End-weight at its most dynamic: Prosodic prominence as a factor promoting morphophonological marking

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This contribution supports and extends the principle of end-weight, first formulated by Quirk et al. (1972) to describe the tendency of heavy constituents to appear late in a sentence. Developing this principle further, we argue that it favours the addition of (functionally non-neutral) morphological markers to sentence-final constituents, which are typically characterized by prosodic prominence. The markers we study are undergoing diachronic establishment or loss and are thus temporarily variable. They represent rather diverse categories in different West Germanic languages and varieties (English, Northern Low German, Frisian) and have been gathered from different periods. Examples include inflectional endings of nouns, adjectives, finite verbs and infinitives, pro-form uses of possessives and the adjective *other*, prepositional choices, the *a*-prefix and periphrastic *doon* 'do'. We suggest that end-weight is scalar, with absolute sentence-final position producing the strongest effects.

For our esteemed colleague Professor Thomas Berg on the occasion of his 65th birthday.

1 Introduction

The present contribution revolves around the principle of end-weight, which was introduced by Quirk et al. (1972: 943) and has been used since (e.g. Leech 1983: 65–55; Quirk et al. 1985: 649, 1362; Wasow 1997b) to describe a tendency in the sequencing of 'lighter' and 'heavier' grammatical constituents wherever variation is possible:

> In grammar, end weight is the principle by which longer and more complex units tend to occur later in the sentence than shorter and less complex units. (Leech 2006: 38)[1]

Placement towards the end of a sentence is also closely associated with end focus, semantic prominence and (in spoken language) with intonational emphasis (Leech 2006: 38). According to this definition, end-weight would seem to be a consequence of length and complexity as independently given characteristics. Going beyond this description, Eitelmann more recently proposed a version of end-weight "as an autonomous principle", which requires sentence-final constituents to possess weight:

> Absolute end-weight concerns the characteristic property of the end-position of a sentence to be occupied by bulkier constituents, which is instantiated
> - by moving the longest constituent to the end,
> - by choosing a syntactic construction that guarantees the longest constituent to be in the end, or
> - by adding extra semantically neutral elements to the final constituent.
>
> (Eitelmann 2016: 401)

Thus, if not given for independent reasons, end-weight can be generated by heavy elements gravitating to sentence-final position, it can impact the syntactic structure of the sentence, or it can be created by making the final constituent bulkier than otherwise necessary (Eitelmann 2016: 401). Despite its theoretical significance, Eitelmann (2016: 400) emphasizes that the third notion has not been empirically validated to the same extent as the other two notions. To gauge its potential as an autonomous principle, he recommends examining grammatical variation phenomena that involve the alternation in final and non-final positions between functionally equivalent variants that differ in length (2016: 401) and presents two examples.

While directly supporting Eitelmann's conclusions, the present contribution takes his final point one step further: It will be argued that the elements that can be added to increase the weight of final constituents are not necessarily "semantically neutral": The material can comprise (optional) morphemes, which by definition represent form-meaning pairings (where meaning includes grammatical meaning, or function).[2] Our focus will be on incoming and outgoing grammatical markers which (on account of the diachronic changes they are undergoing) can be characterized as optional during a transitional phase. Eitelmann's (2016: 401) list could thus be expanded by a fourth item, arguably the most dynamic version of the autonomous principle of end-weight:

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[1] On the intricacies of a more specific definition in terms of length and/or complexity, measured independently for the constituent in final position or relative to other constituents, see Wasow (1997b).

[2] In fact, as Eitelmann (2016: 415) himself points out, the variants he analyses (optional reflexive markers and *do*-support) are not entirely semantically neutral, but differ in terms of grammatical explicitness: Thus, they may be void of lexical meaning, but they retain an inherent grammatical 'meaning', or function.

[Absolute end-weight concerns the characteristic property of the end-position of a sentence to be occupied by bulkier constituents, which is instantiated

- …]
- by adding extra morphophonological markers to the final constituent, where the portmanteau 'morphophonological' reflects the fact that markers are half-way between functional morphemes and functionally void phonological material.

A strong version of our hypothesis amounts to the claim that the correlation that is observed to hold between prosodically prominent sentence- and clause-final positions and morphophonologically heavy material is not a unilateral consequence of such material being postponed to the end: Where final constituents happen to be light, these can be reinforced by the addition of morphophonological bulk. Our evidence suggests that the attraction between weight and prosodic prominence is in fact mutual. Ultimately, this hypothesis is thus one version of the claim that levels of linguistic description like phonology, morphology, syntax and semantics interpenetrate each other (Schlüter 2015: 180), including the occasionally contested possibility that phonological preferences exert an influence on the grammatical composition of utterances.

Such causal reasoning would presuppose that the major factors involved in the sequencing and encoding of syntactic constituents were known and accounted for, and it would benefit from experimental data collected under controlled conditions. Leaving this to further research (also called for by Eitelmann 2016: 414–416), all that we can hope to do is to foster a weak hypothesis: We thus propose that the prosodic prominence characterizing the end of a sentential unit correlates with increased morphophonological marking. Our hope is that the cumulative evidence of non-random distributions, with prosodic preferences repeatedly overrunning grammatical factors, suggests that causality may be at play here.

The evidence that we will present covers several morphophonological variation phenomena in earlier stages of English and several present-day Germanic varieties. What these have in common is that they offer instances of morphophonological change in progress, which is potentially sensitive to nuances of prosodic prominence. We aim to systematically assemble what textual evidence there is from text collections of various descriptions and sizes, and foreground the margin of variation that can be laid at the door of the single factor of syntactic position. This is not to deny the fact that there may be many competing factors involved and that the effect explained by this factor is often only small. Yet, it seems relatively stable across time, across phenomena, across varieties and languages.

In what follows, we will proceed from a few references to similar observations in the literature (Section 2) and a brief sketch of our database (Section 3) to the two empirical main parts. Section 4 is concerned with corpus data from various stages in the history of English. Section 5 adds some parallel, albeit smaller counts, based on a collection of texts written in a Northern Low German dialect and in Saterland Frisian, a language spoken in a small area of northern

Germany southwest of Oldenburg (Section 5.1). The picture is rounded off with further observations from Northern Low German and West Frisian, spoken in the Netherlands (Section 5.2).[3] While the focus on West Germanic varieties holds the sections together, the principle that we advocate is not necessarily limited to this branch. Theoretical implications such as the latter are discussed in Section 6, and Section 7 offers a summary and avenues for further research in similar and related linguistic areas.

2 Previous research

Corpus-based research on English has occasionally made reference to prosodic prominence as a factor preserving or promoting morphophonological markers. For one, the class of prepositions contains some pairs of short monomorphemic items that have long been in competition with longer bimorphemic ones. Thus, *on* and *in* alternate with their complex counterparts *upon* and *into* in specific lexically determined environments, such as *prey (up)on*, *get in(to) the habit*, which are exemplified in (1) and (2). It has been noted that *upon* is generally on the decline (Leech & Smith 2009: 184; Leech 2014: 50 –52), and *into* can also be shown to be declining in relevant contexts. However, it has been established that in stranded positions, the longer alternatives are usually preserved better (Schlüter & Rohdenburg 2017; Rohdenburg 2020; see also Bolinger 1971: 41–44), which can be attributed to the special "qualitative prominence" inherent in stranded prepositions (Cruttenden 2008: 268).

(1) a. Centipedes prey **on** slugs. (*The Times*, 1997)
    b. "… to ensure that these people are kept away from those they would prey **upon**," he said. (*The Times*, 1997)
(2) a. Flanderka has gotten **in** the habit of using initials this season. (*Los Angeles Times*, 1999)
    b. "It's a good habit to get **into**," he said. (*Los Angeles Times*, 1992)

As a second case in point, the comparison of adjectives has since Middle English times provided a choice between inflectional (Adj + *-er*) and periphrastic forms (*more* + Adj). The latter carries more morphophonological bulk and involves two phonological words instead of just one. Thus, with monosyllabic adjectives like *blunt*, *stark* or *tense*, it is more natural to place a periphrastically compared adjective at the end of a clause to reinforce end-weight. Contrasts like the ones in (3) have been statistically confirmed by Lindquist (2000: 126) and Mondorf (2009: 99–107).

(3) a. The evidence of French political crisis has not been **starker** since 1958. (*The Guardian* 1994)

[3] Note that 'Frisian' is used here to refer to Frisian as a separate West Germanic language and not in the popular sense to Northern Low German dialects spoken in a small area bordering on what is known as *Ostfriesland* ('East Frisia').

b. The contrast between individual companies in Britain's high streets is even **more stark**. (*The Guardian* 1994)

Third, turning to an example from Middle English, the complex suffix *-liche* is a composite of Old English *-lic*, forming deadjectival and denominal adjectives, and the adverbial marker *-e*. The suffix lost its final vowel and the preceding consonant in the course of the Middle English period, yielding the modern adverbial suffix *-ly*. According to Ciszek (2002: 126–127), the loss of the affricate started in the West Midlands as early as 1200, then spread to the East Midlands and the South and was completed in the first half of the 15th century. Ciszek's study of *The History of Brut* shows that the forms tended to be reduced first in unstressed positions. Her examples do not include sentence-final positions, but she argues that forms with a carefully pronounced suffix *-lich(e)* were preserved under sentence stress (Ciszek 2002: 122–123), as illustrated by the pair in (4).

(4) a. … wherefore þe Kyng was toward him ful wroþ, and lete **priuely** enquere in þe contreabout, how hit was. (*The History of Brut*, c. 1400)
b. And when he come to þe citee þat she was in, **priueliche** he sent his Squyer vnto þe quene, … (*The History of Brut*, c. 1400)

In addition, the two grammatical variation phenomena adduced by Eitelmann (2016) can be interpreted to involve not just phonological bulk, but also semantically contentful morphemes. Consider two pairs of examples quoted from Eitelmann (2016: 405, 411; the emphasis is his):

(5) a. … and not knowing where to **hide**, or what to do, … (Aphra Behn: *The Amours of Philander and Silvia*, 1688, EEPF)
b. … however, I shall consult M. DuBois, as soon as I can ferret out where he's **hid himself**. (Frances Burney: *Evelina*, 1778, ECF)

(6) a. … he was aduertised by the people who **dwelled** at the foote therof… (Lady Mary Wroth: *The Countesse of Mountgomeries Urania*, 1621, EEPF)
b. … accompting themselues most happye to dwell in that Towne, where a woman of such virtuous behauiour **did dwel**. (William Painter: *The Palace of Pleasure*, 1566, EEPF)

The *self*-marked reflexive strategy in (5b) explicitly indicates the co-referentiality between agent and patient. Similarly, the *do*-supported option in (6b) separately encodes the tense and mood of the verb in the dummy *do*, which otherwise would be carried by the finite verb form. In both cases, the bulkier variants are shown to appear preferentially in sentence-final position.

3 Database

To catch the morphophonological changes in progress, the case studies in the first main chapter will tap into various databases of English. Thus, the study of prepositional variants in Section 4.1 is based on excerpts and quotations from individual early Middle English texts contained in the OED 2 and the Helsinki Corpus.[4] The studies of the declining inflectional dative of infinitives (Section 4.2) and the spread of the *-s*-suffix in independent possessive pronouns (Section 4.3) are both based on the Helsinki Corpus (HC) supplemented by the Penn-Helsinki Corpus (PPCME2; 1150–1500, together totalling 1.78 million words). The establishment of the plural *-s* in plural uses of *other* (Section 4.4) draws on the literature database Early English Prose Fiction (EEPF; 1518–1700, totalling 9.9 million words). This is also included in the study covering the largest timespan: the slow demise of the *a*-prefix in *-ing*-forms. In addition to EEPF, Section 4.5 will trace the decline through English Prose Drama (EPD), Eighteenth-Century Fiction (ECF), Nineteenth-Century Fiction (NCF), and the fictional prose section of the British National Corpus (BNC; together totalling 86.9 million words). Details of the databases used will be indicated in the respective subsections.

Chapter 5 starts out with a number of systematic counts based on a collection of short stories by Christian Holsten (dialectally: Krüschan Holschen; 1922–1993), an author writing in a Northern Low German dialect, and (two editions of) a dictionary and a series of short narratives compiled by Marron Curtis Fort (1938–2019), representing the Frisian language spoken in the Saterland (Section 5.1). Finally, Section 5.2 brings together observations by various linguists pertaining to a range of West Germanic varieties.

4 Case studies

Our first main chapter concerns phenomena of morphological change in English. As the drift towards analyticity and invariable lexical words leads us to expect, most changes concern the loss of markers, but Sections 4.3 and 4.4 portray inflections that two (classes of) items have added.

4.1 Long and short versions of prepositions in early Middle English

We begin our stroll through variable morphological markers early in the history of English with some prepositional variants occurring in a set of manuscripts dated roughly around the year 1200. At that time, the prepositions *in* and *mid* 'with' appeared in their usual short forms as well as in longer forms (*inne* and *mide*; OED Online s.v. *inne*; s.v. *mide*). In the early Middle

[4] The OED 2 on CD-ROM in its 1992 edition was used as it contained a small number of relevant hits from the Ormulum that could not be retrieved from the OED Online. In addition, the OED 2 was convenient as it is available as a static offline resource.

English period, the preposition *on* likewise developed the form *onne*, possibly in analogy with *in(ne)*, and *offe* appeared as an extension of the short form *of* (OED Online s.v. *on*; s.v. *of*). The variants are listed in Table 1, with two-way arrows indicating coexistence and one-way arrows showing putative innovations.

