
DIALECTAL DIMENSIONS OF THE STRENGTHENING OF NUMBER DISTINCTIONS IN THE HISTORY OF GERMAN. A CORPUS-BASED STUDY*

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ABSTRACT This paper investigates the diachronic and dialectal development of number marking in German nouns, focusing on the spread of overt plural morphology among neuter members of the historical *a*-stems. Using data from the historical reference corpora, the study examines the transition from unmarked to marked plural forms during the Middle High German and Early New High German periods. The analysis shows that while marked plurals began to appear as early as the 11th century, the spread of overt plural markers such as *-er* and *-e* varied considerably across dialects. Overall, the results of the corpus study suggest that the spread of marked plural forms is less pronounced than the current situation in standard German would suggest.

1 INTRODUCTION

Despite a rich system of inflectional morphology, nouns in Old High German (henceforth OHG) lack formal distinctions between the singular and the plural in a substantial part of their paradigms. This kind of formal syncretism arises in two different ways. On the one hand, there is no overt plural marking in several of the declensional classes in the system of OHG. Most notably, this applies to the nouns of the neuter *a*-stems and the class of the feminine *ō*-stems, which display a large number of representatives. In both cases, the unmarked plural forms in the nominative and the accusative overlap with the respective forms in the singular, as exemplified in (1) and (2).¹

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¹ Some additional classes also lack overt plural morphology, such as the consonantal *r*-stems, see OHG nom./gen./dat./acc.sg. *muoter* 'mother' – nom./acc.pl. *muoter* 'mothers' (Braune 2018:

- (1) OHG *wort* 'word', n.: nom./acc.sg. *wort* – nom./acc.pl. *wort-ø*
(Braune 2018: 250)
- (2) OHG *gēba* 'gift', f.: nom./acc.sg. *gēba*² – nom./acc.pl. *gēba-ø*
(Braune 2018: 265)

On the other hand, there is formal syncretism between marked plural forms and particular inflected forms in the singular, e.g., in the paradigm of the feminine *i*-stems, the singular forms of the genitive and the dative display the same kind of marking as the plural forms in the nominative and accusative, shown in (3), namely all involving final *-i* which causes umlaut (mutation) of the stem vowel. The most prominent case, however, is that of the consonantal *n*-stems, where, in the paradigm of the feminine gender, all oblique cases in the singular overlap with the plural forms of the nominative and the accusative, see (4a.). In the class of the masculine *n*-stems, the number syncretism is less strong, only affecting the forms of the accusative singular and the nominative and the accusative plural (cf. 4b.):

- (3) OHG *kraft* 'power', f.: gen./dat.sg. *krefti* – nom./acc.pl. *krefti*
(Braune 2018: 277)
- (4) a. OHG *zunga* 'tongue', f.: gen./dat./acc.sg. *zungūn* – nom./acc.pl.
zungūn (Braune 2018: 282)
- b. OHG *hano* 'cock', m.: acc.sg. *hanon/hanun* – nom./acc.pl.
hanon/hanun (Braune 2018: 282)

This situation is retained through the subsequent period of Middle High German (henceforth MHG). Nouns of the original neuter *a*-stems and the feminine *ō*-stems still display unmarked plural forms (Paul 2007: 184), see (5) and (6). Similarly, the formal syncretism between marked plural forms and some inflected forms of the singular paradigm is still in place, as exemplified in (7) and (8a.–c.).³ Note that the amount of formal overlapping between oblique forms in the singular and marked forms in the plural even increases in MHG because some originally distinctive forms lose their number distinctiveness.

291), or the so-called root nouns, see OHG nom./gen./dat./acc.sg. *naht* 'night' – nom./acc.pl. *naht* 'nights' (Braune 2018: 296). These classes, however, have only few representatives, and in addition, some of them start to display marked plural forms in analogy to other inflectional classes already during the OHG period, see OHG nom./acc.pl. *fater-a* 'fathers' (Braune 2018: 292).

2 In addition, the form *gēba* is also attested in the genitive singular, next to marked doublets *gēbo* and *gēbu* (Braune 2018: 265).

3 The examples in (5) to (8) are taken from Klein, Solms & Wegera (2018: 73).

This is a consequence of the phonological reduction of full vowels to schwa in unaccented syllables, e.g. the singular forms of the neuter *n*-stems, see (8c.):

- (5) MHG *wort* 'word', n.: nom./acc.sg. *wort* – nom./acc.pl. *wort* 'words'
- (6) MHG *gebe* 'gift', f.: nom./gen./dat./acc.sg. *gebe* – nom./acc.pl. *gebe* 'gifts'
- (7) MHG *kraft* 'power', f.: gen./dat.sg. *kräfte* – nom./gen./acc.pl. *kräfte* 'powers'
- (8) a. MHG *bote* 'messenger', m.: gen./dat./acc.sg. *boten* – nom./gen./dat/acc.pl. *boten*
b. MHG *zunge*, 'tongue', f.: gen./dat./acc.sg. *zungen* – nom./gen./dat/acc.pl. *zungen*
c. MHG *herze* 'heart', n.: gen./dat.sg. *herzen* – nom./gen./dat./acc.pl. *herzen*

In the subsequent periods, a well-known process of reorganization of nominal paradigms took place, leading to a reduction of formal distinctions related to case but enforcing those pertaining to number. [Hotzenköcherle \(1962\)](#) coins the expressions *Kasusnivellierung* 'levelling of case distinctions' and *Numerusprofilierung* 'strengthening of number distinctions' to refer to these two basic aspects of change. Since [Hotzenköcherle's \(1962\)](#) seminal work, the notions of *Kasusnivellierung* and *Numerusprofilierung* have become part of well-known reference books and standard descriptions explaining the development of the nominal system of German ([Wegera 1987: 71](#); [Hartweg & Wegera 2005: 151–157](#); [Kürschner 2008a: 81–82, 96](#), chapter IV.1; [Hartmann 2018: 107–108](#)).

In the diachronic literature, the rise of number distinctiveness has been studied in a series of works, addressing both the spread of marked plural forms during the Early New High German (ENHG) period ([Wegera 1987](#)) but also the principles underlying the process of strengthening of number distinctions (see [Kürschner 2008a](#), [Nübling 2008](#), or [Dammel & Gillmann 2014](#), among others). The notion of *Numerusprofilierung* refers to a complex scenario involving at least two types of shift, namely, one affecting the plural system as such, leading to the rise of overt plural morphology on originally unmarked plural forms, and another affecting the singular paradigm, distinguishing it from the plural paradigm. [Dammel & Gillmann \(2014\)](#) adopt a typology of direct and indirect ways of creating number distinctiveness, the former applying to cases in which originally unmarked plural forms obtain overt plural morphology, the latter referring to cases in which markers such

as umlaut are reinterpreted as indicators of plurality and removed from the singular paradigm (see [Dammel & Gillmann 2014](#): 195–206). In a more global view, [Kürschner \(2008a\)](#) describes the restructuring of the nominal system of several Germanic languages, which similarly undergo the process of loss of case marking and the strengthening of number distinction. He identifies several individual paths involved in this process ([Kürschner 2008a](#): 234–248), starting from changes in the type of inflection and the separation of case and number, and ending up with the removal of zero plurals and the expansion of overt number marking onto originally unmarked morpho-syntactic units.⁴

Note, however, that the above shown descriptions explain the respective developments from the perspective of the system evolving in the present-day German (henceforth PDG) standard variety. At the same time, the situation in the contemporary dialects is different. Descriptions of various modern dialects reveal a high proportion of nouns lacking formal differentiation between the singular and the plural. Two examples will be provided for illustration. The description of the Hessian dialect of Ebsdorf reveals that 47% of the examined nouns are number indistinctive across all grammatical genders (cf. [Haas 1988](#): 12–14). Furthermore, according to [Kopf \(2014\)](#) the zero plural serves as the default plural marker for neuters in the system of the Alemannic variety of Schuttertal (cf. [Kopf 2014](#): 210).⁵

These observations suggest that the strategies of establishing number distinctiveness in the dialects are different from those described for the standard

4 Both [Kürschner \(2008a](#): 26, 370) and [Dammel & Gillmann \(2014\)](#) interpret the preference for the strengthening of number over case along the lines of [Bybee's \(1985\)](#) Relevance Principle (see also [Nübling 2008](#): 323; [Kürschner 2016](#): 55; [Klein et al. 2018](#): 58; [Nickel & Kürschner 2019](#): 383). This principle, originally established to make predictions about change regarding the inflectional morphology of verbs, is based on cross-linguistic observations concerning the order of morphological markers and their degree of fusion with the lexical root. According to this principle, highly relevant information tends to be realized closer to the root and is most likely to cause root alternation, while less relevant information tends to be realized less close to the root. In the process of change, the degree of relevance predicts that more relevant categories are diachronically stable, while less relevant ones are subject to change. [Kürschner \(2008a](#): 25) and [Dammel & Gillmann \(2014](#): 188) adopt the principle of relevance to the explanation of the structure and change of morphological marking of nouns in German. The less relevant category, case, is lost, while the more relevant one, number, is strengthened in the nominal system of German (see [Kürschner 2008a](#): 26, 370, [Dammel & Gillmann 2014](#): 222 and [Nickel & Kürschner 2019](#): 367–368).

5 In addition, some of the dialects employ alternative strategies of marking number distinctions which are not present in the standard variety. E.g., [Schirmunski \(2010 \[1962\]](#): 478–482), [Nübling \(2005](#): 63–64), [Seiler \(2008](#): 183) account for changes in the quantity of vowels or consonants as well as for modulations of consonants. In addition, some dialects have established so-called subtractive plurals, i.e. plural forms which are shorter than the respective singular ones, e.g. Limburgish sg. *draad* 'wire' – pl. *dröö* 'wires' or Hessian sg. *hond* 'dog' – pl. *hon* 'dogs' ([Birkenes 2014](#): 58–59).

variety. One prominent factor taken into account which explains the high number of unmarked forms is sound change. For example, the loss of the final schwa in Upper German renders one of the most common plural suffixes, the suffix *-e*, unproductive, leading to formal overlapping of the singular and the plural, as for example Zürich German sg./pl. *Taag* 'day – days' (Bächtold & Weber 1983: 260). However, this does not explain why other suffixes did not take over the function of schwa in these varieties. It is also unclear whether the suffixless plurals in the respective dialects strictly result from the loss of this plural marker, or, as Schirmunski (2010 [1962]: 489–490) also suggests, retain the earlier situation, inherited from MHG. Considering the example of Visperterminen Alemannic, Baechler & Pröll (2019) describe the frequent occurrence of syncretism in nominal inflection not as a side effect of phonological processes, but as a genuine morphological change underlying the structure of the respective variety (cf. Baechler & Pröll 2019: 300–301).

