7) show that the increase of the adnominal genitive found generally after 1400 is exclusively due to postnominal forms – the prenominal genitive even declined at the same time. This makes clear that the increase of the adnominal genitive and the turn towards more postnominal forms cannot be regarded independently. This means that the rise of the adnominal genitive is down to a rise of postnominal forms only (while prenominal forms seem to have been affected negatively), and the shift towards postnominal forms was mainly a result of their rise in absolute numbers rather than of their spread at the expense of prenominal forms.

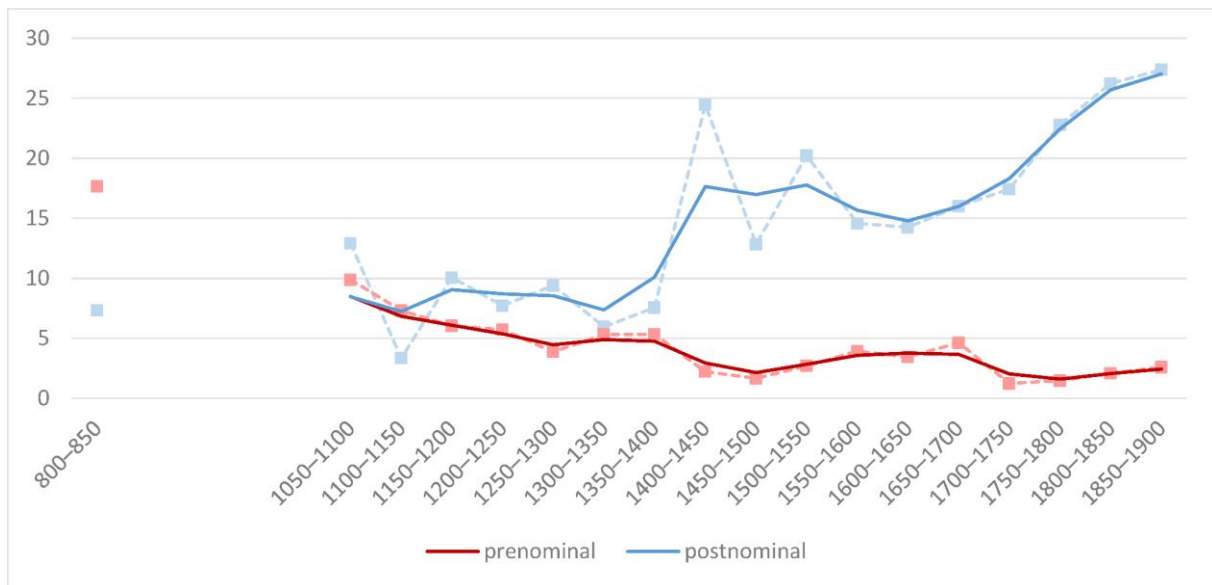


Fig. 7: Number of adnominal genitives per 1000 tokens for prenominal ($N = 787$) and postnominal genitives ($N = 2968$) ($h = 50y$)

The postnominal genitive had some structural advantages over the prenominal form (cf. Pickl forthcoming). Prenominal genitives preclude the head noun from being indefinite; the same restriction did not apply to the postnominal form, which can be used with definite and indefinite head nouns. Moreover, prenominal genitives block the concatenation of genitives – a prenominal genitive cannot be combined with another one. For postnominal genitives, on the other hand, there are no restrictions regarding the length of genitive chains, and examples with three or more nouns are found frequently (e.g. *dieser Betrachtung deß hohen vnnd grossen Wercks Menschlicher erlöschung*; EUG 1663). The availability of the postnominal genitive, therefore, was a necessary prerequisite for the expansion of the adnominal genitive more generally.

The temporary revival of prenominal forms between 1500 und 1700 – at the expense of postnominal forms – may be related to the rise of a new type of N+N compound, the so-called ‘improper’ compound (as discussed in Section 3) above during that time (cf. Kopf 2018a, 2018b:218, 311). They emerged as a result of the reanalysis of the closely related prenominal genitive constructions (cf. Kopf 2018b:188–192. Only unambiguous genitive constructions were counted in the present study (cf. Section 3 above), so there is not direct bearing of concrete ambiguous cases on the results; there was, however, a high degree of structural ambiguity between prenominal genitive constructions and improper N+N

compounds during that time (cf. Kopf 2018b:189–190), which was necessary for reanalysis to take place and may have led to an increased use of genitive constructions in a state of syntactic insecurity. This state of structural ambiguity was resolved c. 1700, when bridge constructions became rare and the distinction between compounds and genitive constructions became clearer (cf. Kopf 2018b:400).

