

Noun phrases in early Germanic languages

Edited by

Kristin Bech

Alexander Pfaff

Open Germanic Linguistics ??



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Preface

The present volume is one of two major outputs of the project *Constraints on syntactic variation: noun phrases in early Germanic languages*, funded by the Research Council of Norway (grant no. 261847). The other major output is the noun phrase database NPEGL, which is also presented in this volume.

As suggested by the title, the overall aim of the project was to achieve a better understanding of syntactic variation between languages that are closely related to each other, and to model linguistic change in the light of constraints on variation. Our basic assumption was that languages seldom display truly free variation. Hence, we wanted to find out which types of constraints are at work, and what the motivation behind these constraints might be. Furthermore, variation is often considered to be a corollary of ongoing change, making synchronic variation a window on diachronic developments. We were therefore interested in the way in which synchronic cross-varietal variation provides information about similarities and divergences in changes between languages that have a common ancestor.

One aspect of noun phrases in early Germanic languages that interested us from the outset was word order. We noticed that in textbooks on Old Norse it was often claimed that the order noun–modifier is the default order in Old Norse noun phrases, as opposed to other early Germanic languages such as Old English and Old High German, where the order modifier–noun is the default. We wondered whether this was actually the case, considering the common ancestry of these languages. In addition, we realized that although much work has been carried out on language variation and change in the domain of the clause, less had been done on the structure of the noun phrase from a cross-varietal and diachronic perspective, although noun phrases, too, display flexibility with respect to word order in their early stages.

Germanic

Germanic is a branch of the Indo-European language family; a Proto-Germanic language is not attested, but can be reconstructed on the basis of the attested Germanic languages. There are several properties that set the Germanic languages

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apart from the other Indo-European languages, such as the set of sound shifts referred to as Grimm's law, e.g. [p] → [f] (cf. Latin *pater* – Old High German *fater*), and the formation of a “weak past tense” involving a dental suffix (English *laughed*; German *lach-te*). Of particular relevance for our purposes, we also observe the formation of a weak nominal inflection on the basis of the Indo-European n-stems. In other Indo-European languages, the n-stems were one subgroup of the consonantal stems, but in Germanic, the weak inflection forms an opposition to the strong inflection (= the vocalic stems). This dichotomy is particularly pronounced in the emergence of two adjectival inflections, where the weak adjectival inflection has often been thought to be related to definiteness marking.

Germanic is traditionally divided into three branches: East Germanic, North Germanic (= Norse) and West Germanic. Gothic is the most prominent representative of East Germanic, with the oldest attestation of a substantial text body of a Germanic language, i.e. the New Testament translation by Wulfila (4th century). At the same time, there is not much attested material apart from the Wulfila Bible, and East Germanic becomes extinct. Proto-Norse is attested in the form of runic inscriptions mainly from the 3rd century onwards. During the Viking period (ca. 800–1100), a dialect split between Old East Norse (Old Swedish, Old Danish) and Old West Norse (Old Norwegian, Old Icelandic) becomes discernible. From the 12th century onwards, the North Germanic languages are attested in manuscripts (in the Latin alphabet). Proto-West Germanic is not attested in the same way as Proto-Norse, but from the 8th century onwards, the main representatives Old English, Old High German, and Old Saxon (= Old Low German) are attested in manuscripts.

In the context of noun phrases and noun phrase-internal variation, some properties are of particular relevance:

- The strong/weak adjectival inflection:
This is a Germanic specialty, which touches upon syntactic, morphosyntactic and semantic issues. Even though the weak inflection and the strong/weak contrast have been extensively studied from various different angles, there are still several open issues.
- The grammaticalization of (definite/indefinite) articles:
Proto-Germanic did not have any articles (in the conventional sense). Due to continuous documentation for more than a thousand years, the Germanic languages (except Gothic) offer rich material through which to study the development of definite articles from (distal) demonstratives, and indefinite articles from the numeral ‘one’.

- The placement of modifiers:

In the modern Germanic languages, (inflecting) adnominal modifiers and determiners usually occur prenominally (some exceptions are the suffixed definite article in Scandinavian, and postnominal possessives in Norwegian and Icelandic). In contrast, in the early Germanic languages, modifiers occur both prenominally and postnominally. This opens up for several perspectives that can be explored, e.g.: 1) synchronic-comparative studies; 2) diachronic-comparative studies; 3) internal differences (e.g. prenominal vs. postnominal position).

Noun phrases and variation

During the past 40 years, there has been an increasing interest in noun phrases (e.g. the DP-hypothesis, parallelism between the nominal and the verbal projection, possessives as subjects, adjectival ordering, the interpretation of adjectives). Notably, cartographic approaches have closely examined the internal constituency and the overall architecture of noun phrases, drawing very fine-grained noun phrase “maps”.

At the same time, during the past 20 years or so, there has been another strand of research that pays attention to syntactic variation. The term “variation” itself can be given various interpretations. It can be used to simply make reference to (surface) diversity, e.g. the number of possible constellations. One example would be pre- vs. postnominal adjectives in the Romance languages, where it can often be shown that that two varieties are not semantically and/or functionally equivalent. For instance, in the Spanish minimal pair (i) vs. (ii), the surface position of the adjective correlates with interpretation.

- | | | |
|------|---|-----------------------------|
| (i) | un ladrón bueno
a thief good
'X is a thief and (a) good (person)' | (postnominal: intersective) |
| (ii) | un buen ladrón
a good thief
'X is good as a thief (= good at stealing)' | (prenominal: subjective) |

But “variation” can also mean “deviation from a given standard form”, where seemingly corresponding varieties differ from that standard with respect to some parameter (word order, inflection, case marking, ...) without it being obvious whether that deviation correlates with a different interpretation. This applies,

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for instance, to dialectal variation and cases where a deviant form indicates a difference in register.

In both senses, the early Germanic languages offer an ideal “playground”. They display a greater range of surface diversity and possible constellations compared to the modern Germanic varieties, e.g. optional(?) postnominal occurrences of modifiers, optionality(?) of determiners, distribution of strong/weak inflection(?), etc. They are maybe no longer at the level of dialectal varieties, but they are still closely related, and there is a reasonably large body of extant written material to draw upon. A relevant instance of diversity/variation is illustrated in (iii) and (iv), which are examples frequently found in the Old Norse saga literature (in the same textual environment).

(iii) hann var mikill maðr
he was great man

(iv) hann var maðr mikill
he was man great

Variation of this kind can easily be observed in the old manuscripts, but differently from (i) vs. (ii), it is not immediately obvious whether the pre- vs. postnominal occurrence of the adjective correlates with a systematic difference in function or interpretation.

Corpora and databases

One significant advantage for the study of old (= “dead”) languages is the increasing availability of annotated text corpora (as opposed to labouring through manuscripts or edited volumes manually). These corpora not only make it possible to browse for individual items or categories, but also for constellations, which facilitates reliable quantitative studies and comparisons, e.g. of prenominal vs. postnominal adjectives. All the contributors to this volume have relied heavily on various corpora and databases of early Germanic languages.

Corpora and databases are usually built for a specific purpose, often within a (more or less) specific framework, and to various degrees of granularity. Thus, it is not always easy to compare the results of queries in two different corpora; they may differ in terms of segmentation and categorization, in the amount of morphological, syntactic, or semantic information annotated, etc.

Therefore, a second major output of the project has been the creation of a database specifically dedicated to noun phrases in early Germanic languages and

suitable to the study of Germanic internal variation (NPEGL). The advantages of such a database are: 1) unified annotation for the languages to be compared, and 2) the possibility to annotate noun phrase-internal subtleties that would be difficult or impossible to annotate in a general text-based corpus.