Such observations challenge the role of *Numerusprofilierung* as a driving force reshaping the nominal system in the German dialects. In view of the aforementioned questions, a conclusive description of the developments related to *Numerusprofilierung* in the dialects is needed. The present paper is part of a larger project that aims to trace the development of number distinctions in the dialects of German. The period of investigation covers the time between the beginning of the vernacular attestation in the early 9th century and the beginning of the New High German (henceforth NHG) period in the mid-17th century. Throughout this large period of time, there is no standard variety of German, i.e. all attestation available necessarily bears the properties of some regional variety.

The investigation of the development of the number system of dialects is facilitated by the availability of annotated historical corpora, which provide morpho-syntactic but also rich meta-information about the time of composition and the dialectal classification of each document included. The present study outlines the method of using diachronic corpora to provide data on the use of number marking on nouns and the results obtained for a prominent part of the nominal system in which overt plural morphology was missing at the beginning of the attestation, namely the neuter members of the original *a*-stems (see (1) and (5) above). This group of nouns is particularly suitable for studying the spread of number marking, since it is known that several suffixes from various other declensional classes began to compete to provide a candidate for a plural morpheme, even leading to some doublets in the standard language as well as in some dialects.

This paper is structured as follows: Section 2 describes the state of the art regarding the plural marking of nouns originally belonging to the class

of neuter *a*-stems in the contemporary standard variety (Section 2.1) and in the dialects (Section 2.2). Section 3 describes the methods used to build the sample and to extract and classify the corpus data. Section 4 describes the results of the corpus study. Section 5 offers a preliminary conclusion regarding the role of *Numerusprofilierung* in the diachronic development of the dialects reflecting the degree of reduction of zero plurals and the factors favoring the expansion of marked plural forms during the period of investigation.

2 THE STATE OF THE ART – PLURAL MARKING OF REPRESENTATIVES OF THE FORMER NEUTER A-STEMS IN STANDARD PDG AND IN THE DIALECTS

2.1 Plural marking of neuter *a*-stems in the present-day standard variety

As outlined in the introduction, plural forms of the neuter *a*-stems are unmarked in OHG and MHG, see (1) and (5) above. According to the literature, already in MHG, but especially in ENHG, nouns of the former neuter *a*-stems have started to display marked plurals as a result of the analogical extension of plural suffixes already present in the declensional system (see Wegera 1987: 76–77, 181–182; Klein et al. 2018: 59, 135, 138–139, 152).

The first of these suffixes is schwa, spelling <e>, as in PDG *Tier* ‘animal’, pl. *Tier-e*. This suffix is used as the plural morpheme in other declensional classes, among others for the masculine members of the *a*-stems (OHG *taga*, MHG *tage* ‘days’, see Braune 2018: 250, Klein et al. 2018: 77).

The second plural suffix applied to nouns of the neuter *a*-stems is *-er*, as in PDG *Kind* ‘child’, pl. *Kind-er*. This suffix originates from the paradigm of the *iz/az*-stems and gives rise to the phonological process of umlaut (*i*-mutation) if the stem vowel of the respective noun is mutable, see PDG *Dorf* ‘village’, pl. *Dörf-er* ‘villages’. Subsequently, the umlaut becomes associated with the plural, appearing with other types of suffixes as well (e.g. schwa, as in PDG *Baum* ‘tree’, pl. *Bäum-e*), or it advances to a sole plural marker, as in PDG sg. *Garten* ‘garden’, pl. *Gärten* or PDG sg. *Vater* ‘father’, pl. *Väter*. The process whereby the umlaut is reanalyzed as a plural marker and extended beyond its original phonologically motivated domain of use is commonly referred to as analogical umlaut (see Sonderegger 1979: 312; Klein et al. 2018: 140–145).

A third plural suffix assigned to a small number of nouns of the neuter *a*-stems is *-(e)n*, as in PDG *Bett* ‘bed’, pl. *Bett-en*. This suffix comes from the paradigm of the consonantal *n*-stems and is one of the most productive markers of plurality in PDG, especially in the domain of nouns of all genders ending in schwa (Wegener 1995: 21).

A group of nouns of the former neuter *a*-stems retains unmarked plural forms, namely collective nouns following the pattern *Ge-...-e*, e.g. PDG sg./pl.

Gebirge 'mountain', diminutives like PDG sg./pl. *Mädchen* 'girl', and polysyllabic lexemes ending in *-el*, *-en*, and *-er* such as PDG sg./pl. *Gürtel* 'belt', sg./pl. *Zeichen* 'sign', and sg./pl. *Wunder* 'miracle' (cf. [Wegera 1987: 76–77](#); [Pavlov 1995: 35](#)).

The allomorphs described above haven't been as clearly associated with specific lexemes at all stages of the history of German. During the ENHG period, the two suffixes *-e* and *-er* were in competition with the unmarked plurals and, in the case of some lexemes, with each other (cf. [Wegera 1987: 196–208](#)). From the 16th century onwards, the restitution of *-e* as a plural suffix set in, leading to the partial replacement of other morphemes by *-e* (cf. [Klein et al. 2018: 59](#)). Several older plural forms with *-er* were preserved in the dialects, e.g. Hessian pl. *stu^lker* vs. standard-PDG pl. *Stücke* 'pieces', or Swabian pl. *Sayler* vs. standard-PDG pl. *Seile* 'ropes' ([Wegera 1987: 210–212](#)), see also [Section 2.2](#). Towards the end of the ENHG period, the distribution of suffixes had mostly reached the PDG state, with occasional lexemes changing from plural marking by *-e* to *-er* or vice versa towards the NHG period.

There are also cases where competing plural morphemes co-occur on the same word, giving rise to doublets such as PDG *Wort* 'word', pl. *Wort-e* and *Wört-er* 'words', often associated with semantic differences ([Wegera 1987: 180](#); on the semantic differentiation of plural doublets with *-e/-er*, cf. [Nübling 2018: 393–394](#)).

2.2 Plural marking of neuters in the modern dialects

German dialects do not exhibit uniform declension behavior. Research has shown that even within small geographical areas, the paradigms and patterns attested can vary considerably ([Schirmunski 2010 \[1962\]: 477–509](#); [Nübling 2008: 312–322](#); [Ronneberger-Sibold 2018: 103–105, 115–116](#)). Without the support of a written variety, dialects seem to be more easily affected by phonological attrition such as the loss of final sounds, the so-called *apocope* (cf. [Schirmunski 2010 \[1962\]: 477–478](#)). Apocope plays a crucial role in the morphological system of the dialects since it affects the final schwa, but also the final *-n* as two of the most productive and wide spread plural markers in the standard variety. The unavailability of these markers is particularly strong in the Upper German dialects, from which the loss of final schwa originates (cf. [Wegera 1987: 70, 186](#); [Hartweg & Wegera 2005: 155](#)). The following survey summarizes the state of the art regarding the realization of the plural on neuter nouns in the dialects of High German, i.e. in those regional varieties which are spoken to the south of the Benrath isogloss.

Let us start with the dialects in the south, the so-called Upper German dialects. In Western Upper German, in Alemannic, the presence of a large num-

ber of unmarked plural forms has already been outlined in the introduction. Various studies in different Alemannic dialect areas confirm this observation. In Basel German, which belongs to Low Alemannic, the zero plural is the most common plural form among neuter nouns (72%), as [Dammel \(2018\)](#) claims, analyzing the New Basel German Dictionary. The remaining forms either use the suffix *-er* plus umlaut wherever possible (20%), or the suffix *-s* (6%), or the umlaut alone (1.5%). The suffix *-e* only occurs sporadically, e.g. *Datum* 'date' – *Date* 'dates'. The higher preference for *-er* can be attributed to the decline of *-e*. The zero plural is even productive in Basel German for neuter loanwords, e.g. sg./pl. *Audo* 'car/cars' (cf. [Dammel 2018](#): 78–79). In the Low Alemannic dialect of Schuttertal, the default plural for neuters is also the zero plural, and, as in Basel German, neuter loanwords also apply this pattern. In addition, neuter nouns in this dialect can only form plurals using the suffixes *-er* and *-s* (cf. [Kopf 2014](#): 204, 210–211). In High Alemannic Bernese German, the most common plural forms of neuters are the zero plural or the *-er* plural. The same applies to the Highest Alemannic dialect spoken in Fribourg. In addition, the Fribourg dialect displays a stem-inflection pattern that is not found in standard German (cf. [Nübling 2008](#): 313–316). The examples show that on the one hand the zero plural is predominant in the entire Alemannic area, and on the other hand the plural employing *-e* is insignificant.

In the varieties belonging to the Eastern Upper German dialect group, Bavarian, zero plural is widespread as well. For example, in the dialects spoken in North, Middle and East Bavarian, zero plural can be observed in all genders.⁶ In these dialects, in addition to plural forms without a suffix, neuters can use the suffix *-er* to denote plural. The suffix *-e*, however, is rarely used as a plural marker (cf. [Schrödl, Korecky-Kröll & Dressler 2015](#): 171–173; [Kürschner 2016](#): 46, 48; [Nickel 2023](#): 99, 107–108). A special case is Tyrolean, a part of the Southern Bavarian area, where the zero plural of the neuter *a*-stems is strongly restricted, unlike in the Bavarian areas described above. Instead, the suffix *-er* is preferred, often in combination with umlaut, e.g. sg. *soal* 'rope' – pl. *sealer* 'ropes' ([Dammel 2018](#): 79–80).