Table 1. Prepositional variants.[5]

short forms		**long forms**
mid	↔	*mide*
inn, *in*, *i*	↔	*inne*
onn, *on*, *o*	→	*onne*, *one*
off, *of*, *o*	→	*offe*

In our analysis, we follow up on the OED Online's hint (s.v. *inne* and s.v. *on*) to the effect that the long forms had an affinity with postpositive uses such as in final positions of relative clauses (i.e. when stranded). It can be assumed that in early Middle English, final <-e> was usually pronounced, especially when followed by a consonant or an appreciable syntactic boundary, since its muting spanned the better part of the Middle English period (c. 1150–1450; Minkova 1991: 35–85) and at first mainly affected less prominent (clitic) positions (Minkova 1991: 155–169). The long prepositional variants were thus most probably disyllabic, with an audible final [ə].

We put our hypothesis to the test on the basis of extracts from the OED 2. Details on the databases used can be found in the footnotes. Some illustrative examples are given in (7) to (10). These come in pairs from the same source, showcasing the short variants in the (a)-examples and the long variants in the (b)-examples.

(7) a. **Mid** þornene crune his heaued wes icruned swa þet þet rede blod seh ut. (c1175 *Lamb. Hom*. 121, OED 2)
b. And hwat þa claðes bi-tacneð þe þe rapes weren **mide** biwunden. (c1175 *Lamb. Hom.* 51, OED 2)

(8) a. Ure laffdiȝ Marȝe..leȝȝde itt all..**Inn** hire þohhtess arrke. (c1200 *Ormin* l. 8971, OED 2)
b. Her i þiss crisstenndomess lif Þatt cristess hird iss **inne**. (c1200 *Ormin* l. 19036, OED 2)

(9) a. Þatt blod tatt þurrh þe bisscopp wass. Þær **o** þa þingess strennkedd. (c1200 *Ormin* l. 1771, OED 2)
b. Þatt allterr þatt tatt errfe blod Wass eȝȝwhær strennkedd **onne**. (c1200 *Ormin* l. 1788, OED 2)

[5] During the early Middle English period, *in*, *on* and *of* also had reduced variants *i* and *o*, which were mostly used before consonant-initial words (see Schlüter 2009). Being monosyllabic, these were for present purposes categorized along with the short prepositional variants.

(10) a. Đe holi godspel **of** þis dai specð **of** ure helende and **of** two broðren. (c1200 *Trin. Coll. Hom*. 173, OED 2)
b. Þis dai haueð ure drihten..ȝiarked þat holie gestninge þe he **offe** specð … (c1200 *Trin. Coll. Hom*. 93, OED 2)

To operationalize our hypothesis regarding the attraction between prosodic prominence and morphological marking, we distinguish between instances with canonical preposition placement [– stranding] and such with stranded prepositions [+ stranding], as (following Cruttenden 2008: 268; see Section 2) stranded prepositions are associated with particular "qualitative prominence". The (a)-examples given above exemplify [– stranding] contexts, while the (b)-examples show various [+ stranding] contexts, which may or may not be sentence-final.[6] Our systematic retrieval of relevant hits first targeted the long prepositional variants, all of which turned out to occur in stranded contexts. To retrieve short variants, our subsequent searches focused on the verbs that had been found to occur with stranded prepositions so as to retrieve non-stranded constructions as well.

The results of these analyses are displayed in Figure 1.[7] On the y-axis, we compare the two syntactic contexts considered: [– stranding] and [+ stranding]. In this graph and later ones of its type, the more prominent syntactic contexts are arranged underneath the canonical ones to symbolize their expected heaviness. Percentages of the long prepositional variants *mide*, *inne*, *on(n)e* and *offe* are indicated on the x-axis and enclosed by 95% confidence intervals. At the bottom of the graph we tot up the counts for all four prepositional pairs, which reduces the insecurity of the estimates considerably. Connecting lines have been added to make the direction of the contrasts more obvious.

[6] Notice that the category of stranding contexts employed in the following does not include any combinations of so-called R-pronouns either 1) conjoined with a preposition as in *her-offe* or 2) separated from it at a distance. While both types existed in Middle English (Allen 1980), only a few relics of the first case have been preserved in Present-Day English (e.g. *therein*). The second case, illustrated in (i), is rare in Middle English and has been obsolete for centuries.

(i) It is cleped wildernesse ȝef **þare** manie rotes **onne** wacseð. (c1200 *Trin. Coll. Hom*. 161, OED 2)

We will have occasion to return in Section 5.1.3 to the use of the second case in Low German.

[7] The basic configuration of the graphs is courtesy of Lukas Sönning (University of Bamberg).

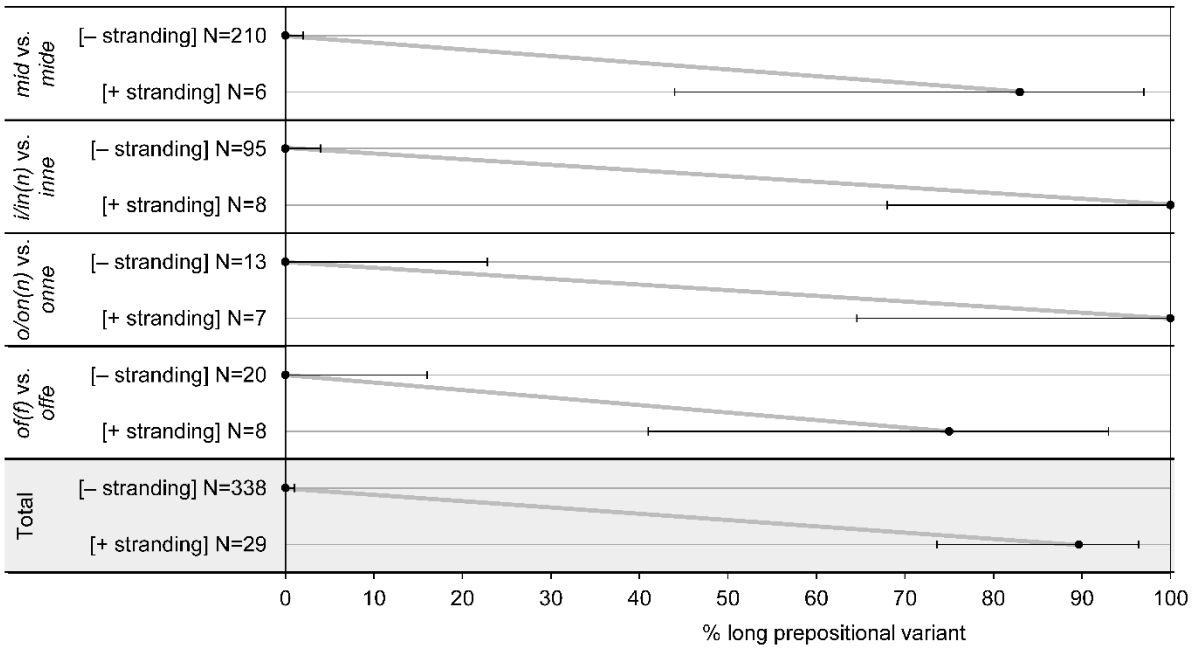

Figure 1. Short and long prepositional variants in [– stranding] vs. [+ stranding] positions. Error bars: 95% confidence intervals. Sources: Various texts.[8]

Based on our hypothesis, we expect a larger proportion of long variants in stranding contexts and thus a downward slant of the connecting lines. This expectation is confirmed for each pair of prepositional variants as well as for the sum total. Moreover, as the confidence intervals do not overlap, we can assume that the skew is statistically significant, and the total, given at the bottom of the graph, totting up all 85 instances, reveals a very reliable contrast.

As a first result, we can conclude that the OED's claims stand up to a quantitative test. As for the early Middle English quotations under scrutiny, we even note that the prepositional variants *mide*, *inne*, *on(n)e* and *offe* appear exclusively in stranded positions – a finding that we can attribute to the increased prosodic prominence associated with these and an inherent propensity to endow them with additional phonological substance.

[8] The sources are the following: 1) *mid(e)*: Quotations from the *Lambeth* and *Trinity Homilies* in OED 2; the *Ormulum* quotations have no instances of *mid(e)*; 2) *i/in(n)/inne*: Quotations from the *Ormulum* in OED 2; however, in contrast to the *Ormulum* employed in this analysis, other contemporary text collections (e.g. the *Lambeth* and *Trinity Homilies*) may commonly make use of *inne* in continuous prepositional phrases; 3) *o/on(n)/on(n)e*: Quotations from the *Ormulum* and *Trinity Homilies* in OED 2; 4) *o(f)/offe*: Quotations from the *Ormulum* and *Trinity Homilies* in OED 2.

4.2 Loss of the dative inflection in infinitives in Middle English

Turning to our second example, we witness another set of variants involving final <-e>: Old English infinitives frequently carried an inflectional dative ending when following a preposition, in particular *to*. The ending appeared as *-anne* and *-enne*,[9] and contrasted with the uninflected infinitive in *-an* (Mustanoja 1960: 512–513; Lass 1992: 145–146). In the course of the Middle English period, the purposive meaning of *to* was bleached, and the preposition turned into a purely grammatical infinitive marker. Moreover, this functional change coincided with the loss of the inflectional <-e>-spelling, only relics of which survived into late Middle English (Sanders 1915: 4–5; Bock 1931: 210–211).

In addition, the literature yields insights into factors favouring the preservation of the <-e>-suffix: The inflected infinitive was best preserved in southern and south-western dialects (Lass 1992: 145), and both Sanders (1915) and Bock (1931) point to the importance of syntactic stress: Bock (1931: 210) observes that "[n]ur selten wird die alte Endung *-anne*, *-enne* noch unter dem Ton weiter mitgeschleppt" ('only rarely, when under the tonic accent, is the old ending *-anne*, *-enne* still maintained [literally: 'dragged along'].'). Sanders (1915: 5) identifies an intermediate stage of the change, a simplification of the long [n] in *-enne* to phonologically shorter *-ene*, and notes the first instances of reduction in unaccented positions.

In line with what has been said in Section 4.1 about the pronunciation of <-e> in prepositions, we can assume that the disappearance of final [ə] in other word classes was also in its beginning stages around the year 1200 and neared its completion only in the first half of the 15th century (Minkova 1991: 155). Though Minkova does not deal with inflected infinitives in particular, her findings for other word classes support the view that final <-e> spellings are likely to be phonologically realized in disyllabic words (Minkova 1991: 158). Indeed, scribal evidence for the retention of <-e> in (disyllabic) inflected infinitives of monosyllabic verb stems is available for most of the Middle English period (see also Sanders 1915: 9; Bock 1931: 210). The major representatives of this class are listed in Table 2, where the arrows represent ongoing reductive change.

Table 2. Infinitival variants. Only some spelling variants shown.

***-n*-suffix + *-e*-suffix**		***-n*-suffix**		**Ø-suffix**
to doone/donne/done/donde	→	*to doon/doen/don*	→	*to do/doo/doe*
to beene/bene	→	*to been/ben*	→	*to be/bee*
to seene/sene	→	*to seen/sen*	→	*to se/see*
to goone/gone	→	*to goon/gon*	→	*to go/goo*
to sayne/saine/seyne/seine	→	*to sayn/sain/seyn/sein*	→	*to say/sai/sey/sei*

In our quantitative approach to the phenomenon under study, we follow up on these observations by focusing on the verb *do*, which provides the largest number of relevant contexts in two

[9] On the chronological precedence of one or the other, see the critical discussion of Old English evidence and Old Frisian parallels in Versloot (forthcoming).

large Middle English corpora, the Helsinki Corpus (HC) and the Penn-Helsinki Parsed Corpus of Middle English (PPCME2). Our searches retrieved various spelling variants, all preceded by the markers *(for)to* or *te*. Some examples from different subperiods (identified by Roman numbers) are given in (11).

(11) a. Alle ðo þing ðe ðu hauest **te donne**, do it mit ræde; … (*Vices and Virtues*, part 1, HC ME I)
b. … þai tok here conseile what þerof was best **to done**. (*The Brut*, PPCME2 III)
c. … & all forrwerrpenn & forrsen **To don** þe sawless wille, … (*Ormulum*, PPCME2 I)
d. … he that hath nat been shamed **To doon** foule thinges, certes hym oghte nat been ashamed **to do** faire thynges, … (*The Canterbury Tales*, PPCME2 III)
e. Me were leoure deu le set **to do** me towart rome þen forto biginnen hit eft for **to donne**. (*Ancrene Riwle*, PPCME2 I)

It is obvious that there is ample variation that cannot always be readily accounted for (as in the two largely parallel instances in (11d). To operationalize our hypothesis linking morphological marking with prosodic prominence, we adopt the notion of Quirk et al. (1985: 649) to the effect that "clause-final position is associated with prosodic […] 'weight'". Further, as a proxy for clause-final position, we consider a following punctuation mark. Concededly, punctuation in Middle English manuscripts is largely editorial, but – being unbiased by our hypothesis – it can be exploited to lend a degree of objectivity to our judgements.

To provide an overview of the situation, the upper panel of Figure 2 depicts the diachronic competition between infinitival variants with the full dative-marked inflection (*done*, *donne*, *doone*, *donde*), such with the infinitival ending <-n> (*doen*, *doon*, *don*), and such ending in the bare stem vowel (*do*, *doe*, *doo*). Taken together, the three types thus add up to 100%. The time axis is divided according to the four corpus subsections, from early to late Middle English.