The variation between the East and West Upper German parts of the corpus is minimal (cf. Pickl forthcoming for areal differences regarding the position of the genitive). This indicates that these findings, even though restricted to the southern part of the German-speaking area, may be representative of a larger area.

4. Discussion.

Scott (2014:315) describes a “resurgence” of the adnominal genitive in German (and Dutch) following the 15th century after a period of gradual decline; a similar pattern is found in the sermons data,²¹ with a slight gradual decrease in genitive usage up to 1400 and a sudden rise in the 15th century. Scott (2014:315) argues that this resurgence “was affected by the codification of German and Dutch” and claims that “explicit prescription is an important factor in the preservation of case morphology in a language undergoing deflection.” He goes on to say, however, that “explicit codification and moves towards standardisation cannot have been the only reasons” (Scott 2014:316) for this because the revival of the genitive predates the first grammars (cf. Scott 2014:315, 320, 329). The fact “that, even before standardisation was fully underway, the genitive was already part of the convention for formal written language” (Scott 2014:224) is offered as an explanation; “it is, however, unclear why the genitive case

²¹ The question of to what extent this pattern is generalisable is not completely clear; there are few studies that report numbers of usage which are comparable across time. Szczepaniak’s (2014:40) numbers from the *Bonner Frühneuhochdeutschkorpus* (<https://korpora.zim.uni-duisburg-essen.de/FnhdC/>) do not show the same trend. This is not surprising, however, since they are based on strong masculine and neuter nouns only, which excludes most abstract nouns (which are typically feminine), the only type experiencing the sudden peak in the fifteenth century (Fig. 6).

[...] was chosen over its competitors long before it had been specifically chosen as the prestige variant” (Scott 2014: 329). In the following, I will argue that the genitive’s association with formal written language before explicit standardisation set in was a result of its demise in spoken language at a time when a distinct written variety was starting to form.

It is striking that the sharp rise after 1400, which is even more distinct in the raw numbers, coincides with the time it is claimed that the genitive in spoken language was lost, which Behaghel dates to the 15th century (cf. Section 1). We therefore have to note that, if Behaghel’s dating is correct, this sudden increase in the adnominal genitive in our written sources happened roughly at the same time as it disappeared from spoken language. This means, firstly, that this gain of more than 50 % is largely a written phenomenon, and secondly, it makes it likely that both events are in some way connected. But how can the loss of a feature in spoken language and its upsurge in written language at roughly the same time be reconciled?

As Barbour & Stevenson (1990:161) have pointed out (cf. Section 1), the genitive today can be considered a marker of formal standard German which is closely related to written discourse. This may have been a consequence of genitive loss in the 15th century; texts written before the loss of the genitive remained in use further on, and at least some new texts continued the written tradition, maintaining a style which was then associated with written texts through copying, the use of written formulas, and so on.²² As a consequence, there was a time when the genitive was regularly found in written texts of the time, but uncommon in spoken language. This implied a polarisation of genitive use: What was up to then a feature found in spoken and written discourse with frequencies that were probably not very distinct from each other was lost in the former while persisting in the latter, thus becoming an indicator – or 1st-order indexical feature according to Silverstein (2003) – of writing. The loss of oral competence in using the genitive could also already have resulted in the over-application or over-generalisation of a

²² It is often assumed that written language is more inert in reflecting language change than spoken language and often lags behind in developments already taking place in oral speech (cf. e.g. Curzan 2009:1093).

written feature that was no longer based on oral probabilistic competence, boosting the use of the genitive.

Consequently, the genitive became associated with written language, which in turn was associated with formality, especially through releases of the chanceries. It had thus become suitable for marking language as formal and to endow it with elevated style by early modern times (cf. Niehaus 2016:182), especially as a means of connecting abstract ideas and in a tendency to encode propositions in nominal constructions. It became a feature of formal written German and was thus suitable for the future standard, for which it was implicitly pre-selected (cf. Pickl submitted) before being included in its codification. As such, it could re-enter spoken discourse as a marker of ‘written-like’ or formal language (first on such occasions where it was based on written language or imitated its style), marking its indexicalisation (Fig. 8).²³ The decrease of the genitive, with written language lagging behind spoken language, led to a slightly polarised situation by 1400. The successive upswing in written language can be explained by the genitive’s indexicalisation as a written marker and its new function as a stylistic device.