The chapters of this volume

In Chapter 1, Alexander Pfaff and Gerlof Bouma present the NPEGL noun phrase database, which they created. The authors describe the overall purpose and design of the NPEGL database, and address the motivation for a specialized noun phrase database and its advantages, as well as technicalities pertaining to the processing of the source corpora, automatic conversion, and the annotation process. Furthermore, the chapter illustrates how the NPEGL database can be used for research.

In Chapter 2, Alexander Pfaff introduces a method for measuring syntactic diversity, called *Patternization*. In accordance with the project title (“constraints on syntactic variation”), and on the basis of the NPEGL annotation scheme, Pfaff develops a mathematical method that can be used to process, quantify and visualize syntactic variation. Even though largely illustrated with the NPEGL annotation, the method is intended to be applicable, in principle, to any text sample that has, at least, part-of-speech annotation.

Chapter 3 is a pilot study carried out by several members of the project group: Kristin Bech, Hannah Booth, Kersti Börjars, Tine Breban, Svetlana Petrova, and George Walkden. They compare various aspects of modifier position in Old English, Old High German, Old Icelandic and Old Saxon, focusing on similarities and differences, and possible reasons for the observed distribution, such as texts and genres, weight, and lexical factors. The chapter shows that the default position is modifier–noun in all the early Germanic languages, and that modifiers in postnominal position are the result of specific factors.

In Chapter 4, Kristin Bech studies two Old English quantifiers meaning ‘many’: *fela* and *manig*. *Fela* either occurs as the head of the noun phrase, taking a noun complement in the genitive case, or it occurs in agreement constructions, with *fela* as the modifier of a nominal head, the latter representing a newer development. *Manig*, on the other hand, consistently occurs with agreement. However, *fela* with agreement is almost only found in the texts by Ælfric and in the *Peterborough Chronicle*, where there is variation, while all other Old English texts consistently use *fela* with genitive. Bech suggests that the usage in Ælfric and the chronicle is caused by semantic factors, and that it points ahead to later devel-

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opments in the noun phrase. In the lexical competition between *fela* and *manig*, *manig* eventually emerges victorious.

Alexandra Rehn's point of departure in Chapter 5 is the inflection of stacked adjectives. With reference to both modern German and earlier stages of German, Rehn considers the combination of zero-inflection and overt adjective inflection in Old High German, and of uninflected and inflected adjectives in the modern German dialect group Alemannic. It emerges that Old High German, though it has zero-inflected adjectives, does not allow them in stacking, unlike e.g. modern Scandinavian languages and Old Saxon. Uninflected adjectives in Alemannic are only possible in DPs with one adjective. Rehn uses the Obligatory Contour Principle to account for the distribution, and suggests that adjective inflection has a double function, both marking features and serving as a linker in stacking.

Inflectional patterns, specifically those of attributive adjectives in Old High German, are also the topic of Svetlana Petrova's study in Chapter 6. Petrova uses two datasets, i.e. bare DPs and DPs containing a determiner-like marker of definiteness and indefiniteness. Contrary to previous research, she finds that the choice of inflectional pattern is not driven by the interpretation of the DP in terms of (in)definiteness, but rather that the strong inflection occurs with any semantic type of DP, while the weak inflection is due to certain grammatical and constructional factors. In addition, Petrova considers how position within the noun phrase correlates with adjectival inflection, and she ends by showing that the distribution of inflectional patterns in modern German started to develop already in Old High German.

In Chapter 7, Hannah Booth takes us to Old Icelandic and the *proprial* article, attested across North Germanic. Booth shows that focusing on the given/new dimension with respect to the pragmatic function of the article, as has been done in previous research, can only provide a partial picture of its precise function. Booth considers the wider information-structural context and different types of topic transition, finding that the *proprial* article in Old Icelandic is in fact used as a topic management device to signal different types of topic shift. She also observes that a special variant of the *proprial* article functions as a strategy for coordinating referents which differ in their topicality status.

Most of the research on Old Norse focuses on Old Icelandic, but in Chapter 8, Juliane Tiemann carries out a study of adjective position in Old Norwegian specifically. Although Old Norwegian is quite far advanced in the direction of a fixed prenominal position for adjectives, postnominal adjectives still occur, as well as adjective flanking. Tiemann builds on previous research on positional variation within the noun phrase, and focuses on how word order is mainly determined

by information structure, suggesting a left periphery in the Old Norwegian noun phrase, with positions for topic, focus and contrast.

Adjectival articles in early Germanic is the topic of Chapter 9 by Alexander Pfaff and George Walkden. The authors discuss the idea that certain items that appear to be definite articles are, in fact, narrow components of an adjectival phrase. For North Germanic, this is easily illustrated because the grammaticalization path from demonstrative took two distinct paths: the nominal (definite) article came to be realized as a suffix on the noun, whereas an article specifically for (weak) adjectives remained a freestanding element. In West and East Germanic, no such visible distinction exists, yet the authors show that certain article uses of distal demonstratives are not definite articles of nouns that merely happen to be accompanied by an adjective, but genuine adjectival articles.

Finally, in Chapter 10, Alexander Pfaff addresses a peculiar class of adjectival modifiers, termed “positional predicates”, that deviate in various ways from “regular” adjectives. The deviation applies to syntactic, semantic and morphosyntactic properties. Syntactically, positional predicates are deviant because they precede determiners and may combine with pronouns and proper names. Semantically, they do not merely modify the noun, but express a part–whole relation. In addition, they display the strong inflection in an unexpected environment, namely in definite noun phrases.

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Much of the work presented in this volume was made possible through funding from the Research Council of Norway for the project *Constraints on syntactic variation: noun phrases in early Germanic languages* (grant no. 261847). We are very grateful to the Research Council for this funding, and in general for their willingness to fund projects on historical linguistics.

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Chapter 1

The NPEGL noun phrase database: Design and construction

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This chapter introduces NPEGL (Noun Phrases in Early Germanic Languages), an annotated database of noun phrases taken from Early Germanic texts. We discuss the main aspects of the philosophy underlying our annotation model, and the choice of materials. We also touch upon methodological issues pertaining to the conversion from the source corpora and the annotation process. Finally, we describe how the database is made available, as downloadable data as well as through two search interfaces.

1 Introduction

The NPEGL database is one major output of the project *Constraints on syntactic variation: noun phrases in early Germanic languages* (Research Council of Norway, grant no. 261847). As indicated by its title, one goal of that project was to study the scope of noun phrase-internal variation in Old Germanic languages, with an emphasis on word order variation, and to examine which factors have an impact on that variation. This goal is also reflected in the design of the NPEGL database. In this chapter, we describe the central features and some idiosyncrasies of NPEGL, offer reflections on methodological issues, and illustrate some possible applications and advantages.

At the most general level, NPEGL is a database specifically dedicated to noun phrases (NPs), a specialization that makes it possible to annotate NPs at a greater level of granularity than what is feasible for a general text corpus. Every entry in NPEGL documents one NP, where this term should be understood in its general,



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theory-neutral sense.¹ For practical reasons, one-item NPs (bare nouns/names, pronouns etc.), but also certain two-item NPs (e.g. DET + CP, N + PP etc.) were given low priority, see Section 3.3, which effectively means they were not manually annotated.

One guiding principle of the annotation scheme employed in NPEGL is theory neutrality. NPEGL employs a surface-oriented flat annotation, which essentially means that every NP is linearly segmented, but not hierarchically structured, and that most NP-internal dependencies are not encoded. In fact, the annotation scheme does not generally assign head status to any of the parts of an NP. In other words, every item in NPEGL is first and foremost a sequence of category labels.² To be able to capture enough information about each NP, NPEGL's annotation scheme has a rich inventory of categories and allows for annotation of syntactic, morphological, and semantic information at multiple levels.