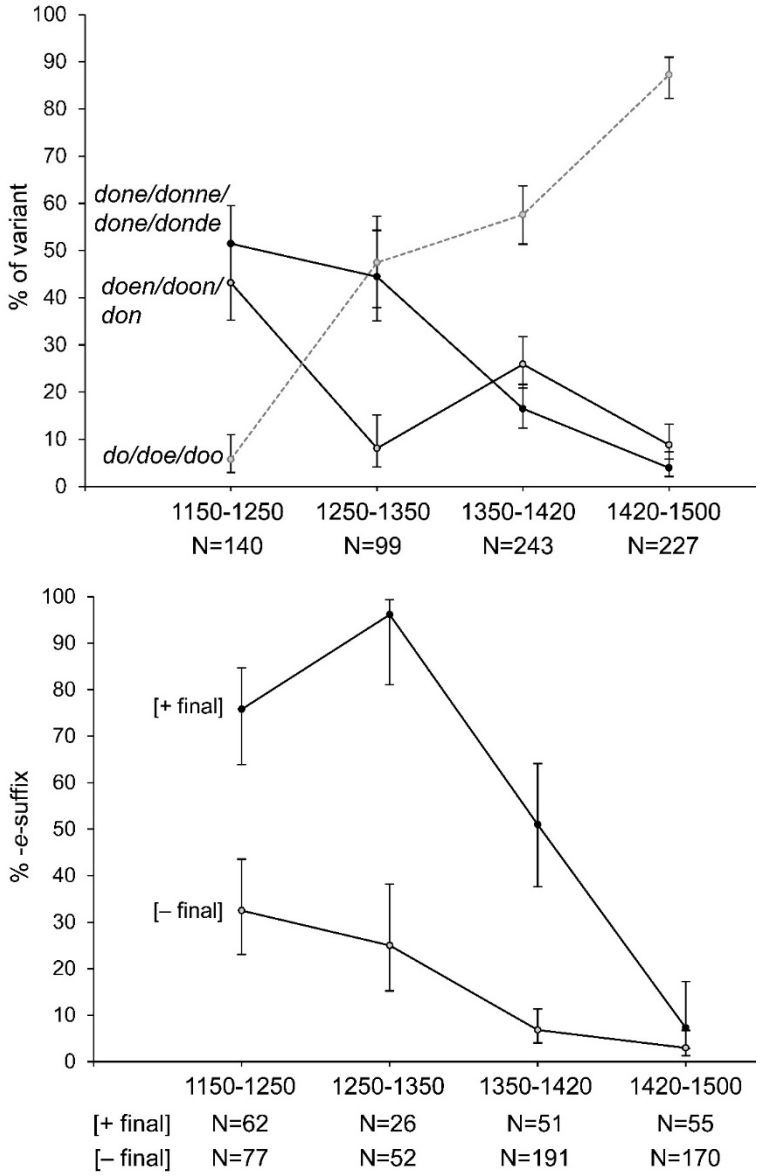

Figure 2. Infinitival variants of *do*. Upper panel: Overview. Lower panel: <-e>-suffixed forms *done/donne/doone/donde* in [+ final] vs. [– final] position, excluding rhymes. Error bars: 95% confidence intervals. Sources: HC and PPCME2.[10]

It does not come as a surprise that both infinitival types retaining the endings are on the down-swing, while the endingless form rises from a few marginal showings at 6% in the earliest subperiod to uncontested dominance at 87% of the total in the latest subperiod. A moderate zigzagging in the line graphs (probably due to the composition of corpus sections and individual scribes' predilections) can be disregarded here. Against this background, our focus will now be on the question of how well the dative-inflected variants stand their ground in the more prominent positions preceding a punctuation mark compared to other positions. Homing in on these

[10] Doublets resulting from the substantial overlap between HC and PPCME2 have been weeded out. The resultant total corpus size amounts to 1.78 million words.

two binary distinctions, the lower panel of Figure 2 compares the rates of demise of the (presumably disyllabic) <-e>-containing form in positions categorized as [+ final] and [– final]. The complementary percentages are made up of the two monosyllabic types (with and without <-n>). This perspective throws into relief a clear contrast: In [+ final] positions, we find a high retention rate of final <-e>, which only disappears at the end of the period. In [– final] positions, the reduction is substantially more advanced, even in the earliest Middle English period, where *done/donne/doone* accounts for only 32% of relevant hits. The position-based contrast is statistically very reliable, as is indicated by the non-overlapping confidence intervals.

As a final step in this analysis, we now refine the distinction between [+ final] and [– final] positions by dividing the former into instances preceding sentence-internal punctuation [– sentence-final] (commas, semicolons, slashes, brackets), and such preceding sentence-final punctuation [+ sentence-final] (full stops, colons, exclamation marks, question marks). The rationale behind this step is that prosodic salience is not binary, but a matter of degree, and that this distinction will allow us to test a more differentiated hypothesis: Gradual distinctions in terms of prosodic prominence are predicted to correlate with rates of morphological marking. In other words, instances preceding a comma as in example (11a) can be assumed to have moderate prosodic salience, while those preceding a full stop as in examples (11b) and (11e) presumably have a very high degree of salience. For the visualization in Figure 3, we lump together the four diachronic corpus sections, which in turn allows us to keep the three morphological variants of infinitives separate.

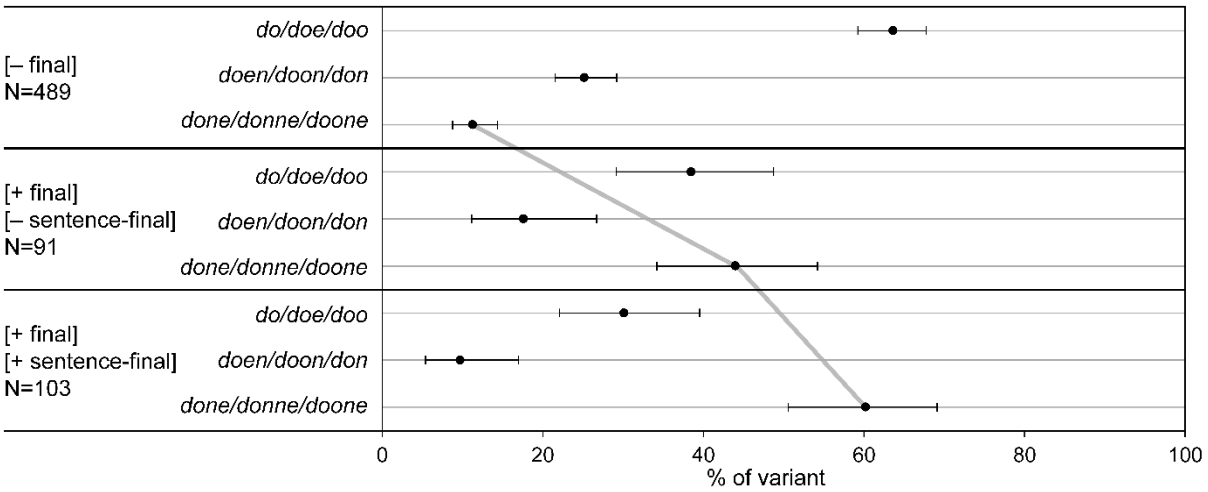

Figure 3. Infinitival variants of *do* in [– final], [+ final] [– sentence-final] and [+ final] [+ sentence-final] position. Error bars: 95% confidence intervals. Sources: HC and PPCME2.[11]

This perspective reveals an intricate picture for the Middle English era as a whole: Focusing on [– final] instances without any following punctuation, we note that the more reduced forms are

[11] Doublets resulting from the substantial overlap between HC and PPCME2 and instances in rhyming positions have been weeded out. [– sentence-final] punctuation: , ; /) [+ sentence-final] punctuation: . : ! ?

both clearly more frequent than *done*, and the incoming form *do* prevails at 64% of all occurrences. Turning to [+ final] [– sentence-final] instances, however, forms with the <-e>-inflection at 44% already surpass the former at 38%. Finally, among [+ final] [+ sentence-final] instances, the dative-inflected forms of the type *done* predominate at 60%, distancing the shorter variants even more (at 30% and 10%, respectively). Interestingly, the comparison suggests that the intermediate <-n>-final forms – despite being phonologically close competitors of the <-e>-forms – are disfavoured in prosodically prominent positions. In contrast, the higher the degree of prosodic salience, the higher the share of the <-e>-forms, as is visualized by the connecting lines in Figure 3. As with the long forms of prepositions, this suggests that it is the potential for a disyllabic realization that qualifies the <-e>-forms to carry prosodic prominence.

4.3 Spread of the *-s*-suffix in possessive pro-forms in Middle English

Our third case in point is situated in the same period as the previous one, but it concerns the emergence of a novel suffix. The Old English possessives *mīn*, *þīn*, *his/hire/his*, *ūre*, *ēower*, *hira* did not differentiate between prenominal uses and independent pro-forms. In the course of the Middle English period, however, the subset ending in <-r(e)> acquired an additional <-s> in pro-form uses (*hires, oures, youres, theires*). In other words, the <-s> came to indicate grammatical independence in explicit contradistinction to the pronouns' ordinary determiner status. Table 3 illustrates the inventory of forms.

Table 3. Variants of possessive pronouns. Only some spelling variants shown.

Ø-suffix		**Ø-suffix**	**vs.**	***-s*-suffix**
hir(e), *hyr(e)*	→	*hir(e)*, *hyr(e)*	vs.	*hir(e)s*, *hyr(e)s*
our(e), *vr(e)*	→	*our(e)*, *vr(e)*	vs.	*our(e)s*, *vr(e)s*
your(e), *ȝour(e)*	→	*your(e)*, *ȝour(e)*	vs.	*your(e)s*, *ȝour(e)s*
their(e), *þeir(e)*	→	*their(e)*, *þeir(e)s*	vs.	*their(e)s*, *þeir(e)s*

This change has been accounted for by analogy with <-s>-genitives of nouns, which in northern varieties were likewise restricted to non-prenominal uses (Seppänen 1997: 198–199). In line with this assumption, the pronominal <-s>-possessives emerged in the North at the end of the 12th and beginning of the 13th century and spread gradually southwards, appearing in the south-east midlands in the late 14th century (Fisiak 1968: 89; Lass 1992: 119–120; cf. also Mustanoja 1960: 164 for a somewhat later dating). The bold-printed instances in (12) to (14) illustrate unmarked and marked forms in pronominal function.

(12) a. His herte **hire** wes alon, … (*Dame Sirith*; HC ME II)
b. … so will I do ffor Godes sayke and **hirs**. (Elizabeth Stonor: *Letters*, 1290–1483, HC ME IV)

(13) a. I pray ȝow þat it be **ȝowr** as ȝowr owyn, for I wil helpyn … (*The Book of Margery Kempe*, HC ME IV)

b. '… ye wolde have myne hede, and therefore ye shall loose **youres**!' (Thomas Malory: *Morte Darthur*, HC ME IV)

(14) A man o **þair** gains an of **vr**,
If **vrs** mai him win in stur,
þat þai be **vrs** and þair airs;
If þai win **vrs** þat we be **þairs**.
(*Cursor Mundi*, HC ME III)

As independent possessives are relatively infrequent, marked and unmarked variants can rarely be found in the same context. However, example (14), from the *Cursor Mundi*, provides strong evidence that the forms (*vr* and *vrs*; *þair* and *þairs*) can alternate within the same source. At the same time, it also draws attention to the influence of overriding factors, as *vr* is unmarked so as to rhyme with *stur* 'tumult' and *þairs* needs the <-s> to rhyme with plural-inflected *airs* 'heirs'. Furthermore, this example demonstrates that prosodic salience is not an effect of clause-final position alone: The speaker in this extract evidently intends contrastive emphasis to fall on the various juxtapositions of *þair(s)* and *vr(s)*, which on that account are likely to receive morphological marking.

In the following corpus study, we disregard contrastive stress, which is a factor we cannot control for as it can rarely be pinned down as unambiguously as in extract (14). The upper panel of Figure 4 gives an overview of the proportional occurrences of <-s>-less and <-s>-final independent possessives across the four subperiods defined by the HC and PPCME2. Candidate spellings were retrieved from an exhaustive wordlist of the two corpora. All hits were manually disambiguated and many (especially of the <-s>-less types) were discarded if appearing in prenominal positions. The crop of relevant examples is limited, but the increase in the marking of independent possessives is clearly manifest, progressing from 0% at the beginning of the era to 78% in the latest corpus section.