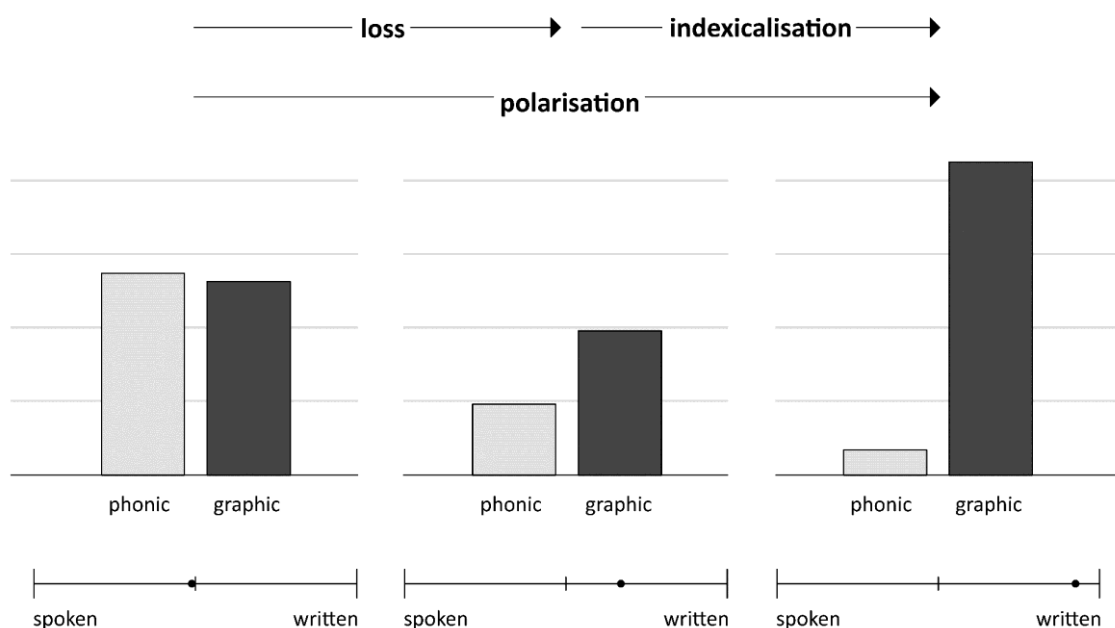


Fig. 8: Sketch of the processes leading to the polarisation of the adnominal genitive in German.

²³ For brief account of the notions of indexicality and indexicalisation – in relation to Labov’s (1972) taxonomy of indicators, markers and stereotypes and Silverstein’s (2003) concept of indexical order – cf. Clark (2013).

The availability or emergence of a contextual ‘written-like’ style that can be realised in speaking or writing is fundamental for the genitive becoming a marker of that style in the sense of Silverstein’s (2003) 2nd-order indexicality. Such a written style was indeed in the process of materialising around the time that we see the upsurge of the genitive which we interpret as an indicator of its indexicalisation. This stylistic variety emerged against the backdrop of an increased literacy and a massive expansion of the production and societal significance of written language from the 15th century (cf. Erben 1989:8, von Polenz 1995:145, Hennig 2009:41),²⁴ catalysed by the availability of cheap paper instead of the more expensive parchment and accompanied by new sociopragmatic functions of written language and the formation of a distinct written style (cf. Erben 1989:8–9, 2004:1585, von Polenz 1995:44–45, 2000:114–116), which marks the beginning of a process of enregisterment²⁵ of what is later called “Schriftsprache” – a variety of language associated with writing and with its own distinctive set of linguistic features, which became the foundation of the later standard.

The emergence of a new written style led to an opposition between this variety and an “oral style” (Zeman 2016) which continued previous spoken usage. While written and spoken mode are dichotomic, written and spoken style are polarised. Mattheier (1981: 298) postulates polarisations in the late Middle Ages which led to a diversified, vertically organised (see below) system of varieties and their evaluations (“Sprachwertsystem”) around 1400 and written varieties which had assumed the character of norms. The dichotomy of modes, along with their respective universal features, is one of a number of dimensions of “situational characteristics” (Biber & Conrad 2009), “conditions of communication” (Koch & Oesterreicher 2012), or “discourse parameters” (Schneider 2013) – i.e. conditions of language production which have an impact on the form of language. The latter form “a multi-dimensional space between two poles” (Koch & Oesterreicher 2012:447) and give rise to Koch & Oesterreicher’s (2012)

²⁴ The genitive’s “revival appears to have gone hand in hand with increasing literacy” (Scott 2014:321; cf. Scott 2014: 329).