In the northernmost dialect of the Upper German dialect area, East Franconian, additive plural forms are more common among neuters than plural forms without formal distinction. Nouns of the former neuter *a*-stems are attested not only as zero plurals and plural forms using *-er*, but also as cases of the analogical umlaut plural, e.g. sg. *šōay* – pl. *šāv* 'sheep' in the dialect of Erlabrunn (cf. [Nickel 2023](#): 233–234).

⁶ [Rowley \(1997\)](#) reports that zero plural is widespread for the dialects spoken in northeastern Bavaria, including North Bavarian, East and North East Franconian, the dialects spoken in Nuremberg and Erlangen, and a Thuringian dialect in the Ludwigsstadt area.

Let us look at the Central German dialects. The Western Central German dialect area includes Hessian, Middle Franconian and Rhine Franconian. A typical feature of these dialect areas is the apocope of the schwa and of *-n* in the final sound (cf. Dingeldein 1983: 1199). The influence of phonological processes is also reflected in the morphological inflection inventory of the Western Central German dialects. In the dialect of Kirn, which can be located in the transition area between Middle Franconian and Rhine Franconian, the suffix *-e* has been dropped in the (strong) inflection, leaving only the zero plural, umlaut, *-er* (with and without umlaut) and subtractive plural forms as plurals (cf. Wiese 2009: 156). In the weak inflection, on the other hand, the suffix *-e* is used as a plural marker in all genders due to the omission of the final *-n* (cf. Wiese 2009: 158). In the Horath dialect, which is spoken in the southwestern part of the Middle Franconian dialect area, the suffix *-e* has also been dropped as a result of the apocope. Therefore, only the two suffixes *-er* and *-en* are used to mark the plural, in addition to the suffixless forms (cf. Wiese 2009: 162–163). A representative of Hessian is the dialect of Ebsdorf. According to a study by Haas (1988), this dialect has an extremely high number of unmarked plural forms across all genders, which is attributed to processes of phonological reduction (cf. Haas 1988: 14–15). Among neuters, the zero plural is the second most common plural variant. Plural forms with *-er* are the most common, and only a small number of neuters mark the plural with *-e*.

In Eastern Central German, the suffix *-er* seems to be less widespread than in Western Central German (cf. Dingeldein 1983: 1198). In this region, the loss of final schwa is largely absent, which renders the suffix *-e* a productive candidate to mark the plural (Schirmunski 2010 [1962]: 489; Dammel 2018: 76; Siebenhaar 2019: 417, 422). For example, according to Harnisch (1987), *-e* as a plural marker can be found in the Thuringian dialect spoken in Ludwigsstadt (as well as *-er*, *-n* and zero, cf. Harnisch 1987: 56–57). However, based on a sample of three Eastern Central German dialect grammars, Dammel (2018) illustrates that there are several lexemes using *-er* as a plural marker that use other allomorphs in Standard German, e.g. *därmər* 'guts', *dernər* 'thorns' and *helmər* 'helmets' (cf. Dammel 2018: 76).

To summarize, the suffix *-er* seems to have spread more consistently among members of the neuter *a*-stems in all dialects in contrast to standard German (cf. Schirmunski 2010 [1962]: 488). In the latter, plural forms involving *-er* (plus umlaut) occur in 2.3% of all neuters, while the suffix *-e* is much more common, occurring in 42.1% of the neuter nouns in the PDG standard (Pavlov 1995: 46). The reverse productivity of the plural suffix *-er* in the dialects is often assumed to correlate with the loss of *-e* (Wegener 2002: 265–266; Wegener

2003: 121; Dammal & Denkler 2017: 108; Dammal 2018: 72, 89). Thus, plural forms with *-er* are found in words that mark the plural differently in standard German, e.g. *Seil* ‘rope’, standard-PDG pl. *Seil-e*, Hessian pl. *sāl-er* (Schirmunski 2010 [1962]: 488–489).

In addition to the impact of phonological processes such as the apocope, semantic factors seem to influence the development of distinct plural forms. On the one hand, some dialects have developed different plural forms depending on whether the meaning is collective or plural, e.g. pl. *stukx* ‘total number of pieces’ vs. pl. *stikxer* ‘individual pieces’ (Schirmunski 2010 [1962]: 490). On the other hand, the zero plural can also become specialized in particular semantic contexts. For example, in the dialect of Saarbrücken, semantically conditioned zero plurals are used to refer to entities which occur in larger numbers, such as stones, pigs, sheep, hair, and shoes (cf. Nübling 2008: 319; Dammal 2018: 84). In addition, in North Bavarian and East Franconian dialects, zero plurals correlate with words denoting body parts that occur in pairs, such as arms and legs. Moreover, it can be noted that in the latter, nouns that refer to human or animate beings rarely have a zero plural (cf. Nickel & Kürschner 2019: 385). In contrast, there appears to be a preference for zero plurals for physical and temporal measures, e.g. Zürich German *drei Fuess* ‘three inches’, *zwäi Glass Wy* ‘two glasses of wine’, *drei Taag* ‘three days’ (cf. Kürschner 2008b: 142).

3 CORPUS STUDY: DATA AND METHOD

The present study is based on data retrieved from the following reference corpora of the historical periods of German:

- *Referenzkorpus Altdeutsch* (ReA 1.1, Zeige, Schnelle, Klotz, Donhauser, Gippert & Lühr 2022), containing the entire written attestation of the Old High German period (750 to 1050) and comprising appr. 500.000 word forms. In addition, this corpus contains the Latin originals of the contemporary vernacular translations as well as the attestation extant from Old Saxon.
- *Referenzkorpus Mittelhochdeutsch* (ReM, Klein, Wegera, Dipper & Wich-Reif 2016), comprising texts from all dialectal regions and genres composed in the period from 1050 to 1350 and containing 2.5 million word forms. This corpus is based on the *Korpus Mittelhochdeutsche Grammatik* (MiGraKo, Dipper & Kwekkeboom 2018: 97–98), which serves as the basis for the new corpus-based MHG Grammar by Klein et al. (2018), supplemented by additional texts covering almost all available

material representative for the early MHG period.⁷

- *Referenzkorpus Frühneuhochdeutsch* (ReF, [Wegera, Solms, Demske & Dipper 2021](#)), comprising texts from the period between 1350 and 1650. Similarly to ReM, ReF incorporates a pre-existing corpus, the *Bonner Frühneuhochdeutsch-Korpus* (FnhdC), on which the ENHG Grammar ([Wegera 1987](#)) is based. The sources included in the FnhdC were integrated into the ReF and collated in the process of creating the reference corpus (cf. [Herbers, Kösser, Lemke, Wenner, Berger, Kwekkeboom & Thielert 2021](#): 3–4). The corpus contains 3.5 million digitized word forms, of which 2.4 million are morphologically annotated (cf. [Dipper & Kwekkeboom 2018](#): 98–100).

The three corpora are part of the comprehensive corpus project *Deutsch Diachron Digital* (DDD), aiming to create a diachronic reference corpus covering the complete vernacular attestation in the period from the beginning of the records until the early modern period.⁸ The corpora are lemmatized and annotated for morpho-syntax, searchable via ANNIS, an open-source web browser-based search and visualization tool facilitating queries in complex, multi-layered linguistic corpora (cf. [Krause & Zeldes 2016](#)). In addition, the corpora provide rich meta-annotation, including relevant information regarding the time of composition, the genre and the dialectal classification of the texts included among others.

To create a sample as a database of the present investigation, the following method was adopted. As the original declensional class of nouns is annotated in ReA but not in the corpora of the later periods, a corpus search was conducted, retrieving the fifty most frequent OHG lemmata representing nouns of the neuter *a*-stems in ReA. In order to study the development of these nouns with respect to plural formations in subsequent periods, the hit list retrieved from ReA was modified as follows. Firstly, items which were lost after the MHG period were removed, e.g. OHG/MHG *barn* ‘child’. Secondly, nouns displaying gender ambiguity, such as OHG *līb*, masc/neut ‘body’ or OHG *lon*, masc/neut ‘wage’, were eliminated because, as masculine forms, they display

⁷ Unlike MiGraKo, ReM is not a structured corpus (cf. [Klein & Dipper 2016](#): 2–5; [Petran, Bollmann, Dipper & Klein 2016](#): 2–3). However, this is a problem common to most historical corpora. Because they depend on the available texts, they may not be balanced in the sense that they do not provide an equal proportion of primary data representative of each stage, language area, and genre. This applies to the texts included in ReA as well as to the earlier periods of MHG included in ReM (cf. [Donhauser 2015](#): 35, [Dipper & Kwekkeboom 2018](#): 95–96).

⁸ Not only High German but also Low German texts are included in corpora of the DDD project. The ReA contains Old High German as well as Old Saxon texts. In addition, there is a Reference Corpus covering Middle Low German and Low Rhenish texts, *Referenzkorpus Mittelniederdeutsch/Niederrheinisch* (ReN) (cf. [Peters 2017](#): 36; [Dipper & Kwekkeboom 2018](#): 100).

a different morphological behavior (cf. Froschauer 2003: 376–377). Third, nouns displaying no overt plural marking in PDG as those ending in *-er*, *-el* and *-en* (see Section 2.1) were removed from the database as well, e.g. OHG *fiur* ‘fire’ – PDG sg./pl. *Feuer* or OHG *zeihhan* ‘sign’ – NHG sg./pl. *Zeichen* (cf. Wegera 1987: 76; Pavlov 1995: 35; Klein et al. 2018: 139). Finally, words only occurring in the singular such as OHG *malt* ‘malt’ or OHG *wazzar* ‘water’ were also eliminated from the database. After removing the inconsistent items, a lemma list was created including the following twenty items:

- (9) *wort* ‘word’, *ding* ‘thing’, *liocht* ‘light’, *werk* ‘work’, *kind* ‘child’, *guot* ‘good’, *wib* ‘woman’, *hus* ‘house’, *reht* ‘right’, *thorp* ‘village’, *houbit* ‘head’, *lant* ‘land’, *jar* ‘year’, *brot* ‘bread’, *lob* ‘praise’, *gibot* ‘commandment’, *grab* ‘grave’, *scif* ‘ship’, *scaf* ‘sheep’, *swin* ‘pig’

Considering the plural forms of the lexemes under study in today’s standard German, nine of the lexemes mark the plural with *-e*, see (10), eight with *-er*, depending on the root vowel with umlaut, see (11), and three doublets that occur with both *-e* and *-er*, see (12).