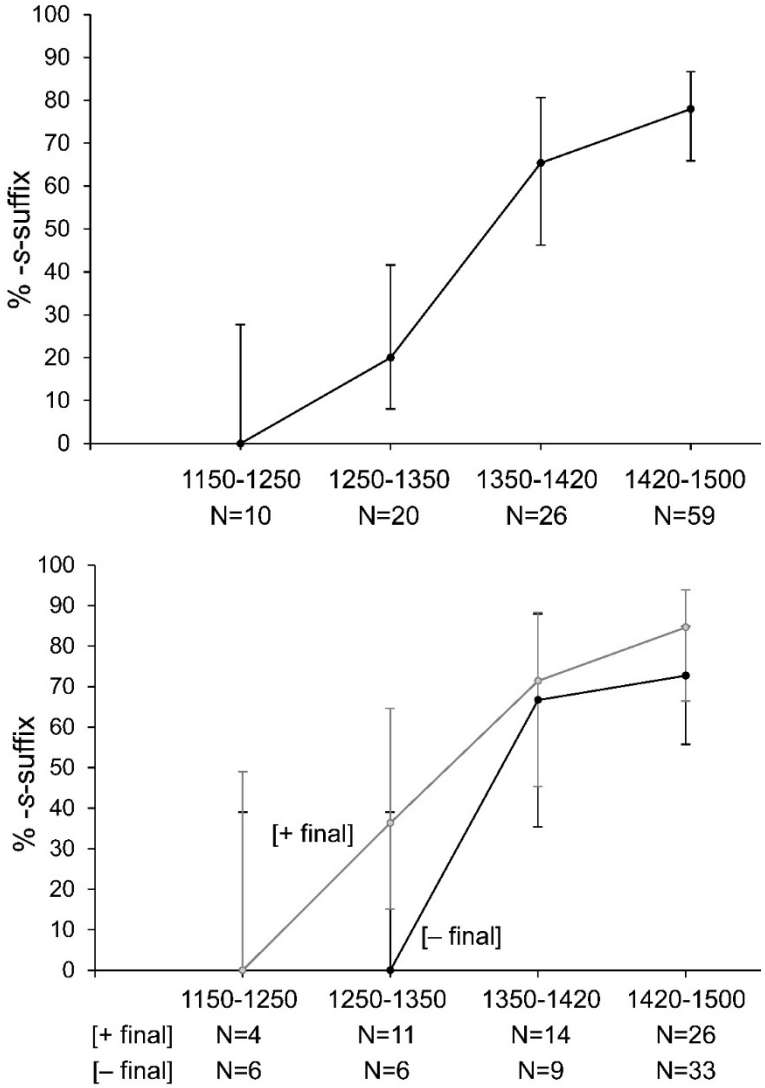

Figure 4. Suffixed and suffixless variants of possessive pro-forms. Upper panel: Overview. Lower panel: [+ final] vs. [– final] position, excluding rhymes. Error bars: 95% confidence intervals. Sources: HC and PPCME2.[12]

To put our hypothesis about the attraction of morphologically marked forms to prosodically prominent positions to an empirical test, we once more distinguish instances where the possessives occur in [– final] positions, such as examples (12a) and (13a), and such where they are in [+ final] position, followed by a punctuation mark, as is the case in the respective (b)-examples. The underlying assumption is once more that final placement comes with a particularly high level of prominence, which in turn should favour the emergence of variable morphological markers. Instances in rhyming position have now been excluded, for example *vr* and *þairs* in sentence (14).

[12] For *hire(s)* and *theire(s)* in periods I and II, only the HC data have so far been included; *hires* and *theires* do not occur in these periods, neither in HC nor in PPCME2.

The lower panel of Figure 4 displays a slight, but statistically unreliable contrast in the expected direction. The pro-form marker has its first showings in [+ final] positions in the period from 1250 to 1350, with 4 out of 11 instances already carrying the <-s>. In contrast, in [– final] positions, it appears only between 1350 and 1420. In the long run, however, the influence of sentence-final prominence wanes, as the <-s> becomes obligatory when the Middle English era draws to a close. This analysis clearly suffers from data scarcity and has suggestive value at best. It would be desirable to extend the database beyond the 1.78 million words of text compiled in the HC and PPCME2. Another limiting factor might consist in the fact that an additional consonant like <-s> is less 'weighty' than a potentially syllabic <-e> that propped up monosyllabic prepositions and infinitives in prominent positions (Sections 4.1 and 4.2). However, the following analysis will show that in other contexts, an <-s> can evidently be sensitive to degrees of prosodic prominence.

4.4 Establishment of plural *-s* in the pro-form *other* in Early Modern English

The following case study offers an intriguing parallel with the previous one in that it also concerns the rise of an <-s>-inflection: Attaching to the adjective *other* in syntactically independent (but not prenominal) uses, the <-s> identifies the reference as plural. This novel extension of the canonical plural marker originated in late Middle English, and its use remained variable throughout the Early Modern English period (Strang 1970: 137). As is illustrated by the examples in (15), the interpretation of *other* as singular or plural had for a long time relied on a combination of various semantic, pragmatic, grammatical, textual and frequency factors.

(15) a. …, and assembled a great many **other** of his owne coate, … (Thomas Deloney, *Iohn Winchcomb*, 1626, EEPF)
b. … the Abbesse suspecting nothing of the whole 14, bad them beware not only of him … but of all **others** that hereafter shold be their Confessors. (Thomas Dekker, *Penny-VVise, Povnd Foolish*, 1631, EEPF)
c. … many of them died with griefe: but especially of all **other**, old Antonio tooke it in ill part, considering how dearely hee louedd. (Richard Johnson, *Tom a Lincolne*, 1631, EEPF)
d. …: and let this tree wheresoeuer growing, be esteemed aboue many **others**: For that … (Emanuel Forde: *Montelyon*, 1633, EEPF)

To gain a diachronic overview of the change, we retrieved instances of *other(s)* following a list of words that render a plural meaning likely (see footnote 13) from the Early English Prose Fiction (EEPF) database. Prenominal and singular uses (including genitives) were discarded. The results, displayed in Figure 5, indicate that Early Modern English was indeed a period of transition. Among instances of the plural-referring pro-form *other*, 40% had an <-s>-inflection in the segment of texts published between 1555 and 1599, 69% in the segment from 1600 to 1649, and 91% in the segment from 1650 to 1699.

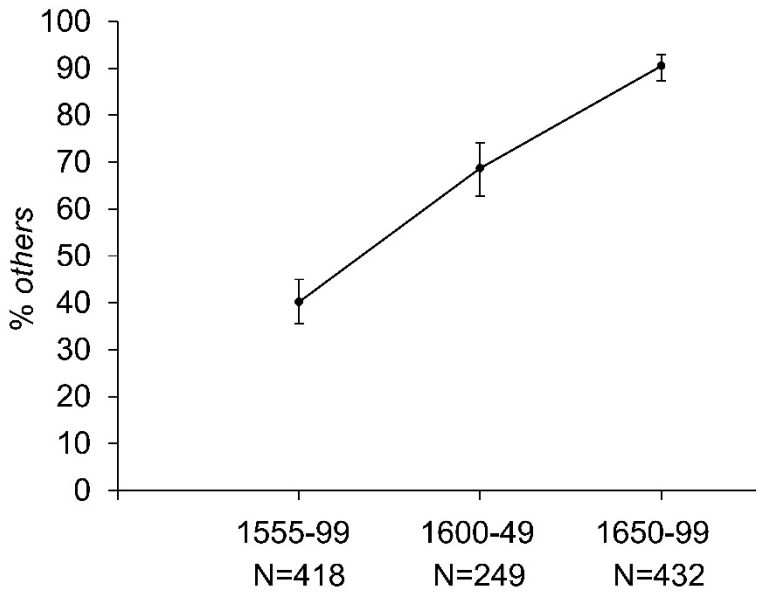

Figure 5. Plural-marked and non-plural-marked instances of the pro-form *other* with plural reference. Overview. Error bars: 95% confidence intervals. Source: Early English Prose Fiction (1555–1699).[13]

In line with our hypothesis, we predict that the dynamic influence of end-weight will be superimposed on the system of contextual factors and attract the suffix earlier and in a higher proportion to positions carrying prosodic prominence. To this end, we disregard the shifting averages across time and target seven typical collocations: instances following plural quantifiers and some prepositions and conjunctions. Details of the search expressions and selected corpus subperiods are indicated in Table 4.

[13] The search retrieved instances of *other(s)* immediately following *many*, *all*, *among(st)*, *in*, *with*, *two*, *three*, *four*, *five*, *six*, *seven*, *eight*, *nine*, *ten*, *diverse*, *certain*, *(a) few*, *infinite*, *sundry*, *innumerable*, *several*.

Table 4. Collocations, corpus subperiods, categories and hit numbers for the pro-form *other* with plural reference. Source: Early English Prose Fiction.

search expressions	subperiods considered	classification	subclassification	number of instances
(a great) many other(s)	1600–1699	[– final]	[+ *of*-phrase]	23
			[– *of*-phrase]	47
		[+ final]	[– sentence-final]	48
			[+ sentence-final]	12
all other(s)	1650–1699	[– final]	[+ *of*-phrase]	9
			[– *of*-phrase]	68
		[+ final]	[– sentence-final]	45
			[+ sentence-final]	26
diverse, certain, (a) few, infinite, sundry, innumerable	1555–1699	[– final]	[+ *of*-phrase]	28
			[– *of*-phrase]	53
		[+ final]	[– sentence-final]	32
			[+ sentence-final]	11
among(st)	1555–1699	[– final]	[+ *of*-phrase]	10
			[– *of*-phrase]	37
		[+ final]	[– sentence-final]	41
			[+ sentence-final]	0
with	1555–1699	[– final]	[+ *of*-phrase]	32
			[– *of*-phrase]	26
		[+ final]	[– sentence-final]	37
			[+ sentence-final]	11
and	1650–1699	[– final]	[+ *of*-phrase]	15
			[– *of*-phrase]	95
		[+ final]	[– sentence-final]	43
			[+ sentence-final]	12
and some	1555–1699	[– final]	[+ *of*-phrase]	15
			[– *of*-phrase]	16
		[+ final]	[– sentence-final]	4
			[+ sentence-final]	1

As a next step, we again distinguish [– final] uses in medial position like (15a) and (15b), and [+ final] uses preceding a punctuation mark like (15c) and (15d). The resultant contrast is in the predicted direction, with 77% of plural marking in [– final] positions and 85% in [+ final] positions, but not statistically significant. As a third step, we once more differentiate between the two major kinds of punctuation. The lower half of Figure 6 tots up [– sentence-final] and [+ sentence-final] uses of the seven collocations, indicating that instances of *other(s)* followed by sentence-internal punctuation as in (15c) produce 81% of plural marking, and such followed by sentence-final punctuation as in (15d) end up being plural-marked in as many as 96% of cases. This contrast is very robust and suggests (once again) that we are observing different degrees of prosodic prominence producing different propensities for morphological marking.

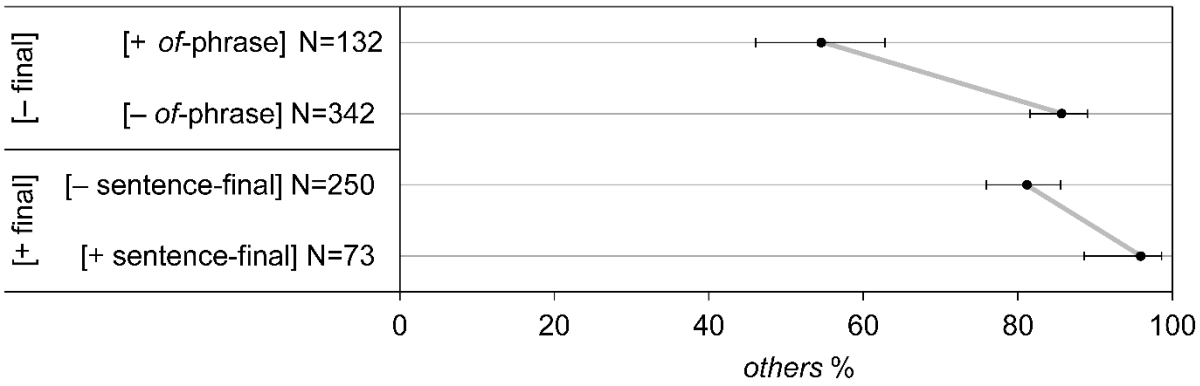

Figure 6. Plural-marked and non-plural-marked instances of the pro-form *other* with plural reference in different positions. Error bars: 95% confidence intervals. Source: Early English Prose Fiction.[14]

Sifting through the [– final] hits that are not followed by any punctuation mark, we noted a large number that took a postmodifying *of*-phrase, as illustrated in (15a). There is reason to assume that these occurrences of *other(s)* are closely connected with the following material and thus possess even less final prominence than the remaining sentence-internal instances like the one in (15b). Following up on this hunch, we split this group into cases with and without a following *of*-phrase. The results, in the upper half of Figure 6, show a consistent and rather robust contrast. In total, instances of *other(s)* [+ *of*-phrase] attract 55% of morphological marking, and instances of *other(s)* in the remaining [– *of*-phrase] contexts attract 86%, thus even surpassing those followed by a sentence-internal punctuation mark.

The heterogeneous mix of constellations where *other(s)* in [– final] position is followed by material other than an *of*-phrase awaits further scrutiny. In the meantime, however, we conclude that different kinds of [+ final] positions lend different degrees of prosodic prominence to the preceding pro-form *other(s)*, depending on whether it appears in [– sentence-final] or in absolute [+ sentence-final] positions. Furthermore, we suggest that instances immediately followed by a postmodifying *of*-phrase – on account of being constituent-medial – appear in a prosodically recessive position compared to other positions. The effect of a following *of*-phrase thus blurs the binary division between instances preceding or not preceding a punctuation mark. All in all, our findings support the hypothesis that prosodic prominence is a matter of degree and that higher degrees raise the odds of an incoming morphological marker being overtly expressed.