²⁵ Agha (2004:37) defines “sociohistorical processes of *enregisterment*” as “processes by which the forms and values of a register become differentiable from the rest of the language (i.e., recognizable as distinct, linked to typifiable social personae or practices) for a given population of speakers.”

prototypical poles of “language of immediacy” and “language of distance”, which are, in literate societies, associated with spoken and written language, respectively. As the distinction between spoken and written language became more and more pronounced, the respective styles were polarised along Koch & Oesterreicher’s scale between immediacy and distance, which led to emerging varieties at both poles. In this incipient process of enregisterment, more and more features “become recognized (and regrouped) as belonging to distinct, differentially valorized semiotic registers” (Agha 2007:81) so that both varieties are increasingly constituted of secondary (historically contingent) in addition to primary (universal) markers of speech and writing, leading to an increasing divergence and separation of the two and expediting their consolidation as stylistic varieties. The new distinct written variety becomes observable in the 15th century (von Polenz 2000:114–115). This development manifested itself also in genres that were hitherto aimed at oral reproduction through reading aloud (cf. von Polenz 2000:115).

This process facilitated the written reception of sermons and resulted in the rise of reading sermons, which were intended to be read rather than heard, and later especially produced for print. Sermons, as a result of this pragmatic switch from oral to written reception, experienced a shift towards the new written style, including the adnominal genitive as one of its features. It is therefore plausible to assume that the genitive was part of the initial formation of this variety as it experienced incipient polarisation between written and spoken registers at the time. Its polarisation was then reinforced through its indexicalisation as a marker of written German, which it is to this day.

The divide between written and spoken language deepened further over time, leading to a dissociation of spoken and written language (cf. Reichmann 2003:43). This can be seen in the context of a profound reorganisation of language structure, variation and usage from a more ‘horizontal’ to a more ‘vertical’ orientation. Reichmann (1988, 2003) calls this process verticalisation,²⁶ a pervasive sociolinguistic reorganisation (cf. Reichmann 1988:175) in which ‘practically every linguistic feature’ (“prinzipiell jede sprachliche Einheit”) underwent a sociolinguistic and stylistic reallocation and evaluation by the

²⁶ Reichmann’s (1988, 2003) concept of verticalisation is independent of that used in American sociolinguistics in recent times (e.g. Salmons 2005, Frey 2013), even though they share some key ideas.

language users between the 15th and the 17th century (cf. Reichmann 1988:175), including the adnominal genitive: the expansion of the adnominal genitive in written language was a result of this upheaval (Reichmann 2003:47) and went hand in hand with its becoming a marker of the variety *Schriftsprache*. Against this background, it is not surprising that the language of sermons was transformed by verticalisation and the inherent ideology of logic and correctness of *Schriftsprache*, which eventually also affected the oral rendition of sermons. As a consequence, grammatical correctness and logic could even supersede clarity as the guiding principle of written and oral language production (cf. Knoop 1988, Reichmann 2003:44–45).

The second, more gradual rise after 1700 of the adnominal genitive in sermons can be seen in the context of a profound and wide-reaching change in literacy and the significance of writing for society in the mid-18th century, which was determined by a number of factors (Knoop 1994:867–869, Hennig 2009:44–45). The 18th century as the Age of Enlightenment is often seen as pivotal for the development of literacy among the German population and a transformation of the role of writing in society and its relation to speaking (Knoop 1994:867–869). Printing production doubled, and newspapers and periodicals became more widespread. The 18th century saw the advent of compulsory schooling in most German-speaking territories and mass literacy among the majority of the rural population (Knoop 1994:878). All of this had a tremendous impact on reading habits in quantitative (to an extent that concerns of a ‘reading addiction’ (“Lesesucht”) were voiced) and qualitative terms (the reading practice shifted from a more social event, where most recipients would hear one of the group reading aloud, to a more solitary, quiet exercise), which was dubbed ‘reading revolution’ (“Leserevolution”) by Engelsing (von Polenz 2013:37). The rise of genitive numbers after 1700, which reaches its high point in the 19th century (Admoni 1987, Niehaus 2016), can be seen as a manifestation of a more general, gradual deepening of the division between spoken and written language during that time (cf. Admoni 1985:1538). In newspapers, its frequency had fallen back to the level of the early 18th century by 2010 (cf. Niehaus 2016:192).