- (10) *-e*: *Werk-e* ‘works’, *Recht-e* ‘rights’, *Jahr-e* ‘years’, *Brot-e* ‘breads’, *Lob-e* ‘praises’, *Gebot-e* ‘commandments’, *Schiff-e* ‘ships’, *Schaf-e* ‘sheep’, *Schwein-e* ‘pigs’
- (11) a. *-er*: *Kind-er* ‘children’, *Weib-er* ‘women’
 b. *-er* with umlaut: *Güt-er* ‘goods’, *Häus-er* ‘houses’, *Dörf-er* ‘villages’, *Häupt-er* ‘heads’, *Gräb-er* ‘graves’
- (12) doublets: *Wort-e/Wört-er* ‘words’, *Ding-e/Ding-er* ‘things’, *Land-e/Länd-er* ‘lands’, *Licht-e/Licht-er* ‘lights’⁹

In order to study the rise and distribution of the plural suffixes of these words after the OHG period, the plural forms of the lexemes listed in (9) were examined in the corpora of the subsequent periods. The search was restricted to the plural forms of the nominative and accusative because these are the unmarked forms, while those in the genitive and the dative display case suffixes, as shown for the paradigm of the lemma *wort* ‘word’ in OHG (13) and MHG (14).

⁹ In the case of doublets, there is either a semantic or stylistic distinction. For example, the plural form *Land-e* ‘lands’ is considered archaic, or the plural form *Licht-e* ‘lights’ is considered poetic, or more common for compounds, such as *Teelicht-e*, the plural of *Teelicht* ‘tea candle’.

- (13) nom./acc.pl. *wort*
gen.pl. *wort-o*
dat.pl. *wort-um* (Braune 2018: 250)
- (14) nom./acc.pl. *wort*
gen.pl. *wort-en*
dat.pl. *wort-en* (Klein et al. 2018: 73)

The conclusive forms found in MHG and ENHG were classified according to the type of plural formation, as well as according to the time of composition and the dialectal provenance of the text, using the meta-annotation found in the corpus. The relevant levels of meta-annotation are "time" and "language area". Only data with a clear indication regarding time and language area were included in the database. Wherever the periodization or the dialectal classification was missing or unspecific, the data was excluded from the count. By contrast, if the dialectal specification was too fine-grained, the respective tokens were grouped together, e.g. data classified as East Central Bavarian was subsumed under Bavarian. Similarly, the Western Central German dialects Ripuarian and Moselle Franconian were grouped together under Middle Franconian. Furthermore, due to the small amount of data, the Eastern Central German dialects (namely Thuringian, Upper Saxon, Silesian) were combined into one group as well.

There are two exceptions to this procedure. In [Table 1](#), both exceptions are assigned the category "no specification" with respect to dialect area. Firstly, there is a transitional zone between Alemannic and Bavarian, as well as a handful of examples which are annotated as Upper German in ReM, without any closer specification. Secondly, ReF provides no dialectal specification within Western Central German sources from the 17th century. As a consequence, the corresponding examples are considered in the overall results for the 17th century to enhance this part of the database, without providing distinct numbers for the varieties included, unlike the situation for earlier periods.

The database of the study consists of a total of 13,378 diagnostic plural forms, i.e. those in the nominative and accusative plural, also given exact meta-linguistic specification regarding time and dialectal zone in the corpus, see [Table 1](#).

Dialect area/Century		11th	12th	13th	14th	15th	16th	17th	Total
Upper German	Alemannic	3	61	492	482	1,038	1,210	313	3,599
	Bavarian	62	761	544	494	327	621	91	2,900
	East Franconian	25	2	12	475	242	305	100	1,161
	No specification	-	172	114	106	-	-	-	392
Western Central German	Hessian	-	11	24	101	213	258	-	607
	Middle Franconian	-	76	235	297	278	453	-	1,339
	Rhine Franconian	-	143	424	177	68	59	-	871
	No specification	-	-	-	-	-	-	160	160
Eastern Central German		-	-	77	607	696	886	83	2,349
Total		90	1,226	1,922	2,739	2,862	3,792	747	13,378

Table 1: Overview of the database: counts per century and dialect area

As expected, the data is unevenly distributed across time and dialects. Data from the 11th century is scarce as a whole and restricted to Upper German. Because of the small number of examples from this period, data must be interpreted cautiously. The attestation from the remaining dialectal regions starts only later. Western Central German dialects, Hessian, Middle Franconian, and Rhine Franconian, are attested from the 12th century onwards, the dialects belonging to Eastern Central German only from the 13th century onwards.

4 RESULTS

4.1 Overall picture

The plural variants occurring in the database are listed in [Table 2](#), including the absolute frequency and the ratio of the individual forms.

Plural variant	Total number	Ratio	Examples (from Alemannic)
<i>-en</i> ¹⁰	22	0.16%	<i>liechten</i> 'lights'
<i>-e</i>	479	3.58%	<i>lande</i> 'lands'
<i>-er</i> ¹¹	1,524	11.39%	<i>heuser</i> 'houses'
∅	11,352	84.86%	<i>chint</i> 'children'
Total	13,377 ¹²	100%	-

Table 2: Absolute numbers of plural variants occurring in the dataset

The percentages reveal that the unmarked plural forms represent the largest proportion of plural forms by far.

Figure 1¹³ shows the development in the proportion of suffixed plural forms in the nominative and accusative in the whole sample, independently of the dialect area. In the beginning of the investigation period, the proportion of marked plurals is almost zero (0.01%). The earliest attested marked plural form is given in (15), found in an East Franconian record.

- (15) *die der hus-er ne habent.*
 who the house-ACC.PL NEG have-3PL
 ‘who do not have houses’
 11_2-12_1-obd-PV-G > M244-G1 (tok_dipl 339 - 349)

Since then, there has been a continuous increase in the ratio of marked forms, but the proportion of marked plurals never exceeds the rate of 30%. In other words, the unmarked plural form represents the predominant variant throughout the entire investigation period.

10 This group includes variants of this suffix like *-on* (one example: Alemannic *werchcon* ‘works’) and *-in* (one example: Rhine Franconian *worthin* ‘words’) occurring in Alemannic and Rhine Franconian.

11 This group also includes some variants of *-er* found in the data, namely: *-ere* (mostly in the form of *kindere* ‘children’), *-re* (e.g. Rhine Franconian *husre* ‘houses’), both occurring only in the Central German dialects, *-ir* (e.g. Alemannic *hvsir* ‘houses’), as well as *-iri* (e.g. North Thuringian *kindiri*) and *-iru* (e.g. North Thuringian *kindiru*), both only occurring in Eastern Central German.

12 There is one special instance not included in Table 2, namely Alemannic *werki* ‘works’, using the suffix *-i*, in the 13th century:

- (i) *vnd di werk-i sin alli steti [...] werdin gesehin.*
 and the work-ACC.PL are all place PASS.AUX seen
 ‘and his works are being seen all over the place’
 13_1-bairalem-PV-G > M358-G1 (tok_dipl 3148 - 3158)

In contemporary Swiss dialects, the suffix *-i* is a productive plural allomorph, e.g. *fassi* ‘barrels’ and *tori* ‘gates’ (cf. Schirmunski 2010 [1962]: 489–490; Dingeldein 1983: 1197; Christen 2019: 263), but it also serves as a diminutive suffix (cf. Lüßy 1974: 163; Christen 2019: 265).

13 In this and the following figures, the y-axis shows the proportion of plural forms with plural markers (in nominative and accusative) in relation to the total number of plural forms attested for each period of time.

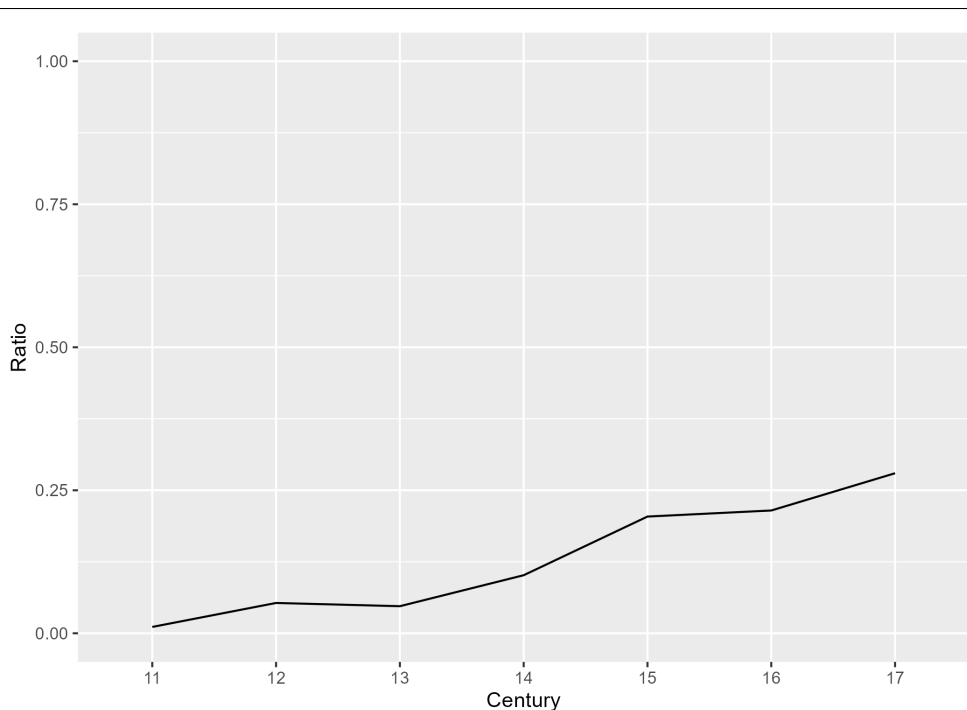


Figure 1: The development in the ratio of plural marking in the class of neuter *a*-stems

Figure 2 illustrates the development in the ratio of marked forms in the two basic dialectal zones, namely in Upper and Central German, during the MHG and ENHG period. As we know from Section 3, no data is present for Central German from the 11th century. In the 12th century and later, it is possible to compare the development in the ratios of marked plural forms in the two dialectal zones. As shown in Figure 2, the proportion of marked forms is higher in Upper German in the first two centuries. In the 13th century, the situation changes as Central German starts to display a higher proportion of marked plural forms than Upper German. This continues until the end of the investigation period in the 17th century.