4.5 Loss of *a*-prefixing in *-ing*-forms since Early Modern English

Our final case study in this section, also beginning in Early Modern English, deals with the variability and loss of material prefixed to deverbal *-ing*-forms. The prototypical instantiation

[14] [– sentence-final] punctuation: , ; /) [+ sentence-final] punctuation: . : ! ?

of this prefix is the vowel <a->, pronounced as schwa [ə]. The form goes back to the Old English locative preposition *on* (OED Online s.v. *a* prep.1), which has been semantically bleached and phonologically reduced (Mustanoja 1960: 577; Visser 1973: 1894; Denison 1993: 387). Several phonological (segmental and rhythmic) constraints have been put forward to account for its distribution and retention in conservative present-day dialects. Wolfram (1976: 50–52; 1980: 124–126, with reference to Appalachian English) points out that <a-> is never prefixed to vowel-initial verbs (e.g. **a-eatin'*) or to verbs beginning with an unstressed syllable (e.g. **a-retírin'*), and he notes that it occurs at a reduced rate if the preceding word ends in a vowel (e.g. *quietly a hollerin'*). Based on a text collection ranging from Early Modern to Present-Day English, Schlüter (2005: 209–229) demonstrates that the prefix appears at a higher rate after stressed than after unstressed syllables, presumably to avoid a sequence of two stressed syllables (e.g. *set it ónce a-góing*; Schlüter 2005: 209–229). In addition, Trudgill (1978: 16–17, with reference to the Norfolk dialect) provides evidence that the *a*-prefix is more frequently used when the *-ing*-form is on its own, i.e. not followed by an object or prepositional phrase, e.g. *I'm a goin'* vs. *He kept (a-)doin' on it*.

The latter observation raises the question of whether this could be attributed to the effect of end-weight attracting additional morphological markers, and this is the hypothesis we examine here. Using the same dataset as in Schlüter (2005: 209–229), we investigate the disappearance of variable *a*-prefixing with the intransitive verb *go* (*go a*-V*ing* → *go* V*ing*) and with the transitive verb *set* (*set* (+ NP) + *a*-V*ing* → *set* (+ NP) + V*ing*). To gain an overview of the situation, we delineate the change based on a series of text collections encompassing prose fiction and drama. The corpus searches targeted all forms of *go* and *set* followed by an *-ing*-form. In the case of intransitive *go*, we allowed for a maximum of two intervening words (an occasional adverb and the *a*-prefix or an equivalent if spelt as a separate unit); in the case of transitive *set*, we allowed for a maximum of seven intervening words to catch instances with object expressions. In place of the *a*-prefix itself, the data also include the prepositions *o'*, *(up)on*, *in*, *(in)to*), which are semantically comparable to the *a*-prefix and will for ease of reference be collectively referred to as the '*a*-prefix' here. The upper panel of Figure 7 shows the percentage of *a*-prefixed *-ing*-forms out of the total of all syntactically dependent *-ing*-forms in the two collocations under study. The results show a remarkably parallel decrease, taking place mostly in the third corpus subperiod. Before that period (i.e. throughout Early and Late Modern English), *a*-prefixing was very common at levels well above 80%; but in the 19th century, it dropped to levels below 30%.

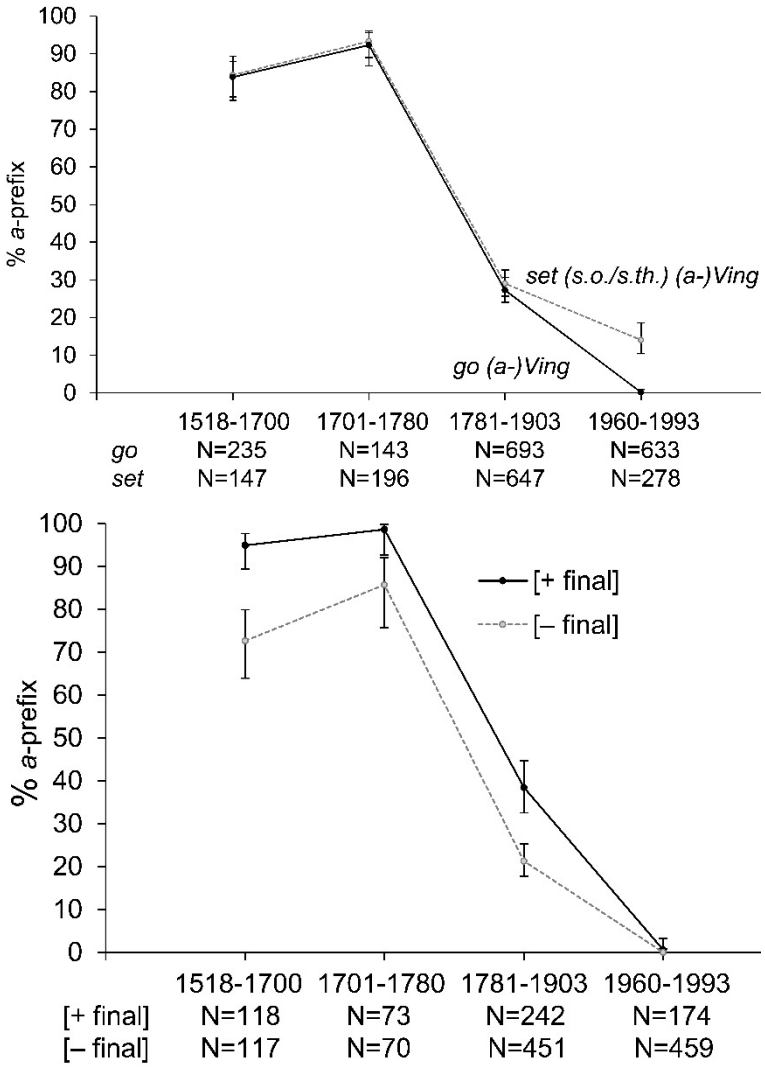

Figure 7. Prefixed and prefixless variants of *-ing*-forms. Upper panel: Overview of the constructions with *go* and *set*. Lower panel: Constructions with *go* in [– final] and [+ final] positions. Error bars: 95% confidence intervals. Sources: Early English Prose Fiction, Eighteenth-Century Fiction, Nineteenth-Century Fiction, English Prose Drama, British National Corpus (fictional prose).[15]

We focus on the two collocations in turn, beginning with intransitive *go (a-)*V*ing* constructions. To pursue our hypothesis, we compare the share of prefixed *-ing*-forms where they occur sentence-medially, as in examples (16a) and (16b), and where they precede a punctuation mark, as in examples (16c) and (16d).

[15] Note that dramatic texts (from the database English Prose Drama) are only included in the study up to 1903. In this more speech-like genre, *a*-prefixing seems to have been better preserved than in narrative prose (see Schlüter 2005: 212). Besides the simple verb *go*, the data also include *go* with an additional directional particle (mostly *out*, also *off*), which reinforces the semantics that the construction already has without it. In addition, the *-ing*-forms following *go* comprise a few non-initially stressed verbs, e.g. *pretending*, *dragooning*, etc.

(16) a. When night approached, hee left theyr company and **went walking** abroad, to meditate on his ensuing pleasure, … (Richard Blackbourn, *Clitie*, 1688, EEPF)
b. I used to **go a físhing** when I was a youug [sic] chap; … (T.A. Palmer: *Among the Relics*, 1869, EPD)
c. On a certain time there were twelve men of Gotam that did **go fishing**, and some did wade in the Water: … (Andrew Borde, *The Mad-Men of Gotam*, 1549, EEPF)
d. Pray thee, let me perswade thee to marry, and I will direct thee to whom thou shalt **go a wooing**. (Margaret Cavendish, *The Contract*, 1656, EEPF)

The graph in the lower panel of Figure 7 indicates that before the 20th century, we find forms with and without *a*-prefixing, but that the prefix was quasi-obligatory in [+ final] positions in the 16th to 18th centuries. Sentence (16c) presents one of the rare exceptions. Even though the proportions in [+ final] and [– final] positions do not differ by a wide margin, the large number of examples found in the database ensures that the contrast is statistically robust. A more fine-grained analysis separating instances with sentence-internal punctuation from those with sentence-final punctuation once more yields small distinctions in terms of prosodic prominence and prefixing, but the margins turn out too narrow to be statistically reliable and are therefore not shown here.

Next, we consider constructions with *set*, focusing now on the 19th century as the time when *a*-prefixing was at its most variable. This restriction allows us to disregard diachronic change and to control for the various syntactic and rhythmic factors that have been shown to compete with the factor end-weight (Schlüter 2005: 240–252). The examples in (17) illustrate these. In (a)-(c), *set* is separated from the dependent *-ing*-form by a direct object. In such cases, the use or omission of the *a*-prefix is sensitive to the rhythmic shape of the object expression. This can be an unstressed pronoun as in (17a) or a full lexical noun phrase. The latter type can end in an unstressed syllable, like the word *creature* in (17b), or in a stressed syllable, like the monosyllabic word *men* in (17c). In case the clause is passivized, as in (17d), *set* is immediately followed by *(a-)*V*ing*. These distinctions are relevant because examples like (17a) and (17b), being [– stress clash] contexts, have the *-ing*-form buffered by an unstressed syllable and are therefore less likely to accommodate the *a*-prefix. In contrast, (17c) and (17d) attract the *a*-prefix with a higher probability, since they are [+ stress clash] contexts: An intervening unstressed <a-> is also a means of avoiding a potential sequence of two stressed syllables (as in *mén thínking*, *sét stéwing*).

(17) a. Syllables of baby-talk **set** him **musing** and philosophising. (George Gissing, *The Whirlpool*, 1897, NCF)
b. This, and the ardent look he had poured into her eyes, **set** the young creature **quivering**. (Charles Reade, *Hard Cash*, 1863, NCF)
c. It **set** men **a-thinking**; it enlarged the horizon of political experience; … (Benjamin Disraeli, *Sybil*, 1843, NCF)
d. …; and more flesh-pots were **set a-stewing** in our kitchens in one moth, our servants said, than … (William Thackeray, *The Virginians*, 1858, NCF)

Above and beyond these rhythmically motivated contrasts, our hypothesis leads us to expect a higher proportion of *a*-prefixing where the *-ing*-forms appear in prosodically prominent positions, i.e. under end-weight. Figure 8 visualizes the shares in [– final] positions as in (17a) and (17d) on the one hand, and in [+ final] positions as in (17b) and (17c) on the other.

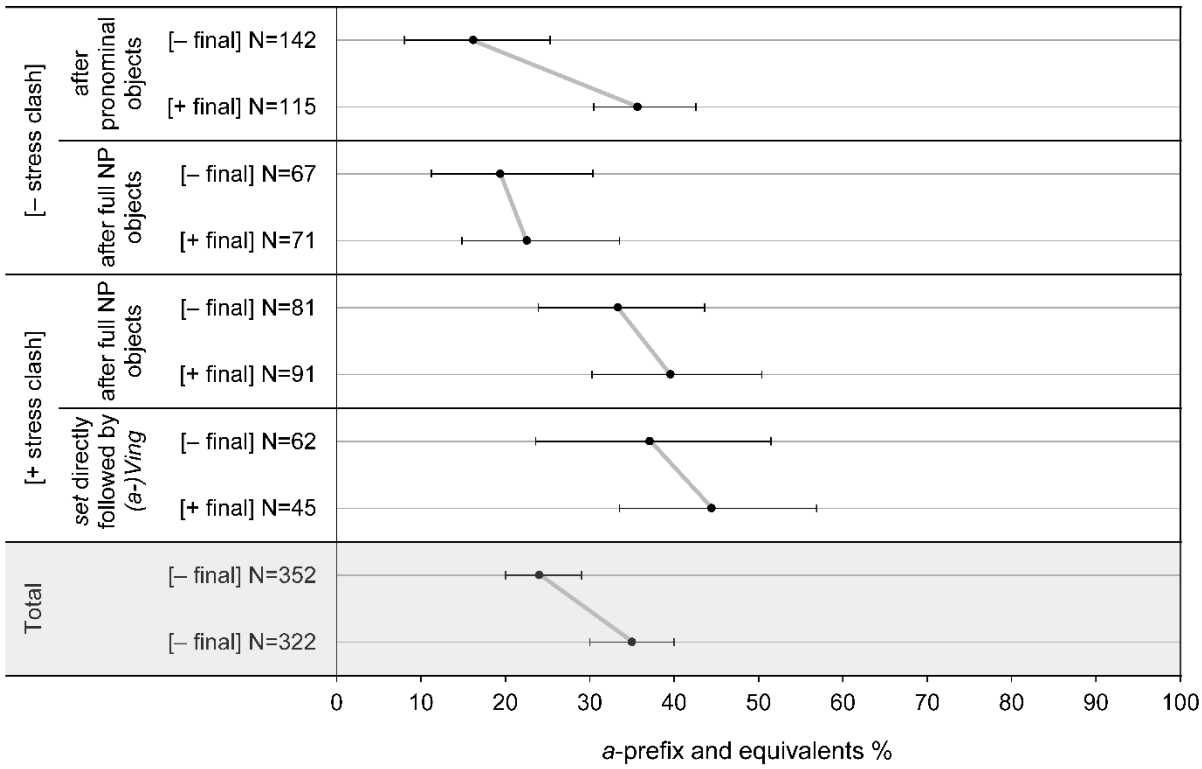

Figure 8. Prefixed and prefixless variants of *-ing*-forms in constructions with *set* in [– final] and [+ final] positions. Error bars: 95% confidence intervals. Sources: Nineteenth-Century Fiction, English Prose Drama (1781–1903).

The most frequent one of the four contexts isolated in Figure 8, involving pronominal objects, provides a convincing contrast, with *-ing*-forms in [– final] positions attracting a lower share of *a*-prefixes than *-ing*-forms in [+ final] positions. The figures for the three other contexts are less than conclusive, but point in the same direction, as is indicated by the connecting lines. Accordingly, the total of all *set* (+ NP) (+ *a*-)V*ing*-constructions in the dataset also reaches statistical significance. Incidentally, we can observe cross-cutting rhythmic effects distinguishing between the two non-stress clash contexts in the upper part and the two stress clash contexts in the lower part of Figure 8, with the latter favouring the use of *a*-prefixes. This underscores the fact that variable <a->-prefixing is subject to many different factors, among which end-weight plays a minor but non-negligible role.