The rest of this chapter is structured as follows. Section 2 describes the annotation scheme in more detail. The exposition largely follows the structure of a database entry, by first discussing properties of the NP as a whole in its context (Section 2.1), then zooming in on the ontology of categories used to label each part of the NP (Section 2.2), and finally describing the system on category-dependent properties that is used to add detailed information to the NP parts (Section 2.3). Section 3 gives an overview of the source materials used to populate the database with initial entries, to be corrected manually in a later stage of the annotation process. The web-based interfaces that make the database available for annotation and search are described in Section 4. Finally, Section 5 gives information on where and how the databases are made publicly available and summarizes this chapter.

2 Annotation scheme

Noun phrases in the NPEGL database are annotated for various properties and pieces of information, every one of which is searchable through one of the database interfaces. The central labels are illustrated in Figure 1.

The four top labels provide meta-information about the origin of the NP and its context. The first one, *LANGUAGE*, obviously indicates the respective language; at the time of writing this chapter, potential values are: Old Icelandic, Old English, Old High German, Old Swedish, Old Saxon, Gothic.

¹In particular, our use of the term *noun phrase* for an entry should not be understood as taking position in the matter of whether this should be analyzed as DP, NP (in a narrow sense), QP, nP, etc. in any particular phrase structure-based theory.

²Pfaff (2023 [this volume]) introduces a method that takes advantage of this kind of encoding.

1 The NPEGL noun phrase database: Design and construction

LANGUAGE	Old Icelandic																				
DB ITEM ID	Olce.183.138																				
CONTEXT	Og síðan kveðst jarl skýra mundu fyrir konunginum ef hann vildi vita hvað hann ætlaði, hvað er tákna mundi eða fyrir\$ \$benda þessi hin miklu undur. En konungurinn jatar því. Jarl mælti:" Þar mun eg þá til taka er vér sáam eikina með grænum eplum og smám. En forn epli og stór lágu hjá niðri. En það hygg eg vera munu fyrir siðaskipti því er koma mun á þessi lönd,																				
CORPUS UNIT ID	1260.JOMSVIKINGAR.NAR-SAG,.274																				
GENDER	Neu																				
NUMBER	Pl																				
CASE	Nom																				
GRAMMATICAL FUNCTION	Arg.ofV.Sb																				
SEGMENTATION	[forn]forn [epli]epli [og]og [stór]stór																				
ANNOTATION	<table><tr><td>forn</td><td>Md.Aj.Lx.Pro</td><td>Phys/Dim, Str, Pos</td><td></td><td></td></tr><tr><td>epli</td><td>N.C</td><td>Tang.Obj</td><td></td><td></td></tr><tr><td>og</td><td>&.Aj</td><td></td><td></td><td></td></tr><tr><td>stór</td><td>Md.Aj.Lx.Pro</td><td>Phys/Dim, Str, Pos</td><td></td><td></td></tr></table>	forn	Md.Aj.Lx.Pro	Phys/Dim, Str, Pos			epli	N.C	Tang.Obj			og	&.Aj				stór	Md.Aj.Lx.Pro	Phys/Dim, Str, Pos		
forn	Md.Aj.Lx.Pro	Phys/Dim, Str, Pos																			
epli	N.C	Tang.Obj																			
og	&.Aj																				
stór	Md.Aj.Lx.Pro	Phys/Dim, Str, Pos																			

Figure 1: Annotated noun phrase

The DB ITEM ID field holds an identity number for each item in the database: this number is unique to the entry and is never changed, so that it can be used to unambiguously refer to an entry. The example NPs in this chapter that are taken from the database are all accompanied by their item id, so that they can be located easily in the database. Together with a time stamp or a database version number, the item id even identifies an NP with a specific annotation. The DB ITEM ID must be distinguished from the CORPUS UNIT ID, which contains a reference to the entry's source corpus. This link back to the source material means that all items have a transparent provenance, and this in turn gives us access to types of meta-information that are not directly part of the information encoded in the database.

The field labelled CONTEXT provides the textual environment in which the NP (highlighted in red) occurs. The size of the CONTEXT depends largely on the text segmentation in the respective source corpus. Note, incidentally, that the minimal segmentation units in the source corpora tend to be sentences (or even paragraphs); therefore, CORPUS UNIT ID may refer to a piece of text containing more than one NP.

Table 1: A selection of grammatical functions

Label	Description
Arg	argument
Arg . ofV	argument of verb
Arg . ofV . Sb	subject of verb
. Ob	object of verb
. ofN	argument of noun
. ofP	argument (complement) of preposition
Pred	predicative
Pred . Cop	
. Other	
. Other	other predicative (secondary predicate, etc)
App	apposition
Voc	vocative

In the following, the remaining labels will be discussed in somewhat more detail.

2.1 Annotation I: global properties and segmentation

The four labels GENDER, NUMBER, CASE and GRAMMATICAL FUNCTION indicate global properties, that is, properties of the NP as a whole, which are annotated only once. This means that the individual parts of NPs are not separately annotated for gender, number and case, even though these properties are usually overtly marked via inflection on items like nouns, adjectives, demonstratives, and quantifiers in the Old Germanic languages.

GRAMMATICAL FUNCTION gives the NP’s syntactic status/role (argument, predicate; subject, object, etc.). It is encoded in an “upward-entailing” path notation, $x.y.z$, where the suffix z gives a further specification of the path’s prefix $x.y$. In Table 1 some potential values and sub-specifications are given for the grammatical function annotation.

This type of label hierarchies are employed more widely in NPEGL. In general, we assume that an item is annotated with the most specific value possible. An eventual query, however, can target any level in the hierarchy. Consider the NP

1 The NPEGL noun phrase database: Design and construction

in Figure 1, which has the grammatical function “Arg.ofV.Sb”. This means that it is a subject of a verb (Arg.ofV.Sb), which entails that it is an argument of a verb (Arg.ofV), which finally entails that it is an argument (Arg). Searching for a shorter path like Arg.ofV is an effective way of searching for the disjunction of all complete paths that are extensions of it. Running such a query should return the entry of Figure 1 and other subjects of verbs, as well as entries with grammatical function object of verb, and so on. The domain of category labels, discussed in Section 2.2, is another prominent example of where these hierarchical labels are used in NPEGL. A complete overview of all annotation labels is given in the Appendix. For an in-depth discussion of all the individual labels, we refer the reader to the annotation manual (Pfaff 2019).

Similar systems of hierarchical labels can be found in other annotation schemes. One example is the Stuttgart-Tübingen Tagset (STTS; Schiller et al. 1999) for German part-of-speech annotation, which has categories and subcategories. For instance, pronouns in STTS are divided into demonstrative pronouns, indefinite pronouns, personal pronouns, etc; and demonstrative pronouns in turn are divided into substitutive demonstratives and attributive demonstratives, and so on. As mentioned, this hierarchical view is pervasive in NPEGL: it shows up in many different kinds of labels. In addition to their usefulness in search, we have also found that it can be practical to allow annotators to use more general labels in certain cases, for instance to facilitate faster and more reliable annotation of information types that are hard to determine.

Noun phrase-internal structure is encoded as a sequence of labelled segments. The segmentation itself is displayed in the field called SEGMENTATION. The labels attached to the segments are what we refer to as *categories*, which are in the ANNOTATION FIELD, and will be discussed in the next subsection. An NP like (1a) is segmented as shown in (1b).