The observed development can be seen as a reflection of the spread of schwa-apocope, which originates in Upper German in the 13th century and spreads to Western Central German in the following centuries, leaving Eastern Central German unaffected (Lindgren 1953: 178; Wegera 1987: 186; Büthe-Scheider 2017: 396). The loss of final schwa eliminates *-e* as one of the potential plural suffixes, which may be the reason why the ratio of marked plural forms in Upper German lags behind the one in Central German after the 13th century. At the same time, it may be expected that the loss of final schwa

is compensated by *-er* in the plural system of the respective varieties. This means that it is necessary to account for differences between the individual varieties, including preference for some of the plural variants in these varieties.

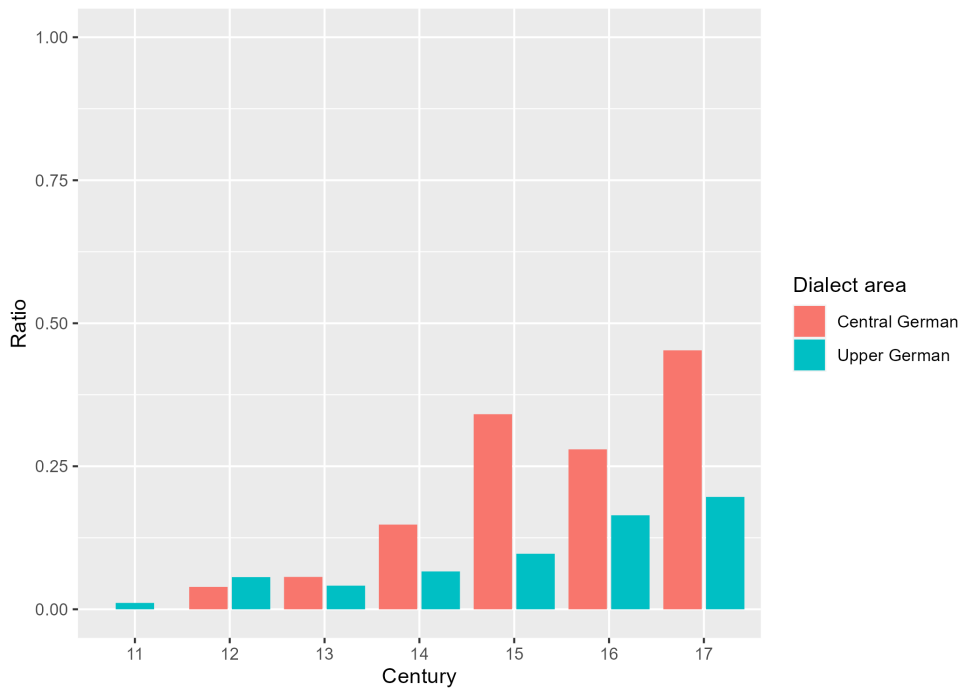


Figure 2: The development of plural marking in the Central German and Upper German dialects

Figures 3 and 4 illustrate the evolution of marked plural forms within the individual dialect groups. Figure 3 provides the percentages of marked vs. unmarked plural forms in Upper German, i.e. in Alemannic, Bavarian, and East Franconian. The figure reveals that at the beginning of the investigation period, only East Franconian displays marked plural forms. Recall that the earliest attested marked plural form, given in (15), was recorded in East Franconian. Yet, in the subsequent periods, East Franconian displays no conclusive data. Examples for marked forms are present from the 14th century and by the end of the investigation period, East Franconian has the highest ratio of suffixed plurals (35%). Alemannic and Bavarian behave similarly in showing low ratios of marked forms starting in the 12th century and reaching a proportion of marked forms below 20% by the end of the investigation period.

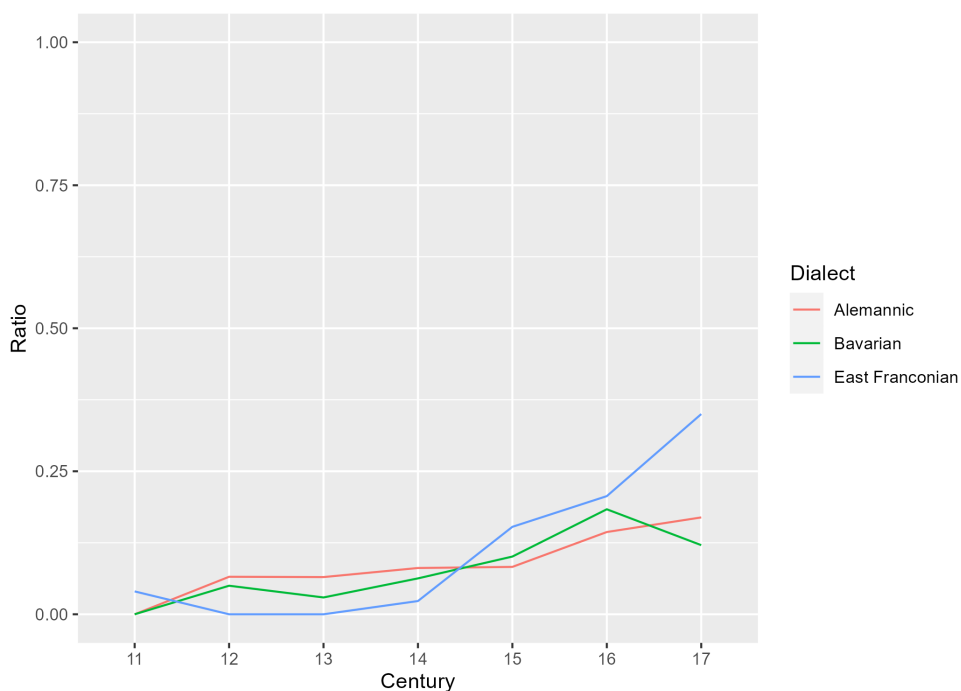


Figure 3: The development in the ratio of plural marking in Upper German dialect areas

Let us look at the situation in the Central German dialects. The relevant ratios are provided in [Figure 4](#). Eastern Central German is represented as one group while for Western Central German separate numbers are provided for Hessian, Middle Franconian and Rhine Franconian.

The lines in [Figure 4](#) suggest that in the beginning of the Western Central German attestation, marked plural forms are only present in Middle Franconian and Rhine Franconian. As in the Upper German dialects, the ratio of marked forms increases in the subsequent centuries in all Western Central German dialects. The increase is even more significant, resulting in a ratio of 66% of marked plurals in Hessian and 51% in Rhine Franconian in the 15th century. After that, there is a sharp decline in both of these dialects. Middle Franconian, by contrast, is the only dialect in the Western Central German area which displays a continuous increase of marked plural forms. By the end of the investigation period, all Western Central German dialects display roughly the same percentage of marked forms, namely around 37% in the 16th century. In Eastern Central German, which is only attested from the 13th century onwards, we observe a ratio of 13% of marked forms at the beginning which rises to 34% in the 17th century.

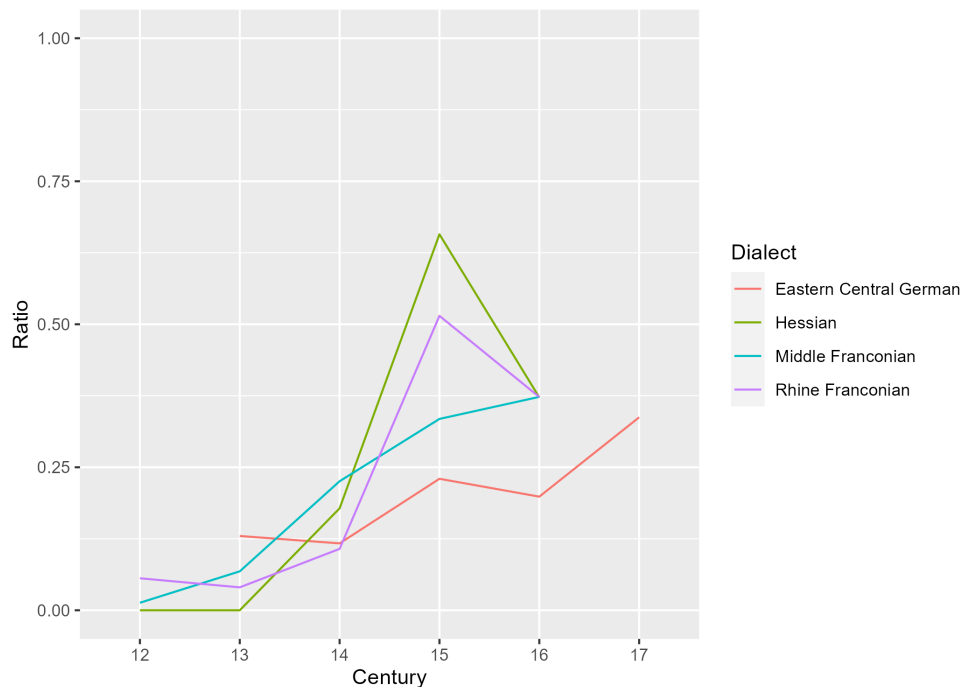


Figure 4: The development in the ratio of plural marking in Central German dialect areas

In conclusion, a gradual spread of marked plural forms can be observed in both dialectal zones. The increase is especially strong in the 14th century. However, the trend is by no means linear and marked plural forms remain underrepresented over the entire investigation period. Since the individual dialects are affected by sound changes to varying degrees and different plural allomorphs are available, the distribution of plural variants in the varieties will be addressed in the following section.