5 Further parallel cases

This section reasons that other Germanic varieties provide a number of more or less close parallels of the phenomena under scrutiny. Thus, in Present-Day Low German and Frisian alone we have come across expanded adverbs, inflected infinitives, strengthened prepositions, periphrastic verb phrases and predicative structures that are similarly attracted to the kinds of end-weight environments described for Middle English and Early Modern to Late Modern English.

5.1 Data-based close parallels in Northern Low German and Saterland Frisian

For Low German and Saterland Frisian, both spoken in Northern Germany, we can offer quantified information about shorter and longer morphophonological forms based on individual texts, small text collections or illustrative quotations from a dictionary.

5.1.1 Short and long forms of adverbs

With some adverbs of place, Low German has developed long forms besides the original short ones. In the following we present two such cases which are found in the dialects east of Bremen: 1) the contrast between *ut* and *uud/ude* and 2) that between *af/of* and *oof*. In the first case found, for instance, in the area surrounding Lilienthal, the longer variants occur almost exclusively in sentence-final position while the shorter *ut* tends to be used elsewhere (Rohdenburg 2004: 111). Compare the examples in (18).

(18) a. Dat is nu al **ut** mit jem.
'That/it is now already over with them.'
b. Mit jem is dat nu al **uud/ude**.
'With them that/it is now already over.'

(19) a. Nich wiet mehr vön us Huus **of** bleef ik endlich bestahn un dreih mi üm. (Christian Holsten, *Holschen snittjert*, 45)
'Not far from our house I finally stopped and turned around.'
b. Mit eenmal wöörn dar Stimmen luur, nich wiet vön us **oof**. (Christian Holsten, *Holschen snittjert*, 83)
'Suddenly voices could be heard there, not far from us.'

Regarding the contrast of *af/of* vs. *oof* – so far found only in one author representing a dialect further to the east – the corpus data in Table 5 suggest that each of the shorter variants (*af* or *of*) on the one hand and the longer variant (*oof*) on the other may also be in complementary distribution: While *oof* as in example (19b) may be confined to [+ sentence-final] position, *af* or *of* as in example (19a) tend to be found elsewhere. Crucially, both types of contrast have etymological and functional parallels in Middle English: The contrast between *ut* and *uud/ude* is paralleled by adverbial *out* and *oute*, and in the case of *oof* vs. *af/of* we can refer to the earlier

treatment of the contrast between *offe* and *of* in Section 4.1, which may also extend to their adverbial counterparts (cf. the relevant explanations in the OED Online).[16]

Table 5. Directional adverbial uses of *oof* and *af/of* 'away (from)'. Source: Four collections of Low German short stories by Christian Holsten (Krüschan Holschen).

		oof	*af/of*	total
1	[+ sentence-final]	2	–	2
2	[– sentence-final]	–	4	4

5.1.2 Inflected infinitives

In the Low German dialects of a restricted area east of Bremen, a geminate *n* (a reflex of the inflected infinitive) is retained in monosyllabic verbs under the accent. As in Middle English, it is only *to*-infinitives that are associated with the inflection. On the basis of interviews carried out in the late twentieth century with Günter Rohdenburg's parents and relatives (hailing from Lilienthal and Grasberg), we can distinguish between examples like those in (20). While the (longer) inflected *to*-infinitive seems to be confined to [+ sentence-final] position, the uninflected *to*-infinitive may (also) occur elsewhere.

(20) a. **To doon** harr he dar nich veel.
'He had not much to do there.'
b. He harr dar noch wat **to doon'n**.
'There he had still something to do.'

Surprisingly, in the only corpus analysis conducted so far (see Table 6), which relates to a neighbouring dialect slightly further to the east, we find that both variants occur only in [+ sentence-final] position.

Table 6. Inflected and uninflected *to*-infinitives of the verb *doon*. Source: Four collections of Low German short stories by Christian Holsten (Krüschan Holschen).

		to donen	*to doon*	total	% *to donen*
1	[+ sentence-final]	2	5	7	28.6%
2	[– sentence-final]	–	–	–	

However, if we compare the stress patterns of the two variants in (21), which provide a minimal pair in consecutive sentences, we detect the expected contrast. Unlike the first instance in (21), the main stress in the second instance can be assumed to fall on *nix* (or perhaps *würklich*) rather than the uninflected infinitive.

[16] Similar lengthenings in clause-final *nackte Adpositionen* 'naked adpositions' are also mentioned for Saterland Frisian (Slofstra & Hoekstra 2022: 62–63).

(21) „Nee, nee, dar harr dat nix mit **to donen**," sä ik. Un dar harr dat würklich nix mit **to doon**. (Christian Holsten, *Hochtietsgrusen*, 22)
'"No, no, that had nothing to do with it," said I. And, as a matter of fact, that had really nothing to do with it.'

A similar behaviour to the contrast found in (20) for Lilienthal and Grasberg is shown by the verbs *sehn* 'see', *gahn* 'go', and *stahn* 'stand'. Concerning the verb *doon*, the inflection of *to*-infinitives has also been detected in the so-called 'Alte Land' west of Hamburg (e.g. Mohr 1987). Again, it is only *to*-infinitives that can carry the inflection. The findings in all three areas complement the traditional coverage of inflected infinitives in Low German (e.g. Keseling 1970).

5.1.3 Short and long forms of prepositions

From Fleischer's (2002) cross-linguistic perspective, we can distinguish between two kinds of preposition stranding: 1) 'liberal' stranding (found in particular from Old English to Present-Day English) involving non-continuous arrangements of NPs (or ordinary pronouns) and their governing prepositions, and 2) the simpler kind of stranding (*tout court*) involving the arrangement, in Low German, of so-called R-pronouns (*hier*, *dar/d'r* and *wo*) followed by a governing preposition as in (22). We will only be concerned with type 2), simply because – unlike type 1) – it is reasonably common in Low German and in the corpus investigated.

(22) a. Us grote Muusfalln wöör't, de …, wo'n de Müüs lebennig **in** fangen kann. (Christian Holsten, *Hochtietsgrusen*, 28)
'It was our big mousetrap, the one … that one can catch (the) mice in alive.'
b. Us Harmonium … Dar seet ik faken **in'n**, wenn ik wat utfräten harr. (Christian Holsten, *Holschen snittjert*, 56)
'Our harmonium … That's where I used to sit when I had misbehaved.'

In the same corpus as that used in Tables 5 and 6, the two constituents are virtually always separated by intervening elements. The few examples displaying the sequence R-pronoun + preposition, including (23), do not constitute proper compounds: There is a potential break between the two constituents, and in (23) the /r/ in *dar* cannot be sounded as a linking element.

(23) Un twee … Beenen in Manchesterbüxen steken dar **in'n** in de Holschen. (Christian Holsten, *De gesunne Karkenslaap*, 75)
'And two … legs in corduroy trousers had been put in/were stuck in there – in the wooden clogs.'

The corpus provides two variants each of the prepositions in question, which may be realized as either a short or a long expression, namely *in* vs. *in'n* as in (22), or *an* vs. *an'n* as in (24).

They are etymological counterparts of Middle English *in(ne)* and *on(ne)*, suggesting that the Low German variants might display a similar behaviour to the English ones discussed in Section 4.1.

(24) a. Dar fehl nich vääl **an**, dat ik mien Behögen luur ümutgröhlen dä. (Hochtietsgrusen, 19)
'I had almost reached the point of loudly blaring out my feelings of pleasure.'
b. …, ik bün d'r ganz dich **an'n**! (Christian Holsten, *Hochtietsgrusen*, 59)
'I have almost reached it/got hold of it!'

Closer analysis finds that the longer Low German variants *in'n* and *an'n* can only occur in stranding contexts, while the shorter variants *in* and *an* are found in both stranded environments and in continuous prepositional phrases.

This brings us to the crucial question: Do the longer variants display a greater inclination to occur in [+ sentence-final] position than their shorter counterparts? Let us begin by comparing all occurrences of *in* and *in'n*. Notice that example (23), providing an afterthought, is also included in the category of [+ sentence-final] uses. By contrast, examples like (22a-b), included in subordinate clauses or containing additional subordinate clauses, are treated as [– sentence-final]. The same criterion is adopted for *an* and *an'n*. The results in Table 7 for *in* and *in'n* demonstrate that the longer variant is indeed more likely to occur in [+ sentence-final] position than its shorter counterpart.

Table 7. Non-continuous (or stranded) uses of *in'n* and *in*. Source: Four collections of Low German short stories by Christian Holsten (Krüschan Holschen).

		in'n	*in*	total	% *in'n*
1	[+ sentence-final]	6	1	7	85.7%
2	[– sentence-final]	2	31	33	6.1%

We turn now to the contrast between *an* and *an'n* as in (24), functioning as stranded prepositions. Here, too, our expectation is that the longer variant is more strongly attracted to [+ sentence-final] position than the shorter one. Again, the data in Table 8 show that our assumption is borne out. A similar variation in Saterland Frisian has been noticed by Stephen Laker (p.c.).

Table 8. Verb-related non-continuous (or stranded) uses of *an'n* and *an*. Source: Four collections of Low German short stories by Christian Holsten (Krüschan Holschen).

		an'n	*an*	total	% *an'n*
1	[+ sentence-final]	5[17]	8	13	38.5%
2	[– sentence-final]	–	18	18	0%

5.1.4 The contrast between inflected and uninflected past tense forms in Saterland Frisian

Concerning Saterland Frisian (spoken in a small area southwest of Oldenburg (Lower Saxony), this section is based on two datasets from the late Marron Fort: a) the illustrative examples contained in the two editions of the dictionary of Saterland Frisian (Fort 1980, 2015), and b) a collection of anecdotal descriptions of earlier village life as contributed orally by a native speaker (Fort 1985). While the dictionary entries are intended to cover the language as a whole, the book is written in the variety spoken in Utende-Strücklingen (Strukelse). Before turning to an analysis of the latter source we will approach the topic by taking a brief look at the dictionary data.

In the first edition of his dictionary, Fort (1980: 36) states that the inflected past tense forms *wuud* 'became/got/was' (1st and 3rd person singular) and *hiede* 'had' (1st and 3rd person singular) are only preserved in final position of subordinate clauses. Elsewhere, uninflected *wuud* and *hied* are used (1980: 36). Compare the examples in (25) and (26) taken from the second edition.

(25) a. Ju Särke **wuud** mäd Bloumen apklöärd. (Fort 2015: 49)
'The church was ornated with flowers.'
b. As hie aller **wude**, look hie ap t Lound. (Fort 2015: 390)
'When he got older, he moved to the country.'

(26) a. Hie **hied** wät tou spatteljen, dät hie färekoom. (Fort 2015: 588)
'He had to try hard in order to get on.'
b. Atterdät Jan dät kweden **hiede**, wiskede him sin Foar aan tou. (Fort 2015: 643)
'After Jan had said that, his father slapped him.'

In Fort's vastly expanded second edition from 2015, we do not come across a similar statement. Even so, checking several hundred relevant examples, we find that the contrast between inflected and uninflected uses of the two verb forms is confirmed throughout: Disregarding one potential misprint, we find that the alternating verb forms in (25) and (26) are in complementary

[17] The figure includes two instances where *as*-phrases have been moved to the end of the sentence. For instance:
(i) Nu wöör ik d'r ja väl slimmer **an'n** as de Herr Pastor un de Dodengraver – … (Christian Holsten, *Holschen snittjert*, 79).
'Now I was even worse off than the parson and the undertaker.'

distribution. Going beyond Fort's (1980) findings, we have detected two further pairs of past tense forms, which display similar kinds of distribution. These are represented by *kuud* vs. *kude* ('could') and *stuud* vs. *stude* ('stood') as illustrated in (27) and (28).

(27) a. Iek **kuud** an dän Takke nit tou. (Fort 2015: 30)
'I could not get to/reach the branch.'
b. Deer stuud alles ap dän Disk, wät dät Haat bigeerje **kude**. (Fort 2015: 89)
'There, everything stood/was standing on the table that the heart could wish for.'

(28) a. N stärken Wiend **stuud** toumoal ap. (Fort 2015: 58)
'Suddenly there arose a strong wind.'
b. Wät häbe iek mie ferjoaged, as ju Jufferske toumoal bäte mie **stude**! (Fort 2015: 181)
'How shocked I was when all of a sudden the teacher stood behind me.'

The former pair of variants also occur in complementary distribution: While *kude* is confined to [+ final] uses in subordinate clauses, *kuud* occurs elsewhere.[18]

In common with *hied*, *wuud* and *kuud*, finite *stuud* as in (28a) is likewise confined to uses other than [+ final] position in subordinate clauses. However, in the case of *stude* we find only three examples occurring in [+ final] position in subordinate clauses as in (28b) and, surprisingly enough, one in a main clause as shown in (29).

(29) Dät Wieuw **stude** mie skienboarlik fóar do Ogene, man … (Fort 2015: 529)
'the woman was apparently standing before my eyes, but …'

Thus our (preliminary) conclusion is that – unlike *hied/hiede*, *wuud/wude* and *kuud/kude* – *stuud* and *stude* are only in participative rather than complementary distribution.

This takes us to our findings in the descriptions of earlier village life in Utende-Strücklingen (Fort 1985). The first set of verbs to be discussed are arranged in the same order as that employed above for the illustrative examples in the dictionary. To begin with, we notice that the contrast between *wuud* and *wude* is replaced by the form *wudde* (Fort 1985: 152), which is regularly used in both main and subordinate clauses, or respectively, in clause-internal and clause-final position as in (30a) and (30b):

(30) a. Die Dee **wudde** ap en Disk tougjuchtemaked. (Fort, *Saterfriesisches Volksleben*, 136)
'The dough was prepared on a table.'