- (1) a. sannan vin kóngdómsins
 true friend the.kingdom.GEN
 ‘a true friend of the kingdom’ (OIce.648.421)
 b. SEGMENTATION [sannan]_{sannur} [vin]_{vinur} [kóngdómsins]_#

Inside the square brackets are the word forms such as they occur in the text (here: *sannan* ‘true’ and *vin* ‘friend’). Categories can be lexical, phrasal or clausal. Lexical segments are provided with a lemma (dictionary form, here: *sannur*, *vinur*). Non-lexical segments, phrases and clauses, do not receive lemmata, which is signalled by marking them with a #.³ Lemmatization greatly improves the ease

³Notice that the genitive *kóngdómsins* is treated as a phrasal category, and as such it has no

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with which the database can be searched, especially in historic Germanic material that shows great variation in text forms, both because of morphological complexity and variation in spelling.

As just illustrated, NPEGL employs a flat annotation system, that is, it merely encodes the linear sequence of individual categories. This in turn is the result of project-internal purposes, notably, to study NP-internal word order variation. The main motivation was to produce a (largely) theory-neutral segmentation that imposes as little analysis as possible. On the other hand, (structurally richer) syntactic annotation is found in most source corpora, and can be retrieved by virtue of the CORPUS UNIT ID.

Strictly speaking, of course, the system is not completely void of prior analysis. After all, the segmentation is, in part, a consequence of the category inventory adopted for NPEGL (see Section 2.2). Moreover, there are some ways in which syntactic dependencies can be encoded in our system, especially in order to capture discontinuities. In the DB entry OIce.644.764, partially illustrated in (2), the genitive phrase *þeirra tveggja* ‘of those two’ is discontinuous and surrounds the head noun *hljóði* ‘sound’ (giving ‘the sound of those two’).

(2)	SEGMENTATION	[þeirra] _{#:a}	[hljóði] _{hljóð}	[tveggja] _{#:a}	
	ANNOTATION	þeirra tveggja	GenP	Oth	Def
		hljóði	N.C	Abst.Oth	Rel

In order to capture the constituency of the discontinuous elements in a linear system, we mark them with the same subscript in the segmentation field. In (2), this is the index *a*, appearing on *[þeirra]* and *[tveggja]*. All thusly co-indexed segments are construed as belonging to the same constituent. In other words, both linearity and constituency (of categories) are encoded. In the case of discontinuous categories, the potential separate encoding becomes visible: in the SEGMENTATION field above, we see the mere linear sequence of segments, but in the field labeled ANNOTATION, the two discontinuous segments are represented together as one constituent (= GenP).

Co-indexation in the segmentation allows us to handle discontinuous constituents without forcing us to say anything about the internal structure of the discontinuous constituent. There is a second method to indicate syntactic dependencies which we use when we wish to consider a segment to be a structural part of the NP, while at the same time marking that it, in functional terms,

lemma. However, phrasal categories that themselves constitute an NP (esp. genitives, appositions) have separate database entries of their own. This means that their lexical parts can receive lemma annotation in those entries instead.

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does not modify the NP or a segment that could be considered the NP's head, but rather another segment. Consider the example in (3a). Here the dative noun *sýnum* 'sight.DAT' modifies *fríður* 'fair', and not *maður*. Because adjectival modification is one of our central concerns, and we want to have detailed information available about the adjective in the entry for this NP, we prefer to have the adjective directly present as a lexical segment.⁴ We therefore also allow the dative noun to appear as a separate segment in the flat analysis of this NP.

- (3) a. *fríður maður sýnum*
 fair man sight.DAT
 'a handsome man' (OIce.252.041)
- b. SEGMENTATION [*fríður*]_{fríður} [*maður*]_{maður} [*sýnum*]_#
- | | | | | |
|------------|---------------|--------------|----------------|---|
| ANNOTATION | <i>fríður</i> | Md.Aj.Lx.Pro | Eval, Str, Pos | 0 |
| | <i>maður</i> | N.C | Anim.Hind | |
| | <i>sýnum</i> | Mdcm.N | | 0 |

The status of the dative noun as a subdependent is marked in two (interrelated) ways in the annotation field, as shown in (3b). The category for *sýnum* is nominal complement of modifier (Mdcm.N). The co-indexation between *sýnum* and *fríður* (here the index 0 in the annotation field) encodes the dependency explicitly.

2.2 Annotation II: categories

The basic unit in our annotation system is the category. The way the term *category* is used here deviates in some crucial respects from how it is commonly used in syntactic theory, but also from other part-of-speech (POS) based classifications.

- (I) NPEGL categories are not strictly part-of-speech-based, and the category inventory comprises both what would correspond to X^0 and to XP constituents in the X' -system. There are lexical categories (noun, adjective, demonstrative, ...), phrasal categories (genitive phrase, prepositional phrase, ...), and clausal categories (relative clause, complement clause, ...).
- (II) NPEGL categories partially conflate several pieces of information. There are traditional POS categories (noun, quantifier, ...), categories defined by

⁴An alternative solution would be to assume an AP phrasal category, just like we have a GenP, and then use the first mechanism for discontinuous segments. However, since APs do not receive their own entries, we would effectively lose all information about the inner make-up of the AP and the characteristics of the head adjective.

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syntactic function (apposition, coordination, ...), but also (sub-)categorical distinctions based on morpho-syntactic properties (finite vs. non-finite complement clause, basic vs. derived adjectives vs. participles, ...).

- (III) Many categories allow for further specification by using subcategories. The underlying logic is the same as with syntactic functions, as was already illustrated in Table 1, and the information is encoded via path notation (e.g. “N” = noun, “N.C” = common noun, ...).

Because of the richness of our categorial ontology, we will not discuss every individual category here. For this we refer to the Appendix and the annotation manual (Pfaff 2019). Instead we will discuss some general and representative issues. Some categories do not make any distinctions, that is to say, they have only one category label (e.g. demonstratives, quantifiers, relative clauses), while others have subcategories encoded via path notation. Up to four levels of subcategorical specification occur in our system, adding up to a total of $19 + 16 + 4 + 7 = 46$ (sub-)category labels (see Tables 6–9 in the Appendix).

The most diversified category in NPEGL, with the most extensive range of distinctions, is the modifier category, which applies to adjectival elements in a very generous sense. It distinguishes, for instance, cardinal elements and adjectives (in a more narrow sense) as subcategories. The former, in turn, divide into the subsubcategories cardinal numerals and weak quantifiers (e.g. *many*), while the latter distinguish between lexical and functional adjectives. Lexical adjectives in our system are those that have some descriptive content and include participles, while functional adjectives are those that lack such a content, and include determiner-like adjectives and ordinal numerals. Some illustrations using English examples are given below:

- | | | |
|-----|----------------------------------|---|
| (4) | a. <i>many</i> : Md.Nu/WQ.WQ | (cardinal element: weak quantifier) |
| | b. <i>other</i> : Md.Aj.Fn.Dt | (determiner-like functional adjective) |
| | c. <i>third</i> : Md.Aj.Fn.Ord | (functional adjective: ordinal numeral) |
| | d. <i>red</i> : Md.Aj.Lx.Pro | (prototypical lexical adjective) |
| | e. <i>bloody</i> : Md.Aj.Lx.Der | (derived lexical adjective) |
| | f. <i>dancing</i> : Md.Aj.Lx.Pre | (lexical adjective: present participle) |

Some further comments on this classification are in order. The decision to have one super-label for numerals and weak quantifiers is based on their common semantic properties and syntactic behaviour (e.g. complementary distribution). On

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the other hand, ordinal numerals are classified as a subcategory of functional adjectives, and strong quantifiers instantiate a separate category (“Q”). Thus, cardinal numerals are not classified alongside ordinal numerals, and weak quantifiers are not simply classified as quantifiers. In both cases, the respective elements differ in a number of respects, most notably, syntactic distribution. Moreover, weak quantifiers often show adjective-like behaviour (they have comparative and superlative forms and display strong/weak alternation, see Section 2.3), and they can be coordinated with regular adjectives, cf. (5).