The incremental expansion of the adnominal genitive in writing as an expression of polarisation did not affect all types of adnominal genitives alike. Genitives of animate and inanimate concrete nouns do not

appear to have changed a great deal in frequency over most of the investigation period. Inanimate abstract nouns, however, are clearly the type primarily affected by the upswing of the genitive more generally: their trajectory shows most noticeably of all types the pattern of a staggered expansion that we can observe for the adnominal genitive on the whole. Taking also into account the large proportion of genitives of abstract nouns (42 %), the polarisation of the adnominal genitive and its indexicalisation as a written feature were clearly borne by abstract nouns. This ties in with the finding that the postnominal form of the genitive also shows largely the same behaviour over time as adnominal genitives overall and those of abstract nouns in particular: they have the clearest consistent and overall tendency to postposition in the corpus (94 % compared to 68 % for the other types), and in fact abstract nouns make up 51 % of all postnominal nouns in this corpus, but only 11 % of all prenominal nouns. This corroborates the assessment that it is abstract nouns that drive the expansion of the genitive and shows that they do so postnominally, while other types of nouns representing higher degrees of animacy are less central to the development. As a result, the polarisation of the adnominal genitive boils down mainly to the increased usage of postnominal genitives of abstract nouns, while e.g. animate nouns only seem to follow this trend from c. 1750 onwards.

This might be a result of the fact that abstract genitives can be used to express a wide range of conceptual relations in a compact manner, as in *die Vergebung unsrer Sünden* (WUG, 1792), an idea which would otherwise be expressed using other, usually more complex syntactical means. While the same is true for other types of genitives, there are limits to how many genitives can be used in a given text if, for instance, no persons are involved in what is being said. In other words, the upper threshold for genitives of proper, animate and inanimate concrete nouns is more clearly defined than that of abstract concepts. The fact that more syntactic restrictions apply to prenominal genitives than to postnominal ones (Pickl forthcoming) further explains why it is the postnominal variant of abstract nouns that was predominantly used to realise the genitive as a written marker.

5. Conclusion.

For written German as found in sermons, the usage frequency of the adnominal genitive has on the whole increased considerably since medieval times. This is remarkable given the disappearance of this feature from spoken German in the Early Modern period. This divergent development, which may seem contradictory at first, can be understood in terms of polarisation between these two registers. It occurred at a time when sociopragmatic factors led to the formation of a distinct written style of which the genitive was a constitutive feature: both the genitive and the varietal spectrum were polarised between spoken and written registers. As a result, the genitive became an indexical feature of written language and formal style. This development did not apply to all types of the genitive equally: because of their semantic and syntactic properties, postnominal genitives of abstract nouns were particularly affected. The genitive was further boosted in the process of the verticalisation of language variation, structure and usage in German, which prepared it for its role as a feature of the nascent standard language. It became a feature of formal written German and was therefore predestined to become part of standard German once codification set in and gained even more prestige in the solidification of the German standard with the rise of an ideology of logical and grammatically correct language.

The usage of the adnominal genitive turns out to be indicative of pervasive sociopragmatic changes in the relation between spoken and written language in the history of German. These changes appear in the language of sermons as (abrupt or gradual) stylistic shifts, demonstrating how different styles shaped this genre at different points in time. As such, the findings contribute to von Polenz' (2000:79–80) understanding of language history as sociopragmatic stylistic history (“Sprachgeschichte als soziopragmatische Stilgeschichte”), which focuses on salient changes in the utilisation of existing linguistic features rather than on changes in the abstract language system.

Ongoing research will investigate to which extent this development affected other genres as well. It will also have to establish whether the outlined trajectory of the adnominal genitive in German and the proposed explanations are applicable in other linguistic contexts. A closer investigation of the diachrony of other polarised features that are markers of written language today (in German and beyond) could help us better understand polarisation, what typically triggers it, and its relation to indexicalisation and

enregisterment. While additional case studies have the potential to identify specific particular linguistic conditions that encourage micro-polarisation, cross-feature and cross-linguistic investigations of polarisation could ascertain societal preconditions leading to or inhibiting macro-polarisation.

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