4.2 The distribution of plural markers across dialect zones

4.2.1 Upper German

The development in the inventory and use of plural suffixes in Upper German dialects is provided in Figures 5 to 7.

We know from Section 4.1 that East Franconian (Figure 5) differs from the remaining two Upper German dialects in being the only dialect in which marked plural forms are already found in the beginning of the attestation period. The first attested suffix is *-er* in the plural form *huser* ‘houses’, see (15).

In the 12th and 13th century, only unmarked forms are attested in East Franconian. In the 14th century, all three suffixes appear to a comparatively small extent, e.g. *dorfer* ‘villages’, *iare* ‘years’ and *broeten* ‘breads’, but nevertheless, *-e* is the most frequent among these three. From the 15th century onwards, however, the frequency of *-er* rises continuously, reaching the proportion of almost 35% in the 17th century, while *-e* is non-existent.

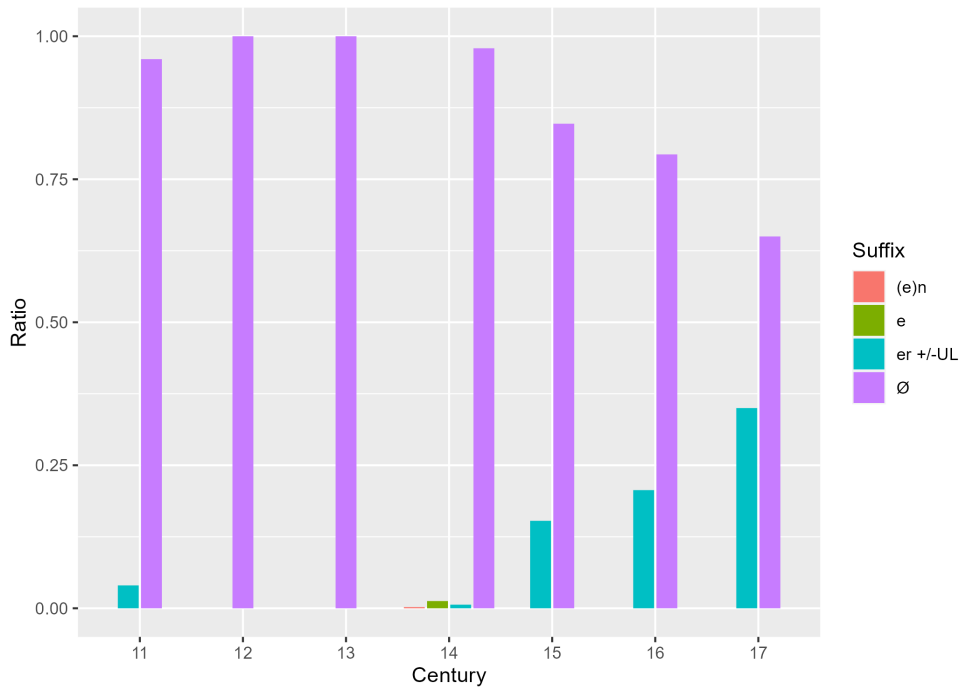


Figure 5: The distribution of plural variants in East Franconian

As for Alemannic and Bavarian, Figures 6 and 7 show that they share a comparable development. Both lack marked plurals in the first century of the investigation period, i.e. all attested plural forms are of the type Alemannic *dinc* ‘things’ or Bavarian *chint* ‘children’. The first marked forms appear in the 12th century, mainly using the suffix *-e* as a plural marker, e.g. Alemannic *dinge* ‘things’ or Bavarian *kinde* ‘children’. In both dialectal zones, *-e* is most prominent during the 12th, 13th and 14th centuries. It then declines in the 15th century. At the same time, the ratio of forms using *-er* increases continuously. The turning point is in the 15th century when forms using *-er* become more frequent than those using *-e*. All in all, these marked forms are less than 38%. This continuous preference for zero plural forms as well as the predominance of forms using *-er* in Alemannic and Bavarian is reflected

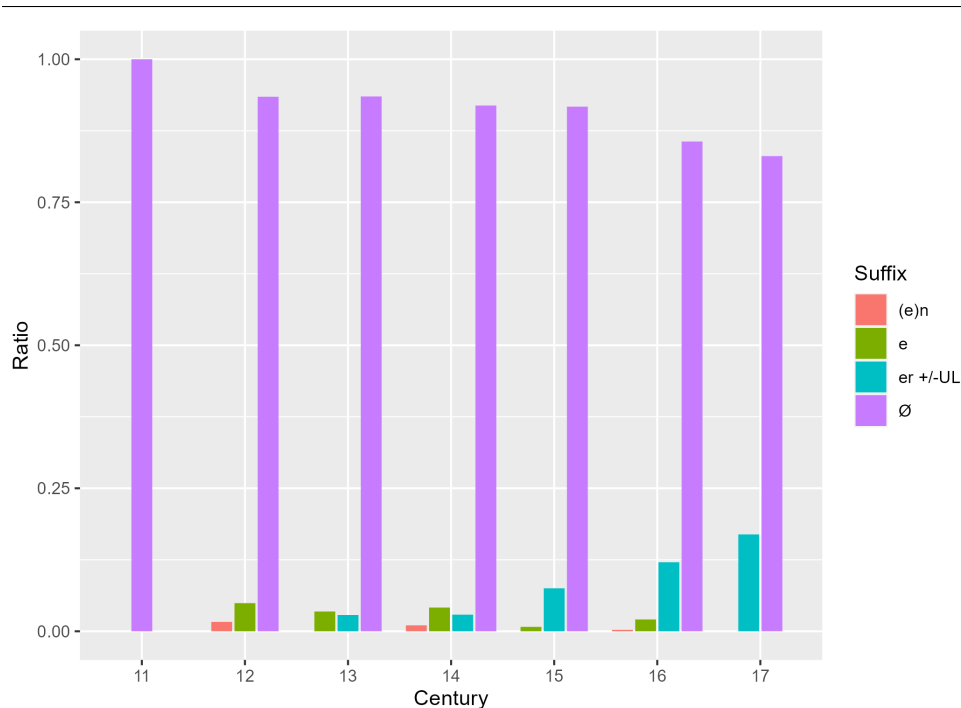


Figure 6: The distribution of plural variants in Alemannic

in the present-day stage of these dialects.¹⁴ In addition, both Alemannic and Bavarian display very rare instances of plurals using *-(e)n*, e.g. Alemannic *dingen* ‘things’ or Bavarian *worten* ‘words’.

The corpus data corroborates previous research showing that the apocope affected the entire Upper German area, being completed by the 15th century (cf. [Wegera 1987](#): 186; [Hartweg & Wegera 2005](#): 155). While it is true that *-e* as a plural marker diminishes in the 16th century, we see that even prior to the effect of the schwa-apocope, the use of *-e* as a plural marker never reached relevant amounts.

The rise of *-er* as a plural suffix is often described as a compensation for the loss of *-e* in Upper German, and indeed there seems to be a correlation between the appearance of the two suffixes in the present data. Another kind

¹⁴ According to [Dammel \(2018: 78\)](#) 20% of neuters in present-day Basel German use *-er*, but only 1% *-e*. Similarly, in contemporary Bavarian, plurals using *-er* are significantly more common than those using *-e*, according to [Dammel \(2018: 89\)](#), see also [Schirmunski 2010 \[1962\]](#): 488–489).

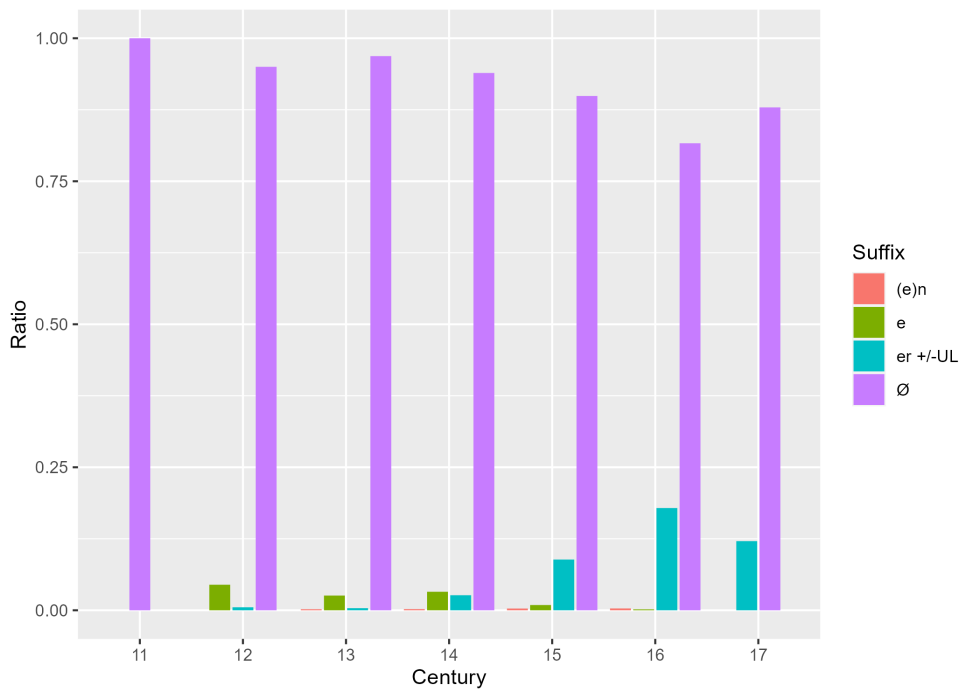


Figure 7: The distribution of plural variants in Bavarian

of compensation is the use of umlaut, which cannot however be perceived of in a systematic manner as it is only inconsistently reflected in the graphical representation of the data (cf. [Wegera 1987: 216–217](#); [Klein et al. 2018: 141](#)).¹⁵