- (5) mörg og ágætlig vopn
 many and excellent weapons
 ‘many excellent weapons’ (OIce.935.277)

This justifies including these elements in the modifier category while treating them differently from other quantifiers.

In a similar vein, the observation that certain adjectives without descriptive content tend to occur further away from the noun motivated defining a separate subcategory of adjectives referred to as “functional adjectives” in the present system. For Old Icelandic, preliminary searches suggest that the majority of NPs with two adjectives (or more than two modifiers) involve a functional and a lexical adjective, as in (6).

- (6) margir aðrir ágætir menn
 many other excellent men
 ‘many other excellent men’ (OIce.740.027)

Thus, a categorial distinction between lexical and functional adjectives allows us to formulate more precise queries into the distribution of “adjectives”, e.g. when examining apparent cases of adjective stacking.

Nonetheless, as already pointed out, our system is not intended to suggest a particular analysis, but set up in such a way as to allow us to search for contexts that are likely to display variation or different combinatorial possibilities that are of interest to the questions our project asks. It is always possible to search for more general contexts via a higher label, or to construct ad-hoc categories with the help of logical operators⁵ for particular items such as for instance

{“Md.Aj”}	→ adjectives,
{“Q” OR “Md.Nu/WQ.WQ”}	→ quantifiers,

⁵The search interfaces described in Section 4 trivially allow the combination of categories exemplified in the main text; “or” is to be understood as a Boolean operator.

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{“Md.Nu/WQ.Nu” OR “Md.Aj.Fn.Ord”}	→ numeral elements,
{“Md.Aj.Lx.Pst” OR “Md.Aj.Lx.Pre”}	→ participles,
etcetera.	

2.3 Annotation III: properties (features and tags)

In addition to the categorial information for every markable item in the database, several categories allow for further (morphological, syntactic and semantic) specification via feature annotation. We distinguish two types of features: on the one hand attribute–value pairs (henceforth simply referred to as “features”), where some value must be specified in each relevant case (e.g. CASE: NOM), and on the other hand privative features (henceforth: “tags”), which are annotated where appropriate, otherwise they are absent.

2.3.1 Modifiers

Modifiers (= the category “Md”) are annotated for the formal attributes degree and declension. The former specifies whether the modifier is in the positive, comparative or superlative form, while the latter allows specification for the values “strong”, “weak”, “zero”, and “undec” (= “undecidable whether strong or weak”). Since an attribute must always have a value, also for degree, “positive” is assigned as a default value to all modifiers – even though this may seem counterintuitive for elements like numerals and functional adjectives.

The strong/weak alternation is a hallmark of the Germanic adjectival system, and thus highly relevant in the context of NP-internal variation. Old High German, in addition, has a designated zero ending/non-inflected form for adjectives (at least, for the nominative); so here we potentially have a three-way distinction: *blint-er* ‘blind-STR’, *blint-o* ‘blind-wk’, *blint* ‘blind-Ø’. The label “zero” is also used for indeclinable adjectives, that is adjectives without any endings, or adjectives that have the same form for all case, number and gender values. It applies to most numerals (other than *one* to *four*), but also includes certain petrified genitives, e.g. Old Icelandic *þesskonar* ‘such’ (lit. ‘of this kind’). Finally, a modifier is assigned the label “undec” (= “undecidable”) if the item in question does have inflection, but it cannot unambiguously be decided whether it is strong or weak. The comparative inflection in (Old) Icelandic is one paradigm example.

These two formal features, degree and declension, apply to the modifier class as a whole. Besides that, there is a semantic feature “adjectival semantics” that only applies to lexical adjectives (= the subcategory “Md.Aj.Lx”). This feature allows us to specify whether the adjective denotes e.g. origin (“English”), dimension (“tall”), colour (“red”) or evaluation (“beautiful”).

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2.3.2 Nouns

Nouns (N) are assigned a value for the feature “noun semantics”, which encodes a simplistic ontological classification of entities denoted by the respective head noun. We make a first broad distinction between “animate”, (other) “tangible”, and non-tangible, “abstract” entities. These, in turn, can be further distinguished via path notation; animate entities, for instance, distinguish human individuals (*king*; *poet*) from human collectives (*family*; *troops*) from non-human animals, while tangible entities divide into objects and substance (which roughly rehashes the classical +/– count distinction).

Notice that this taxonomy is guided by linguistic, rather than biological or theological, considerations (e.g. plants are not included in the animate class, while gods and demons are human individuals, etc.). The primary tripartition is an attempt to avoid a notoriously vague and ill-defined or ill-definable dichotomy “concrete” vs. “abstract”. The designation “tangible” therefore also entails an operational instruction: it applies if it is, in principle, possible (even though it may not be advisable) to touch the entity denoted by the noun with a tactile impact.

In addition, nouns allow a range of property specifications via tags that are only assigned if applicable. One example is the suffixed article tag, which is only relevant for the North Germanic languages (here: Old Icelandic and Old Swedish) where the definite article is realized as a suffix on the noun:

- (7) a. allur flokkur-**inn**
 all group-DEF
 ‘the whole group’ (OIce.997.623)
- b. thæn del-**en** aff wærlð-**enne**
 that part-DEF of world-DEF
 ‘that part of the world’ (OSwe.752.329)

Thus, in our system, the suffixed article shows up as a tag on a segment, rather than a segment of its own. This contrasts with for instance with IcePaHC (Wallenberg et al. 2011, Rögnvaldsson et al. 2012) where it is annotated as an determiner on its own.

Relationality is another example; nouns taking an argument of some sorts receive a tag indicating that they are relational nouns. As a guiding principle, this feature is annotated exactly when (i) the noun involved lexically qualifies as relational (kinship terms and social relations; part–whole nouns; agent nominalizations etc.) and (ii) the argument (typically a genitive or possessive) is overtly realized. Due to these criteria, the nouns ‘brother’ and ‘hand’ in (8) are annotated as relational, whereas the same nouns in (9) are not.

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- | | |
|---|--|
| <p>(8) a. bróðir hans
brother his
'his brother' (OIce.733.106)</p> | <p>b. sinni hendi
his.REFL hand
'his (own) hand' (OIce.032.638)</p> |
| <p>(9) a. góðir bræður
good brothers
'good brothers' (OIce.232.652)</p> | <p>b. in hægri hönd
the right hand
'the right hand' (OIce.033.171)</p> |

2.3.3 Genitivals

Both possessives (Poss) and genitive phrases (GenP) are assigned a value for the feature “genitival semantics”. This feature specifies the nature of the relation between head noun and genitival, which may be possession, kinship, argument, part-whole etc. Notice that, in several cases, this feature interacts with the tag for relationality, e.g. (8a) where the head noun is relational and the the genitival relation is ‘kinship’.

3 Source material and data extraction

The annotation scheme outlined above is meant for manual annotation of database entries. However, the type of investigation that the database is intended to support benefits from having access to large databases. Complete manual construction of such database would be prohibitively time-consuming. To quickly populate the databases with enough items, we therefore extracted initial versions of the database entries from existing annotated corpora in the language of interest. In the subsequent manual annotation, mistakes made in this semi-automatic procedure were corrected, and annotation that could not be extracted from the source treebanks was added. This approach allowed us to scale up the database considerably. A possible downside is that the control of the choice of materials is placed outside of the project to some extent, as we are dependent on the availability of pre-annotated material.

For the construction of our database, we used the following sources, which can be divided into two families with respect to the style of annotation.

- Penn Treebank style (Marcus et al. 1993, Taylor, Marcus, et al. 2003):
 1. The *York–Toronto–Helsinki Corpus of Old English Prose* (YCOE, Old English, Taylor, Warner, et al. 2003);⁶

⁶The database is constructed on the basis of version 3.