[18] With *kuud* we also come across ten instances like the following:
(i) (Fort 2015: 639)
'He could at least have said "Good day".'
This use of *kuud*, which does not contrast with *kude*, may regularly be found in [+ clause-final] position. But then, *kuud* in (i) represents a past participle (a non-finite verb form), which is clearly part of a main clause.

b. Dan moaste moal wät ouers kume, wier moor Kroazje bie bruukt **wudde**. (Fort, *Saterfriesisches Volksleben*, 52)
'Then something else had to come up which involved more force/strength.'

It is only on six occasions that we come across the shorter variant ***wud*** as in (31):

(31) Deer **wud** so en holif Stieg Mon tou bruukt: … (Fort, *Saterfriesisches Volksleben*, 52)
'About half a score of men were needed for that (purpose).'

Not unexpectedly, *wud* is used clause-internally as part of a main clause in all six cases. By contrast, there is also one solitary instance of *wude* (a misprint?), shown in (32), which in common with the examples in the dictionary, occurs clause-finally in a subordinate clause.

(32) As die Hangst wät aller **wude**, do kuud hie nit moor luke. (Fort, *Saterfriesisches Volksleben*, 82)
'When the horse got (quite) a bit older, he could no longer pull things.'

The pair *hied*/*hiede* typically follow the same distributional pattern as that seen in the dictionary illustrations. In straightforward main and subordinate clauses (i.e., in [– clause-final] and [+ clause-final] position), uninflected *hied* is confined to the former structure, while *hiede*, with some exceptions, favours the latter. In addition, there is an atypical and rare kind of clause occurring five times, which has the two variants in clause-initial (and therefore sentence-initial) position, as shown in (33).

(33) **Hiede** hie gjucht rät, dan moaste die ouer ju „Bliende Ku" weze. (Fort, *Saterfriesisches Volksleben*, 23)
'If he had guessed right, the other one had to be the "Blind Cow".

In the case of *kuud/kude*, their affinity for main and subordinate clauses (or, respectively, for [– clause-final] and [+ clause-final] position) is even stronger: We have found only one instance of *kude* occurring internally in a main clause, shown in (34).

(34) Dän Drache **kude** man so loange buppe stoundeläite, as man wiel, … (Fort, *Saterfriesisches Volksleben*, 25)
'You could fly the kite as long as you liked, …'

By contrast, uninflected *kuud* is used clause-internally in the remaining main clauses. The form *kuud* – used in clause-final position – also represents the past participle in seven cases.

Paralleling somewhat the situation in the dictionary entries, the distribution of *stuud* and *stude* appears to be more complicated. Expectedly, the eighteen examples of *stuud* are confined

to occurring internally in main clauses. However, the inflected form *stude* (including *ferstude*) is found in both main and subordinate clauses, or in [+/– clause-final] position.

This brings us to another two pairs of verb forms, whose use is characteristic of the variety spoken in Utende-Strücklingen (Fort 1985: 152). In the first case, we are concerned with the pair *died/diede*, which again represent the 1st or 3rd person singular in the past tense. As pointed out by Fort (1985: 152), the verb *dwo* 'do' has – following the Low German model – copied the use of *doon*-support as described in Section 5.2.6 below. Crucially, this has resulted in the shaping of the pair *died/diede*, where the former variant is expected to continue serving the existing main clause functions as in (35a) and where the latter may have focused on the borrowed type in subordinate clauses as in (35b).

(35) a. Dät **died** hie uk un kwad: … (Fort, *Saterfriesisches Volksleben*, 69)
'He did that, too, and said: …'
b. …, un ju liet im uk räide, wät die litje Wännt wegen **diede**. (Fort, *Saterfriesisches Volksleben*, 69)
…, and (so) she let him guess at how much the little boy weighed/would weigh.'

In fact, this is exactly the division of labour found in the descriptions of village life by Fort (1985): The instances containing *diede* occur in final position of subordinate clauses, with virtually all of them involving the function of "*dwo*-support" associated with a dependent infinitive, and all instances of *died* are used elsewhere.

The second phenomenon thriving especially in the Utende dialect concerns a pair of past tense forms in the plural: *Wieren* 'were' and *wierne*. According to Fort (1985: 152), the more complex variant *wierne* tends to be used in final position of subordinate clauses. This assessment has essentially been confirmed by our analyses: With two exceptions, *wierne* is indeed only found in subordinate clauses as in (36).

(36) Wieuwljude, do deer nit bie wierne, do wieren ant Säien un an't Stopjen. (Fort, *Saterfriesisches Volksleben*, 28)
'The women, who were not present, were sewing and darning.'[19]

However, unlike the four other pairs of past tense variants, the simpler form *wieren* remains an important alternative in subordinate clauses. Interestingly, the selection of *wieren* in this context may be motivated by the presence of additional material in clause-final position as in (37).

[19] The morphological type realized in *wierne* is also found once with *wielne* 'wanted' in a subordinate clause:
(i) …, dan moasten do Bräidljudene, wan ze ap Bääd **wielne**, appaasje of … (Fort, *Saterfriesisches Volksleben*, 63)
'…, and when the bride and bridegroom were going to bed they had to be careful in case …'

(37) Ju hied nu blouked, dät wie bie de oolde Bräächch nakend in't Water **wieren** tou swimmen. (Fort, *Saterfriesisches Volksleben*, 102)
'Now she had seen that we were swimming naked in the water near the old bridge.'

In fact, six of the eleven instances of *wieren* in subordinate clauses are found in such environments, here referred to as "near clause-final". This compares with only two examples out of 67, in which even *wierne* is followed by clause-final material in subordinate clauses. Similarly, in rare cases, we come across subordinate clauses involving inflected *hiede* (2x), *kude* (1x) and *diede* (1x), which also precede some additional material. The statistical details of our findings can be seen in Table 9.

Table 9. Inflected and uninflected past tense forms in Saterland Frisian (Utende-Strücklingen/Strukelse dialect). Source: Fort (1985) *Saterfriesisches Volksleben*.[20]

			hiede / kude/ stude / diede / wierne	*hied / kuud / stuud / died / wieren*	total	% inflected forms
1	in subordinate clause	[+ clause-final]	62 / 49 / 3 / 39 / 65	0 / 0 / 0 / 0 / 5	223	97.6%
		near [+ clause-final]	2 / 1 / 0 / 1 / 2	0 / 0 / 0 / 0 / 6	12	50%
2	in main clause	[– clause-final]	5 / 1 / 1 / 0 / 0	78 / 109 / 18 / 8 / 131	350	2.0%

Some of the most important observations include the following:

- Unlike the complementary distribution of *wuud* and *wude* in the dictionary data (Fort 2015), the Utende variety uses the form *wudde* indiscriminately (Fort 1985: 152).
- The dictionary's inventory of past tense variants has been supplemented in the Utende variety by those of *died/diede* and *wieren/wierne* (Fort 1985: 152)
- Opposing the general trend, both *hied* and *hiede* are very occasionally found in absolute clause-initial position.
- Unlike *wieren*, the uninflected forms *hied, kuud, stuud* and *died* are strictly confined to main clauses (or [– clause-final] uses).
- By contrast, the inflected forms *hiede, kude* and *stude* have made some small inroads into the main clause (or clause-internal) territory.

[20] The table omits five examples in which *hied* (3x) and *hiede* (2x) occur in sentence-initial position, a structure serving as a reduced *wan*-clause ('*if/when*-clause').

As the variants that can also be observed in the illustrative examples of Fort's (2015) Saterland Frisian dictionary appear in an almost perfectly complementary distribution, we cannot exclude the possibility that their composition is guided by a tendency to regularize and standardize the language.

5.2 Shorter treatments of additional parallels in West Frisian and Northern Low German

In what follows, we take stock of six supplementary observations that can be found in linguistic descriptions of Frisian and Low German varieties.

5.2.1 Superlatives with or without final schwa in West Frisian

In the West Frisian language spoken in the Netherlands, attributive superlatives – typically those modifying neuter nouns – show a tendency to add final schwa [ə] (Tamminga 1963: 91). Owing to its affinity for neuter nouns in this environment, the incoming schwa can be interpreted as a semantically non-neutral element. Crucially, the examples containing an optional final schwa as in (38) seem to suggest that they are favoured when the noun phrase appears in [+ final] position of a clause. Thus, schwa may play a similar role to the additional inflectional schwa observed in some past tense forms in Saterfrisian (see Section 5.1.4).

(38) a. Dit is myn **moaiste** waer.
'This is my finest weather.'
b. Jan lies yn syn **nijste** boek.
'John read/was reading (in) his newest book.'

5.2.2 An incoming emphasizer in West Frisian

Colloquial uses of the Frisian language spoken in the Netherlands have for some time been introducing the (previously unknown) ending *-en* in attributive adjectives. Given the information supplied by Tamminga (1963: 265–267), we suspect that the addition might have been borrowed from neighbouring Low German dialects (see the phenomenon described in Section 5.2.4). In fact, we ought to distinguish two kinds of situations regarding the Frisian varieties. In some peripheral dialects we find the typical pattern of predicative expressions seen in Northern Low German, e.g. the indefinite article + an attributive adjective ending in *-(e)n* + a masculine noun. By contrast, in the mainstream continental varieties the novel ending is less far advanced in their grammatical systems, although the examples given by Tamminga suggest that the phenomenon may have developed an affinity for similar expressions relating to the behaviour of human beings. At any rate, these extensions are assumed to generally function as emphasizers.

Moreover, judging by examples like (39), provided by the author, and in line with its hypothesized source, the phenomenon seems to be favoured in predicative noun phrases occurring in [+ final] position of clauses.[21]

(39) Hy is in **greaten** liger.
'He is a great liar.'

5.2.3 The alternation between short and long feminine nouns in Low German

In a large area east of Bremen we come across feminine nouns which – like in Bavarian dialects – have developed a case-neutral singular variant ending in *-(e)n*, which competes with the corresponding zero form (Bollmann 1942: 52–53). The contrast may have evolved as follows: a) The shorter variant has replaced earlier forms typically containing a word-final schwa; b) the ending *-(e)n* in the longer variant, which is assumed to be based on earlier oblique case forms, has adopted the more general grammatical feature [+ feminine] in the singular (see Bunning 1934/35: 135). Crucially, the longer variant can be shown to favour stressed environments including sentence-final position, as illustrated in (40) (Rohdenburg 1989b).

(40) a. He hüng sien **Mütz** op 'n Nagel, lang de Fro sien … Jack hen …
'He hanged/hung his cap on a nail, handed his wife his jacket ...'
b. Denn steiht Vadder op un langt na sien **Mützen**.
'Then Dad gets/stands up and reaches for his cap.'

5.2.4 The ongoing extension in Low German of oblique *-n*-forms in nominative environments

In Low German, adjectives and nouns in predicative uses have for centuries tended to adopt the longer *-n*-forms characteristic of the direct object (e.g. *olen* for *ol(e)* and *Burn* for *Bur*). In particular, the phenomenon has involved indefinite articles associated with oblique adjectives ending in *-(e)n* and masculine count nouns in the singular as in (41).

(41) He is **'n richtigen Bur(n)**.
'He is a proper farmer.'

Saltveit (1979: 223) considers this ongoing change to be motivated by the intrinsic prosody of the predicative expression. He assumes that – like sentence objects – predicatives in Low German show a definite tendency to carry the sentence accent and that this orientation is responsible for the replacement of the nominative by the longer oblique case. Saltveit's assumption is indeed evidenced by a large number of syntactic changes including the following:

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[21] A similar syntactic type is found in Saterland Frisian (see Slofstra & Hoekstra 2022: 51), which in all likelihood has adopted it from its neighbouring Low German dialects (see also Section 5.2.4).

1) In some southern parts of Lower Saxony – and unlike Northern Low German – the *-n*-form of the attributive adjective (after the indefinite article) has only asserted itself in the predicative rather than the subject (Keseling 1970: 356). Compare the examples in (42):

(42) a. en **olt** Junge kann nech lange toibm
'an old boy cannot wait a long time'
b. et is ne **olen** Jungen
'it is an old boy'

2) In Northern Low German, the adoption of the oblique *-n*-form of masculine nouns copying the *-n*-form of an attributive adjective has further advanced in predicative uses than in the subject (Rohdenburg 1989a), as shown by the examples in (43):

(43) a. He is 'n **olen Bur(n)**.
'He is an old farmer.'
b. 'n **olen Bur** hett mi dat vertellt.
'An old farmer has told me that.'

3) With a restricted number of nouns, the *-n*-form is even found in predicative expressions lacking an attributive adjective as in (44) (Rohdenburg 1989a).

(44) Dat is keen Koh, dat is 'n **Ossen**/*Oss.
'That/it is not a cow, that/it is an ox.'

5.2.5 The adverb *ganz* 'very/quite' copying the ending *-en* of adjectives in Low German

Let us now take a look at a phenomenon which can be regarded as an extension of the predicative type discussed in Section 5.2.4. Remember that in typical examples like (45) both the attributive adjective in (45a) and the nominalized adjective in (45b) must contain the *-en*-ending associated with masculine nouns in predicative expressions.

(45) a. He is 'n **ganz(en) kloken** Schommester.
'He is a very clever schoolmaster/teacher.'
b. He is 'n **ganz(en) Kloken**.
'He is a very clever one.'