4.2.2 Western Central German

The development in the three Western Central German dialects, Hessian, Middle Franconian, and Rhine Franconian, shown in Figures 8, 9, and 10, is very similar. In the 12th and 13th centuries, predominantly or exclusively suffixless forms are attested. Afterwards, an increase of marked forms with *-e* and

¹⁵ Indications of an umlaut are present in the Bavarian form *woert* ‘words’:

- (i) *Daz dritte ist in dem herzen. anevzriu woert.*
 The third is in the heart-DAT.SG without overt word.ACC.PL
 ‘The third one is in our heart, without overt words’
 13_2-bairalem-PV-G > M405-G1 (tok_dipl 10648 - 10658)

Dialectal dimensions of the strengthening of number distinctions

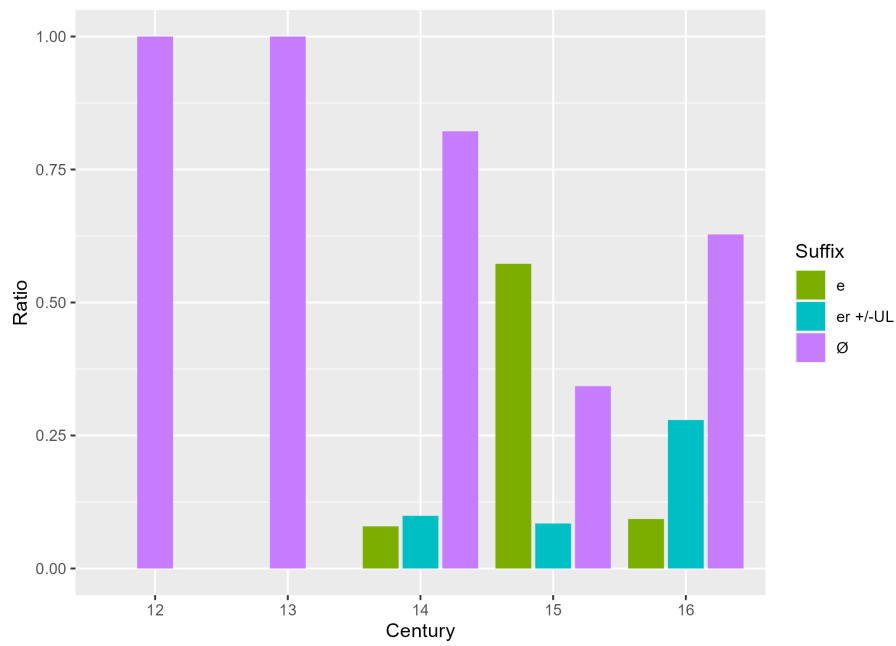


Figure 8: The distribution of plural variants in Hessian

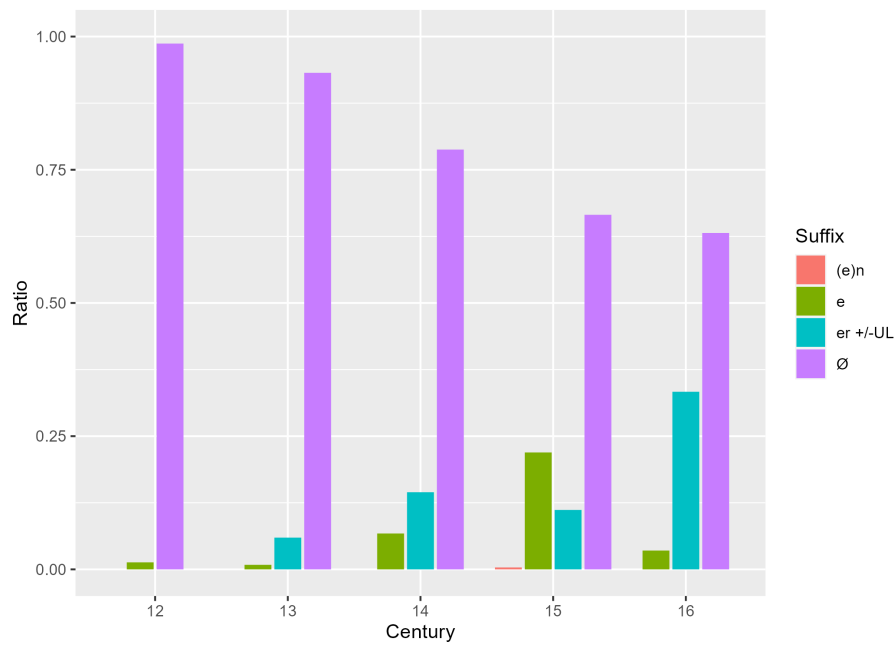


Figure 9: The distribution of plural variants in Middle Franconian

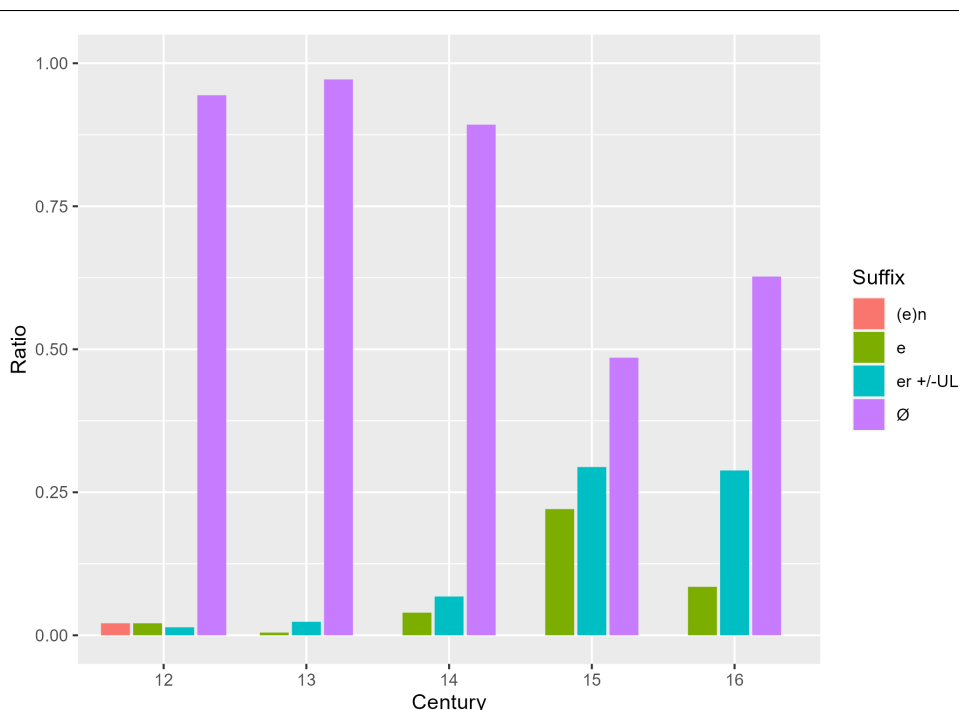


Figure 10: The distribution of plural variants in Rhine Franconian

-er can be observed. Forms using *-er* are more common than forms using *-e*, although unmarked forms still represent the largest proportion. In addition, in the 13th and 14th centuries, individual forms using *-ere* are attested in all three dialects. The suffix occurs mainly with the lexeme *kind* ‘child’, e.g. Hessian *kindere/kyndere* ‘children’, but occasionally with others as well, e.g. Middle Franconian *husere* ‘houses’. In the 15th century, the spread of *-e* reaches its peak. In Hessian it even exceeds the proportion of unmarked forms. This is the only time in the entire study that the marked forms are more prevalent than the unmarked forms in total. In the other two Western Central German dialects, however, unmarked forms still predominate with differences in the distribution of the two main suffixes. In Middle Franconian, more forms use *-e*, while in Rhine Franconian more forms use *-er*. Additionally, a small number of forms using *-(e)n* is documented in all three dialects, e.g. Middle Franconian *landen* ‘lands’. Towards the 16th century, the ratio of plural forms using *-e* decreases extremely which can be attributed to the apocope. At the same time, the proportion of forms using *-er* increases. This is most evident

in Hessian and Middle Franconian. In Hessian, however, the proportion of unmarked forms increases again in the 17th century. The same applies to Rhine Franconian, where *-er* was already more common than *-e*. In Middle Franconian, a decrease in unmarked forms can be observed, making Middle Franconian the only Western Central German dialect to show a continuous increase in the proportion of marked forms.

4.2.3 Eastern Central German

In Eastern Central German, shown in Figure 11, plural forms using *-er* can be observed since the beginning of attestation in the 13th century. The suffix *-er* continues to spread throughout the investigation period, peaking at 31% in the 17th century. Variants of the suffix *-er* can be found in the 13th and 14th centuries, especially among plural forms of *kind* ‘child’, mainly *-ere* and *-ir*, e.g. *kindere* and *kindir*, and in individual cases *-iri* and *-iru*, namely *kindiri* and *kindiru*. The suffix *-e* occurs only sporadically, mainly in the 14th