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2. Material from the first two centuries of the *Icelandic Parsed Historical Corpus* (IcePaHC, Wallenberg et al. 2011, Rögnvaldsson et al. 2012);⁷
 3. The *Heliand Parsed Database* (HeliPaD, Walkden 2015, 2016);⁸
 4. A development version of the *Geneva Corpus of early German* (GeCeG).⁹
- PROIEL style (Haug & Jøhndal 2008, information about the individual resources can be found in the joint paper Eckhoff et al. 2018):
 5. The Gothic part of the *Pragmatic Resources in Old Indo-European Languages* treebank (PROIEL);¹⁰
 6. Old Swedish (MApIR Trees);¹¹
 - In addition the Old English part of the treebank created as part of the project *Information Structure and Word Order Change in Germanic and Romance Languages* (ISWOC),¹² which was used as a source of additional information about a selection of the Old English database materials.

3.1 Penn Treebank style

The Penn Treebank-style corpora are annotated with syntactic structure in the form of phrase structures. The annotation builds upon a context-free phrase structure skeleton, which means that discontinuous phrases and structure sharing have to be encoded by non-structural means (traces). In addition to categories, phrases are annotated with additional information such as function labels. Lexical nodes are marked with parts of speech and may contain morphological information and lemmata.

The annotation in our database is a lot flatter overall than the annotation used in the Penn Treebank-style corpora. First, a lot of structure in the corpora is irrelevant to our cause, for instance the internal structure of sentences. This information is thus discarded. Secondly, even syntactic units of interest typically

⁷Available from <https://hdl.handle.net/20.500.12537/62>, version 0.9, dated 2011.

⁸Available as doi:10.5281/zenodo.4395040 version 0.9, dated 2015.

⁹This annotated material has remained unpublished. We are grateful to Richard Zimmerman (University of Geneva, currently University of Manchester) for letting us use the preliminary versions for our database.

¹⁰Available from <https://dev.syntacticus.org/proiel.html>, version dated 2018-04-08.

¹¹Available from <https://spraakbanken.gu.se/en/resources/mathir-trad>, version dated 2018.

¹²Available from <http://dev.syntacticus.org/proiel.html>, version dated 2016-06-20.

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receive a flatter structure in our database than in the source corpora. For instance, all kinds of determining and modifying material inside NPs show up directly in the NP in our format, whereas the Penn Treebank style of annotation puts them in AdjPs, NumPs, QPs, etc., inside the NP.

Syntactic dependencies that cannot be captured directly in the context-free backbone are encoded using a system of typed traces. The phenomena annotated in this way include fronting, relativization/question formation, and extraposition. These dependencies can be of relevance for our database. Take, for instance, the example given in (2) above: *(af) þeirra hljóði tveggja* ‘(of) the sounds of these two’ (lit. ‘[of] these.GEN sound.DAT two.GEN’) receives the annotation $[[\text{þeirra}]_{\#;a} [\text{hljóði}]_{\text{hljóð}} [\text{tveggja}]_{\#;a}]$ in our database, where the shared index a indicates that these two parts belong to one and the same segment. The database also contains a further entry corresponding to this discontinuous segment, $[[\text{þeirra}]_{\text{það}} [\text{tveggja}]_{\text{tveir}}]$. The annotation in IcePaHC relates the two discontinuous parts with a trace-like element $[_{\text{NP}} [_{\text{NP}} \text{þeirra} [_{\text{NumP}} \emptyset_1]] \text{hljóði} [_{\text{NumP}} \text{tveggja}]_1]$. For such cases, the conversion therefore involves reconstruction of the discontinuous phrases and restructuring of the syntax graph.

The presence of phrases in the source annotation facilitates the kind of extraction we need to do. In particular, we can rely directly on the sources for the decision of what counts as an NP, as they are simply annotated as such. The extraction and conversion stage for these corpora, in addition to the required graph restructuring outlined above, mostly consists of defining mappings of source corpus labels to our target database labels.

At the lexical level, the corpora from this family differ in the detail of annotation. Whereas the YCOE basically only contains information about part-of-speech and case, the HeliPaD and GeCEG treebanks also contain number and gender information for the relevant categories. IcePaHC furthermore contains lemmata. We partially pre-annotated Old English and Old Saxon databases with lemmata on the basis of text form and part-of-speech. In addition, we used the ISWOC corpus – a PROIEL-style treebank – to enrich part of the Old English data with gender and number information and lemmata.

3.2 PROIEL style

Syntactic annotation in the PROIEL family corpora takes the form of dependency graphs. As PROIEL dependency trees are not required to be projective, these structures encode continuous and discontinuous groupings in the string with exactly the same means. Discontinuous segments can thus be read directly off the dependency tree. Just like the Penn Treebank-style phrase structures discussed

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above, the PROIEL dependency structures typically contain more embedding than our annotation model. Take for instance a structure consisting of an Adv, an Adj, and a N, where the adverb modifies the adjective and the adjective modifies the noun. In the dependency structure there is no direct link between Adv and N. As discussed in Section 2.1, in our database these three will be segments of the same entry, with the categories $Mdmd_1$ Md_1 N. The categories together with the indices encode the relation also present in the original dependency structure, but the overall structure is flat.

A problem that shows up specifically in the extraction of NPs from dependency structure is that the annotation does not mark any NPs as such – these have to be identified heuristically from the dependency annotation and from lexical properties of head words. Any dependency subtree headed by, say, a determiner, an adjective or a noun could in principle correspond to an NP. So if we come across one of these, we try to form a database entry on the basis of the head word and all its descendants. To reduce overgeneration of entries, we block potential entries that already are part of a larger NP. Consider the difference between (10a) and (10b).

- (10) a. *haffde mere krafft æn hwarte konunghir ælla win*
 had more strength than either king or wine
 ‘was mightier than both king and wine’ (OSwe.465.227)
- b. *ey mera sighia æn morere*
 no more say than morere
 ‘only say “morere” (that is: die)’ (OSwe.494.988)

The examples contain a superficially similar structure: *more [...] than [...]*. However, only the highlighted material in (10b) will appear as its own entry. The highlighted material in (10a) is already part of a larger entry, namely the one for *more strength than [...]* and is therefore blocked from forming a new entry. Not all entries that are contained in another are blocked, of course, since for instance a string forming a GenP in a larger entry also shows up as an independent entry. The difference is, however, that in these cases the independent entries contain additional information about the internal structure of the NP that shows up as a (unanalyzed) GenP segment in the larger NP.

The identification of NPs in the PROIEL family treebanks is effective, but it is more error prone than its Penn Treebank counterpart. We have written the heuristics in such a way that we are likely to overgenerate slightly. The spurious entries can be identified and marked as mistakes in the manual annotation step.

Marking an entry as a mistake is quicker and more reliable than trying to identify missing entries and having to enter them by hand.¹³

The PROIEL family treebanks contain detailed lexical information, like declension, agreement features and lemma. All this information is included in the conversion.

3.3 Degrees of interest and the extracted material in numbers

Corpus material regularly follows a Zipfian distribution, which, briefly put, says there is a small set of very common types (of words, constructions, etc.) and a very large set of rare object types (see Baroni 2009 for an overview and references). In addition, the high frequency types tend to be short or simple. In practice this means that although inspecting a small amount of corpus material already gives us a decent idea of the high frequency types, we need to look at a lot of data to get good insight into the breadth of types. If we randomly pick items to annotate, there is a real risk that most of the extracted entries are structurally simple and similar in structure to other entries. To allow the manual annotators to focus on complex entries and rich variation instead, we devised a simple classification of entries into *degrees of interest* on the basis of their internal make-up. The degrees are roughly defined as in Table 2. An annotator can now choose to focus on Green or Orange entries. The addition of the degree of interest Purple allows annotators to quickly mark an entry as a mistake.