In (45a-b) the adverb *ganz* 'very/quite' has been added to modify both types of adjectives. Interestingly, the modifier itself is found to optionally copy the *-en*-ending of the attributive or the nominalized adjective. Notice that – unlike attributive adjectives – nominalized adjectives occupy the last position of [+ sentence-final] predicative expressions. Crucially, the evidence gathered in the books by seven Low German authors demonstrates that the differential end-

weight factor of cases like (45a) and (45b) is reflected in corresponding frequencies of occurrence: While, with attributive adjectives as in (45a), the percentage of the newly acquired *-en*-ending of the adverb amounts to only one fourth of the adverb's total occurrence, nominalized adjectives as in (45b) trigger the ending in four fifths of the relevant adverb total (Rohdenburg 2004: 112–113).

5.2.6 *Doon*-support in Low German

Finally, we turn to the periphrastic use of *doon* 'do' or *doon*-support in Northern Low German as in (46a), which has emerged over the last few centuries (Keseling 1968). To outline the phenomenon, we can use the observations made by Eitelmann (2016) and Fort (1980). Eitelmann, describing the occurrence of *do*-support in Early Modern English, shows that the structure involved tends to appear in [+ clause-final] position. Concerning the use of *wude/wuud* 'became/got/was' and *hiede/hied* 'had' in Saterland Frisian (see Section 5.1.4), Fort (1980: 36) observes that the longer variants are confined to [+ final] position of subordinate clauses. Similarly, the particular type of *doon*-support illustrated by (46a) is – just like *wude* and *hiede* – completely avoided in main clauses as in (46b), though it occurs across a range of environments in subordinate clauses (see e.g. Rohdenburg 1986, 2002; Weber 2017). Moreover, like the kind of *do*-support described by Eitelmann, *doon*-support as in (46a) is mainly used in [+ sentence-final] position, which tends to give it a prominent prosodic marking.

(46) a. Ik weet nich wat dat **kössen deit**.
'I do not know what that/it costs.'
b. *Dat **deit** nix **kössen**.
'That/it does not cost anything.'

6 Discussion

The analyses accumulated in Sections 4 and 5 present a significant expansion or dynamicization of Eitelmann's (2016) approach to end-weight. Eitelmann discerns three distinct means of achieving end-weight, each leading to bulky constituents appearing in sentence-final position, which, he argues, is a desirable state of affairs for ordinary sentences in English. The first notion views end-weight as an ordering principle, closely aligned with Behaghel's Law of Growing Constituents (Eitelmann 2016: 398–399). According to this idea, syntactic elements are serialized in increasing length order, with the heaviest constituent invariably occupying the sentence-final position (e.g. in Heavy Noun Phrase Shift). The second notion of end-weight, as discussed by Eitelmann (2016: 399–400), posits it as a constructional trigger, influencing language users' choice of syntactic constructions (e.g. canonical order vs. extraposition; ditransitive construction vs. prepositional dative). The third notion, as perceived by Eitelmann (2016: 400), views end-weight as a gravity principle, ensuring that the predicate's length surpasses that of the subject, thereby avoiding an ill-balanced sentence and favouring right-branching structures, some-

times prompting language users to opt for synonymous, more bulky constructions. This preference for sentence-final gravity is observed in cases such as syntactic discontinuities, relative clause extractions and *do*-support for intransitive verbs.

Crucially, according to Eitelmann (2016: 401), this third kind of mechanism consists in "adding extra semantically neutral elements". In our dynamicized version of this principle, we introduce a fourth means of achieving end-weight, which involves the attraction of extra morphophonological (i.e. non-neutral) markers to the final constituent. The preference can impinge on the meanings encoded in sentences insofar as the material that can be added to achieve end-weight can be provided by morphological markers, which are not semantically empty, but not yet or no longer grammatically obligatory.

Quantitative evidence for this principle is drawn from five systematic case studies on language variation and change in the history of the English language (Section 4), four small-scale studies of Northern Low German and Saterland Frisian text collections, and six additional observations from both Northern Low German and West Frisian (Section 5). In each case, the influence of end-weight on the selection of different morphophonological variants is observed. In addition, various facets of this principle become evident.

Firstly, we demonstrate that the impact of end-weight varies systematically in nature, depending on the diachronic directionality of morphological change: Thus, in instances like the outgoing dative inflections of infinitives, the vanishing *a*-prefix, or Eitelmann's (2016: 402–409) example of variably reflexive verbs, the principle of end-weight may decelerate language change, causing variants that are on the verge of extinction to persist longer in sentence-final positions. In cases like the *-s*-marked possessive pronouns and the plural form *others* (which have no parallels in Eitelmann 2016), end-weight can conversely also promote newly emerging variants in prosodically prominent positions. A third scenario involves the reinforced occurrence of short-lived variants in salient positions, as illustrated by our case of long prepositions and Eitelmann's (2016: 409–414) example of *do*-support.

Secondly, we argue for different degrees of prosodic salience within the sentence, which attract morphophonological weight to varying extents. Thus, end-weight effects are not limited to absolute sentence-final positions but can also be observed in clause-final positions, albeit to a lesser extent. In fact, some analyses have demonstrated that occasionally three or even four levels of prominence can be distinguished. For instance, a division into positions preceding sentence-final and sentence-internal pauses has turned out to correlate with the likelihood with which Middle English infinitives carry the dative inflection and Early Modern English *other* inflects for plural reference. Moreover, with the last-mentioned item, constituent boundaries below the level of longer graphically marked pauses, i.e. such not indicated by commas, seem to exert a measurable influence on morphological marking. Such effects appear plausible in view of the hierarchical nature of prosodic sentence structure, which has attracted considerable attention since Selkirk (1984) and Nespor & Vogel (1986 [2nd edition 2007]). This suggests that end-weight essentially applies to at least two of the six or seven levels in the prosodic hierarchy: the phonological phrase and the intonational phrase. These units are those that interface with the syntactic levels in the grammatical hierarchy, and they appear to share the preference for heavy endings.

Thirdly, we offer a range of analogous cases from present-day Northern Low German and Frisian, providing substantial evidence that end-weight effects in language variation and change are not unique to the English language. Therefore, the case studies suggest end-weight as a cross-linguistic principle. This raises the question of its generality across unrelated languages. Hawkins (2007: 93–94) addresses this question, contesting the widespread notion of end-weight as a language universal. He points out that this would overgeneralize the principle and, instead, suggests end-weight as a typological parameter primarily applying to head-initial languages featuring right-branching structures. What is less than clear is if and in what way end-weight connects with other typological parameters, e.g. the universals of word order as described by Greenberg (1966) and further developed by Vennemann (1974, 1976, 1977).[22]

7 Summary and outlook

The present contribution has accumulated evidence from variation phenomena underscoring Eitelmann's (2016) proposal of end-weight as an autonomous principle that actively attracts or even generates morphophonological weight in sentence-final positions. Moreover, we have argued that extra elements added to the final constituent are not always "semantically neutral" (Eitelmann 2016: 401). Rather, morphological markers that are establishing themselves or undergoing loss and are therefore temporarily optional can be put to use to provide phonological bulk. Importantly, if novel markers appear in new grammatically delimited functions or if obsolescent markers still occur in distributions recognizably in line with their original grammatical functions, then these markers indicate grammatical functions. The establishment and de-establishment of grammatical marking is not an abrupt change, and due to redundancies inherent in language, markers can be phased in and out without putting communicative success at risk. If we take the definition of morphemes as form-meaning pairings seriously, we are thus witnessing cases where prosodic preferences overrun the requirements of grammatical meaning.

By way of a short review, we have seen the following newly emerging markers arguably being favoured in prosodically salient positions:

- the -*s*-suffix marking syntactically independent possessives since Middle English (Section 4.3)
- the -*s*-suffix marking plural reference in *other* since Early Modern English (Section 4.4)
- the long forms of place adverbials in Northern Low German (Section 5.1.1)
- the -*en*-ending coming to characterize attributive adjectives in the Frisian language spoken in the Netherlands (Section 5.2.2)

[22] We owe this idea to Stephen Laker (p.c.).

- novel *-(e)n*-endings attaching to feminine nouns in Northern Low German (Section 5.2.3)
- schwa as an inflection on attributive superlatives in West Frisian (Section 5.2.1)
- the oblique *-n*-forms in masculine nouns and adjectives spreading to predicative environments in Northern Low German (Section 5.2.4)
- the novel *-en*-ending in the adverb *ganz* copying attributive and nominalized adjectives in Northern Low German (Section 5.2.5)
- the development of periphrastic *doon* in Northern Low German subordinate clauses (Section 5.2.6)

The following markers undergoing loss seem to persist longer under prosodic prominence:

- the dative inflection on Middle English (Section 4.2) and Northern Low German infinitives (Section 5.1.2)
- the *a*-prefix and functional equivalents in Early and Late Modern English (Section 4.5)
- schwa as a 1st/3rd sg. past tense inflection in the Saterland Frisian verbs *hiede*, *kude*, *stude* and *diede*,[23] and *-n(e)* as a complex plural inflection in *wierne* (Section 5.1.4)

In addition, we have seen evidence of a small number of transient formatives appearing in salient positions:

- the long versions of prepositions in early Middle English (Section 4.1) and in Northern Low German (Section 5.1.3)
- the long variants of locative adverbs in Northern Low German (Section 5.1.1)

While the databases investigated have been of different kinds and sizes and not all counts have reached statistical reliability, the accumulated evidence gains credence on account of the wide range of variation phenomena in its support: Grammatical markers of rather diverse categories are implicated, the case studies concern different Germanic languages and varieties and have been cropped from different periods, determined by the timeframe of the respective phenomenon.

However, while contributing to the elucidation of the principle of end-weight, the present study leaves many questions unanswered and underlines the need for more research, both in the corpus-based variationist approach used here and in related areas. The concept of end-weight makes an important contribution to understanding sentence organization and the principles guiding language users' choices in diverse linguistic contexts. To further elaborate dynamic end-weight as a factor in grammatical variation and change, especially for Northern Low

[23] The scope of this variable inflection extends to *wude* in the examples of the dictionary (Fort 2015), though not in *Saterfriesisches Volksleben* (Fort 1985).

German, Frisian and their historical stages, larger databases and corpora should be tapped to verify the generality of our observations. The same is true for some of our case studies of earlier forms of English that suffered from lack of data. At the same time, dialectal differences in Middle English have so far been swept under the carpet even though the period was characterized by rich regional variation. In addition, further research should target other phenomena of variable morphological marking to delimit the scope of autonomous end-weight, and not only in the Germanic language family. Ideally, end-weight should not be investigated as an isolated factor, but integrated with an array of other factors at work in grammatical variation and change in a multifactorial model. End-weight at its most dynamic therefore deserves a place on the agenda of corpus-based variationist linguistics.

What also stands in need of clarification is the precise nature of the relationship between syntax and morphology on the one hand and prosody and phonological substance on the other. There can be no doubt that these two levels are interwoven and should not be investigated in isolation. However, written text databases do not allow us to access prosody proper. Therefore, we have used [– sentence-final] punctuation (, ; /)) and [+ sentence-final] punctuation (. : ! ?) as admittedly crude approximations to clause- and sentence-final positions and assumed (along the lines of Quirk et al. 1985: 649) that "clause-final position is associated with prosodic […] 'weight'". The variable markers we have investigated likewise entail phonological bulk as well as morphological function. Since they are grammatically optional during the timeframes investigated, we have focused on the additional phonological weight with which they endow final constituents rather than on the additional grammatical explicitness that they create.

The latter observation can also provide an avenue towards an explanation for the attraction between prominent final positions and morphophonological substance, which is still at a premium. Following Eitelmann (2016: 415–416), two psycholinguistic accounts are conceivable: One reason for choosing the more complex variant to alleviate the processing load at the end of larger syntactic units can be the "sentence wrap-up effect", which suggests that sentences are conclusively processed at their absolute end (e.g. Hirotani, Frazier & Rayner 2006). This process comprises resolving references and drawing inferences, leading to a slowdown effect. End-weight could serve to compensate for additional processing cost and time by promoting the grammatically more explicit variant and buying the speaker or writer additional time. A second psycholinguistic explanation relates to language users planning ahead the following sentence while producing the current one. Accordingly, the sentential end is crucial as a threshold between sentences, and maximizing the time available for forward-planning by inserting additional phonological material may be advantageous (see Wasow 1997a, 1997b).

Another pathway that we have considered (but preliminarily set aside) is one particular aspect of iconicity, suggesting that more content requires more form for its expression. However, we have argued that sentence-final positions precisely do not contain more meaning than sentence-internal positions where the variable markers could likewise appear. Yet, they attract more morphological bulk than the latter and thus do not align with their semantic load.

Comparable effects obtain in other areas of language. Thomas Berg (the dedicatee and one of the first readers of an earlier version of this paper; p.c.) has suggested a parallel from

research on syllabification: It has been argued (e.g. Wells 1990: 80) that "[s]ubject to certain conditions […], consonants are syllabified with the more strongly stressed of two flanking syllables", indicating that stressed syllables can bind more segments than unstressed ones (see also Borowsky 1986: 258). This can be interpreted to mean that stressed syllables generally have a higher level of psycholinguistic activation and can therefore command more material than unstressed ones. In addition, we have observed a similar tendency in German on the morphological level. For instance, (destressed) second constituents of compounds as in *Teddybär* 'teddy bear' are regularly found to dispense more easily, in less formal language, with optional dative/accusative case markers like *-en* than their fully stressed simplexes (i.e. *Bär* 'bear'). As with the other explanations, it remains to be investigated whether an account in terms of activation levels is also applicable to end-weight.

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