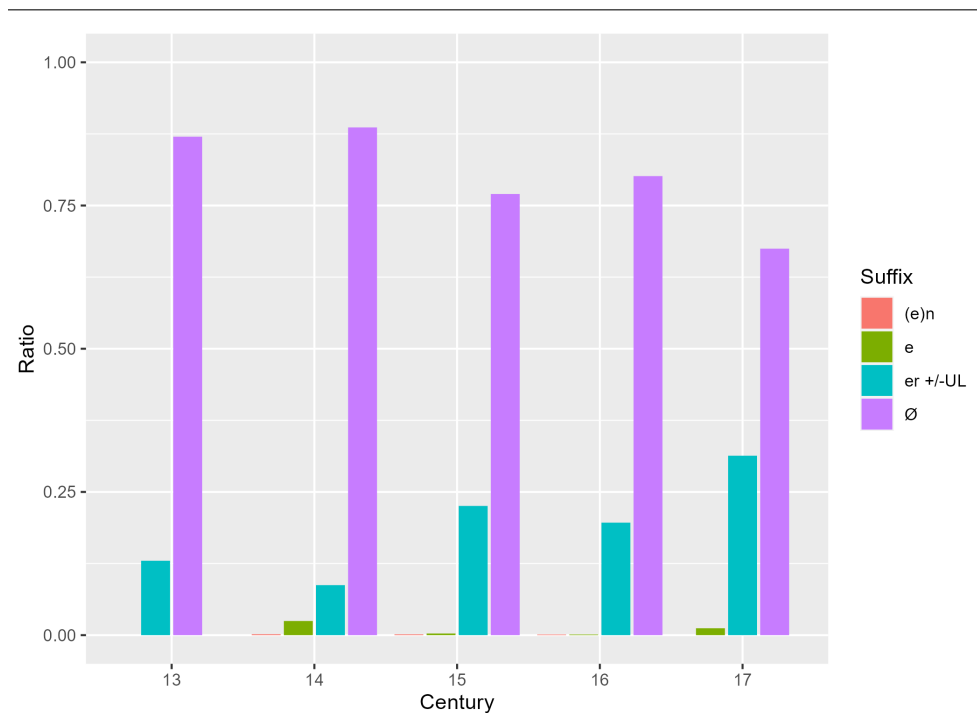


Figure 11: The distribution of plural variants in Eastern Central German

century, e.g. *gebote* ‘commandments’ and *wibe* ‘women’. Given that Eastern Central German is the dialect area least affected by the apocope process, one would have expected *-e* to be more prevalent (cf. Hartweg & Wegera 2005: 155; Marynissen 2009: 177; Wegera & Waldenberger 2018: 115).

Since the apocope has rarely led to the omission of the plural *-e*, it supposedly continues to exist as an alternative or even competitor to *-er* (cf. Schirmunski 2010 [1962]: 489; Dingeldein 1983: 1198; Dammel 2018: 76). Yet, in the present data, *-e* never becomes the dominant marker. Instead, the number of forms with *-er* steadily increases without competition.

4.2.4 *Interim Conclusion*

In general, the following conclusion can be drawn: In the Upper German dialects, the most prominent marker of plurality is *-er*. Forms using *-e* are rare and almost disappear after the 15th century, probably as a result of the schwa apocope. However, the situation is also observable in Eastern Central German where no schwa apocope has taken place. In Western Middle German, *-e* is generally more common. Especially in Hessian, the effects of the schwa apocope can be observed: After *-e* becomes a widespread plural marker in the 15th century, its prevalence declines significantly in the subsequent century. Overall, the proportion of unmarked plural forms predominates in all dialect areas throughout the investigation period.

4.3 *Semantic factors*

In this section we will explore the role of a semantic factor, namely the animacy status of the referent denoted by the respective noun. Animacy is commonly defined as the distinction between living and non-living entities. However, it is not a binary distinction but a continuum with human individuals and inanimate objects denoting the two endpoints of a scale. There are different intermediate stages assumed in between. One of the most widespread animacy scales is the one proposed by Comrie (1989: 165) and provided in (16):

(16) Human animate > Non-human animate > Inanimate

In previous work on language change, it has been shown that the animacy status of referents plays a role in the spread of novel variants in the system (see Corbett 2000: 265–271; Enger & Nessel 2011). An example illustrating the influence of animacy on number marking is provided by Enger & Nessel (2011), who claim that in Medieval Dutch, the suffix *-s* as a plural marker

first spread to the nominative plural of nomina agentis that typically denote humans, e.g. *ridder-s* ‘knights’ (see Enger & Nessel (2011: 197–198). Additional examples are provided by Flick (2020) and Dücker (2024). Flick (2020) demonstrates that the gradual spread and the consolidation of the definite determiner in German proceed along the steps of an animacy hierarchy which includes additional intermediate stages, and that noun phrases denoting humans are the first to implement the systematic use of the definite determiner. Dücker (2024) describes a preference for human and animate entities in the development of the sentence-internal capitalization of nouns in German.

In order to investigate the effect of animacy on the spread of distinct plural markers, I select two lexemes representing each of the categories in the animacy hierarchy given in (16): MHG/ENHG *kind* ‘child’ and MHG *wîb*/ENHG *weib* ‘woman’ as examples of words denoting humans, MHG *schâf*/ENHG *schaf* ‘sheep’ and MHG *swîn*/ENHG *schwein* ‘pig’ as examples of words denoting non-human animates, and MHG/ENHG *ding* ‘thing’ and MHG *wërk*/ENHG *werk* ‘work’ as examples of words denoting inanimate objects. An overview of the spread of marked plurals over the individual periods investigated in the present study is provided in Figure 12.

As aforementioned, none of these lexemes display marked plural forms at the beginning of the investigation period. During the first two centuries, there is an insignificant rise of marked plural forms in all categories. The earliest sharp increase of marked forms is observable for the lexeme *kind* ‘child’, starting in the 13th century. This increase is continuous throughout the following centuries. Between the 15th and the 17th century *kind* ‘child’ constantly displays almost 100% of marked forms in the plural. This development is shared by *wîb*/*weib* ‘woman’, the only difference being that the sharp increase of marked forms occurs a century later. Together, both representatives of the nouns denoting humans have largely lost zero marked plurals in the 15th century and later.

Words denoting animals do not develop in a homogenous way.¹⁶ In the case of *schâf*/*schaf* ‘sheep’, there is an increase of marked forms in the 14th century which is less significant than that of *kind* ‘child’. There is a decrease in the following two centuries but this may be an effect of the low frequency in the attestation of this lexeme in these periods as a whole. In the final stage of the investigation period, the ratio of marked plural forms of *schâf*/*schaf* ‘sheep’ is the same as that of *kind* ‘child’ and *wîb*/*weib* ‘woman’. A similar development can be observed for marked plural forms of *swîn*/*schwein* ‘pig’ which displays an even stronger increase in relative frequency than *schâf*/*schaf*

¹⁶ It should be noted that both of the words denoting animals are comparatively infrequent in the data.

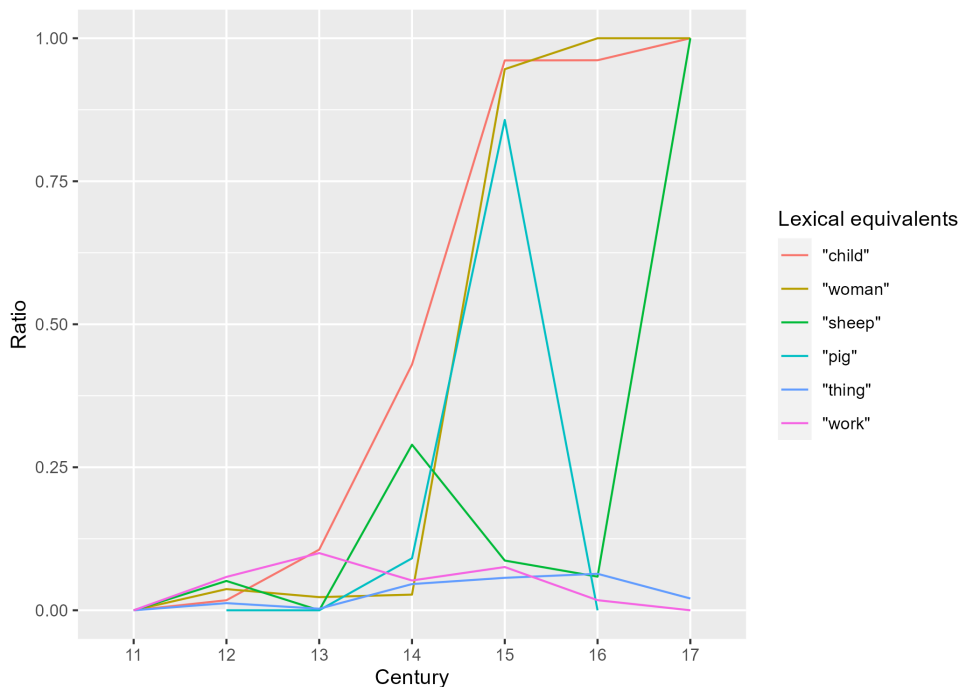


Figure 12: The distribution of distinct plural forms of selected lexemes according to the animacy factor

'sheep' a century later, but which totally disappears from the database in the 16th century.

In contrast, the two lexemes denoting inanimate objects, namely *ding* 'thing' and *wërk/werk* 'work', display a constantly low proportion of marked plural forms, less than 10%, throughout the period under study.

Based on these observations, we can conclude that the rise of marked plural forms within the class of neuter *a*-stems is strongly influenced by the semantic properties of the lexemes themselves, with those denoting human and non-human animate individuals being much more affected by this process than those denoting inanimate objects.

5 CONCLUSION

The aim of this investigation was to trace the spread of distinct plural allomorphy in the declension class of neuter *a*-stems in German. For this pur-

pose, data from historical reference corpora was gathered to analyze the development of a sample of members of this declensional class in the MHG and ENHG periods. First evidence of distinct plural forms using *-er* was documented as early as the 11th century in East Franconian. In the subsequent centuries, the spread of *-er* remained largely constant among the dialects, with Alemannic and Bavarian being the most resistant to the expansion of the plural marker. A strong spread of plural forms using *-e* could only be observed in the Western Central German dialects, especially in Hessian, which was the only dialect in which marked plural forms became more widespread than unmarked ones for a short period of time, namely in the 15th century. After this peak, there was a decline in forms using *-e* across dialects, presumably related to the spread of apocope. Apart from that, the use of *-e* as a plural marker never reached relevant proportions in the other dialect areas. This was also the case, before the emergence of the schwa-apocope.

In general, the spread of distinct plural forms is less pronounced than the current situation in Standard German would suggest. At the end of the study period, i.e. the 17th century, the proportion of marked forms does not exceed 37% in any of the dialects studied. In addition, it was shown that the rise of overt plural marking proceeds along the steps of the animacy hierarchy. Nouns denoting humans adopt distinct plural forms earlier than those denoting animate non-human individuals or inanimate objects, while nouns referring to inanimate objects are the last to acquire marked plurals.

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