Table 2: Degrees of interest assigned to each entry

Degree of interest	Type of entry
Green	adjective with noun; adjective/noun with determiner or possessive
Orange	nouns with non-nominal modifiers or complements (clauses, PPs); determiners/pronouns with additional material; bare common nouns
Red	bare pronouns; bare proper names; bare adjectives
(Purple	mistakes, blocked entries)

¹³In computational terms, we favour *recall* (finding as many relevant entries as possible) over *precision* (finding as few irrelevant entries as possible).

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Table 3 contains information about the size of the source corpora, and the number of extracted NPs, including their distribution over the three degrees of interest. As can be seen, the size of the source corpora varies greatly. The number of extracted entries per token lies at 0.35 for YCOE and IcePaHC and at around 0.40 for the other corpora. The ratio for the PROIEL-style corpora is high, although it lies at the same level as for two of the Penn Treebank-style corpora. We therefore feel confident in concluding that the heuristic approach to extracting entries from the PROIEL-style corpora have not led to a gross over-identification of NPs.

Table 3: Size of the source corpora in tokens (punctuation excluded) and corresponding number of extracted NPs

Corpus	Language	Corpus size	Degree of Interest			Total
			Green	Orange	Red	
YCOE	Old English	1 452 091	199 559	107 097	190 676	497 335
IcePaHC	Old Icelandic	234 273	19 351	28 916	32 483	80 754
HeliPaD	Old Saxon	46 180	7 112	5 173	5 970	18 255
GeCEG	Old High German	5 008	693	225	894	1 812
MApIR	Old Swedish	30 422	2 496	5 859	3 784	12 140
PROIEL	Gothic	56 315	5 565	9 123	8 429	23 117
ISWOC	Old English	28 300	— no additional entries —			

4 Accessing the NPEGL database

Users of the database, whether they are interested in annotation or search, are given two different ways of accessing the data: first there is a classic record-based view provided by *Karp*, and secondly the database can be searched as an annotated corpus in *Korp*.¹⁴

¹⁴There is also the possibility of programmatic access, which comes in three forms: the two graphical interfaces discussed here also have their respective APIs, and the third possibility is to directly use a dump of the database contents, which we distribute in JSON Lines format. We will not discuss these access methods in this chapter in any further detail.

4.1 Search and annotation interface in Karp

4.1.1 Background and motivation

The primary access method for the database is through the lexical infrastructure Karp, which was developed at the University of Gothenburg, in the Språkbanken research unit (Borin, Forsberg, Olsson, et al. 2012). Karp hosts a range of lexical resources, which can be searched through a graphical web interface or programatically. The term *lexical* here is to be understood in a broad sense. There are, for instance, typical dictionary resources like an electronic version of Söderwall’s dictionary of medieval Swedish (Söderwall 1884–1918) or the lexical-semantic and morphological resource for contemporary Swedish SALDO (Borin et al. 2013). But Karp also makes available encyclopedic resources such as *Svenskt kvinnobiografiskt lexikon* (Biographical Dictionary of Swedish Women),¹⁵ and frame-semantic and construction-grammatical inventories such as Swedish FrameNet++ (Dannélls et al. 2021) and Swedish Constructicon (Lyngfelt et al. 2018). These latter three resources were developed with the help of Karp’s resource editing facilities, which were also used for NPEGL.

The development of the NPEGL database has relied on this combination of search and editing facilities, as it has allowed the individual language experts to choose their own focus in their annotation efforts, using the search facilities to select a group of entries of interest on the basis of the extracted data, and the editing facilities to correct and complement the annotation of these selected entries.

The choice of a lexical infrastructure to host a database of annotated NPs may sound counter-intuitive. However, the entry-centred organization of the Karp infrastructure, where every entity to be annotated can be associated with any number of different types of information to describe it, and each such description is self-contained, has been a good match for the project. A comparison to other types of annotation projects may make this clearer. For instance, in treebank annotation, the entities to be annotated – sentences – receive a pervasive, and typically highly structured analysis of one kind, determined by the style of syntax. The focus of such a project is this complex structure. Any additional information associated with the highest unit of analysis – such as metadata saying where the linguistic unit was attested, etc. – is in a sense secondary. A tool to annotate and view treebanks is therefore likely to focus on making the syntactic structure searchable, effectively editable and easily accessible, and to prioritize less the access to the secondary information. This contrasts with the NPEGL database,

¹⁵<https://skbl.se/>.

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where we have different types of information that are equally prominent: the textual origin, structural analysis, and information about function and agreement properties together form the complete description. Although the structural analysis has a slightly more complex structure than the other fields, it is still of a limited complexity. There is no need to prioritize this at the expense of the other information types.

The annotation task in NPEGL can also be contrasted with tasks that are organized as a mark-up of units in running text, such as named entity annotation, or tracking occurrences of mentions of certain persons, or marking occurrences of particular verbs of interest, etc. Such annotated resources are like ours in that it is common to associate different kinds of information with each markable. At the same time, such annotation is typically flat. In our data, however, we commonly run into the situation that we have an NP that itself contains another NP. An example is given in (11).

- (11) laghbok *væsgöta*
 law.book Westrogothian.GEN.PL
 ‘the code of law of the Westrogothians’ (OSwe.816.415)

The word *væsgöta* can be viewed at different levels: it acts as a category GenP in the structural description of the containing NP, but it also forms an NP that is structurally analyzable on its own. In this latter single word unit, the word *væsgöta* is a segment with category common noun (N.C). We effectively separate these views into different entries, one for the containing NP and one for the contained NP. That way, we are able to keep our structural descriptions flat without sacrificing the detailed description of embedded material.

4.1.2 Description of the annotation process

The Karp web interface has two modes: viewing mode and editing mode. A user can search the database by specifying one or more criteria. These search criteria can be positive (for instance, the presence of a certain lemma in an entry) or negative (for instance, the entry may not originate from a certain subcorpus), and they can be combined into complex queries using conjunction and disjunction.¹⁶ The interface initially presents the database matches in viewing mode, in paginated form. Provided the annotator has the required credentials to edit the database, they can switch to editing mode to make changes to a particular entry.

To illustrate, the top screenshot in Figure 2 shows the entry for the Gothic *skauta wastjos is* ‘hem of his garment’ (lit. ‘hem garment.GEN his’, Got.472.674).

¹⁶Technically, all queries are in conjunctive normal form.

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origin & context	<div>LANGUAGE</div> <div>Got.472.674</div> <div>CONTEXT</div> <div>dauhtar meina nu gaswalt; akei qimands atlagei handu þeina ana ija, jah libaib. jah urreisands lesus iddja afar imma jah siponjos is. jah sai, qino biþarinnañdei -ib- wintruns duatgaggandei aftaro attaitok skauta wastjos is; qabuh auk in sis:</div> <div>CORPUS UNIT ID</div> <div>gothic-nt:47056 MATT 9.20–MATT 9.20</div>
agreement & function	<div>GENDER</div> <div>NUMBER</div> <div>Sg</div> <div>CASE</div> <div>Dat</div> <div>GRAMMATICAL FUNCTION</div> <div>Arg.ofV.Oth</div>
structural analysis	<div>SEGMENTATION</div> <div>[skauta]_{skauta} [wastjos is]_{is}</div> <div>ANNOTATION</div> <div>skauta N.C</div> <div>wastjos is GenP</div>
metadata	<div>DEGREE OF INTEREST</div> <div>Green</div> <div>VERIFIED</div> <div>No</div> <div>COMMENTS</div> <div></div> <div>CONTAINS</div> <div>Got.267.934</div> <div>IS CONTAINED BY</div> <div></div> <div>EXTERNAL LINKS</div> <div>Sentence in syntacticus.org</div> <div>ANNOTATOR</div> <div>Python</div> <div>ANNOTATION TIME</div> <div>October 5th 2018, 14:32:37</div>
(fixed)	<div>Language</div> <div>Gothic</div> <div>DB item id</div> <div>Got.472.674</div> <div>Context</div> <div>dauhtar meina nu gaswalt; akei qimands atlagei handu þeina ana ija, jah libaib. jah urreisands lesus iddja afar imma jah siponjos is. jah sai, qino biþarinnañdei -ib- wintruns duatgaggandei aftaro attaitok skauta wastjos is; qabuh auk in sis:</div> <div>Corpus unit id</div> <div>gothic-nt:47056 MATT 9.20–MATT 9.20</div>
(editable)	<div>Gender</div> <div>Number</div> <div>Sg</div> <div>Case</div> <div>Dat</div> <div>Grammatical function</div> <div>Arg.ofV.Oth</div> <div>Referential status</div> <div>Segmentation</div> <div>[skauta]_{skauta} [wastjos is]_{is}</div> <div>Create Markable</div> <div>Annotation</div> <div>TEXT</div> <div>skauta</div> <div>CAT</div> <div>N.C</div> <div>FEATURES</div> <div>NounSem: choose something</div> <div>INDICES</div> <div>Tags</div> <div>Definite</div> <div>Abstract</div> <div>Object</div> <div>Substance</div> <div>Personal noun</div> <div>wastjos is</div> <div>GenP</div> <div>Degree of interest</div> <div>Green</div> <div>Verified</div> <div>No</div> <div>Comments</div> <div></div> <div>Annotator</div> <div>Python</div> <div>Annotation time</div> <div>October 5th 2018, 14:32:37</div>
(automatically updated)	<div>Annotator</div> <div>Python</div> <div>Annotation time</div> <div>October 5th 2018, 14:32:37</div>

Figure 2: Annotated screenshots for item Got.472.674 in view mode (top) and in edit mode (bottom) in Karp’s web interface.

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The entry's contents are organized into four fields: meta-information about where the NP was attested and in which context; linguistic global information, that is, agreement information and grammatical function; structural analysis, that is, a division into segments and additional annotation for each segment; metadata including the degree of interest, annotator comments, internal links to contained/containing NPs, and external links. The links to containing NP let us quickly find related entries. In the example shown, the entry for the contained NP *wastjos* is 'his garment' is linked in such a fashion. External links are weblinks that could point at any type of additional information. In this case the links lead to the the annotation in the source treebank.

After switching to editing mode for this entry, we are presented with the interface in the bottom screenshot. In this screenshot, the annotator is in the middle of adding information about the semantic category of *skauta* 'hem' by selecting the appropriate value from a hierarchical menu. As described above, we adopted a tree-shaped ontology of labels to allow annotators to choose a level of annotation detail. Here, the annotator could go for less detail by selecting Tang(ible) as the noun semantics, or more detail by choosing the sub-label Tang(ible).Obj(ect).

Not all fields are editable through the interface. The fields containing annotation time and the identity of the annotator are updated automatically by Karp. The fields with DB ITEM ID and the attestation context can only be updated by the database administrator through programmatic access. This helps to ensure the integrity of the database, by making unintended changes of the permanent identifier and the entry of duplicates impossible.

If an annotator discovers that an entry is missing from the DB, they can propose a new entry – initially without permanent identifier – and provide as much information about it as possible. Creation of a full, valid entry is then handled by the database administrator.

4.2 Searching in Korp

The search capabilities of Karp are helpful for exploration of the databases and during annotation. However, the query style of combining value-attribute constraints using conjunction, disjunction and negation is too limited to allow studying the structure of the annotated NPs. For instance, Karp lets us search for entries that contain both an N and a GenP, but we cannot distinguish cases in which the GenP follows the N from those in which the GenP precedes it. Nor can we distinguish between entries that have at least one GenP from those that have at least two. Since we consider such investigations to form an important use case for our database, we have made the database searchable in the corpus search

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tool Korp (Borin, Forsberg & Roxendal 2012), which is powered by the Corpus Workbench (Evert & Hardie 2011). Korp’s front-end offers three types of search interface: a simple token-based search box, a graphical query builder that lets one compose complex queries using boxes and drop-down menus, and an interface that directly accepts Corpus Workbench’s query language CQP. In Korp, we can formulate complex queries that constrain properties of tokens and segments – just as we could in Karp – but in addition we can constrain the order and number of tokens and segments, as well.

To be able to use the database in Korp, we converted it into a pseudo-corpus, by treating each entry as a small document, whose text is taken from the `CONTEXT` field. One NP is marked up per document, as well as a number of segments inside this NP. The NPs and segments are associated with all information we have about them in the database (the agreement and function information, the categories from the structural analysis, and so on). The resulting “corpus view” of the database differs in an important way from the natural corpus made up of the source texts: the same stretch of source text may appear in multiple entries, and therefore will be repeated as many times in our pseudo-corpus. This happens when entries appear near each other in the original text and thus have overlapping contexts, or when the same string is a part multiple entries, as in example (11) above. Corpus Workbench is not capable of searching recursively nested structural annotation. By organizing the data in the manner described, we are still able to query all material, including the embedded entries. The organization is moreover a natural fit for how we designed the database, since each hit in a query result is linked to exactly one entry.

As an illustration of the kind of questions we can now ask about the material, consider a hypothesis about the relationship between the length/complexity of a segment and its position in the NP. In particular, we might be interested in seeing if, in our data, GenPs consisting of two tokens are more likely to appear prenominally than GenPs consisting of three tokens. We investigate that by posing four queries; the first of these can be seen in Figure 3. In this screenshot, the graphical query builder is used to construct a query that looks for a token in a segment with a category subsumed by `N` (that is, part of a noun `N.C` or proper name `N.P`), followed by zero or more tokens of any kind, followed by a segment of exactly three tokens that are inside a GenP. Note that the properties of the segments are all coded on the tokens themselves. Properties of the whole entry are also placed on individual tokens, which is why we also constrain the initial token to be part of an entry that does not have Verified status “No”, that is, we require it to be partially or completely verified. In short, this query gives us all entries with some level of manual inspection that contain a noun followed, possibly indirectly, by

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Figure 3: A query in Korp’s graphical query builder that looks for a noun followed, at any distance, by a genitival phrase of exactly three words, in partially verified or better Old English material.

a three-word genitival phrase. As the screenshot in Figure 3 shows, there are 19 such entries in the Old English material, of which the first is *þæt halige Word þæs heofonlican Fæder* ‘the holy word of the heavenly father’. The words in boldface in the screenshot constitute the part of the entry that match the query itself. For the first matching entry, this is *Word þæs heofonlican Fæder*. The box on the right contains an overview of the annotation associated with the selected token and its containing segment and the entry it appears in, including a link to the entry in the database in Karp.

For our investigation, we construct three more queries, by dragging the token boxes into different positions and adjusting the counters that restrict the number of tokens inside the GenP segment. The other queries ask for a three word genitival phrase *followed* by a noun (also 19 hits), and a two word genitival phrase preceded by or followed by a noun (37 and 142 hits, respectively). In our annotated Old English material, there therefore seems to be a relation between length of a GenP and its placement, as two word genitival phrases overwhelmingly appear prenominal (142 out of 179 cases, or 79%), whereas three word genitival phrases are evenly distributed (19 out of 38 cases prenominal, or 50%). Before drawing stronger conclusions about the purported effect, one might for instance want to look more closely at some individual examples to see if they contain fixed expressions or formulaic language, one might to try get an idea of how GenP of other lengths behave, or it could be worth trying to estimate whether

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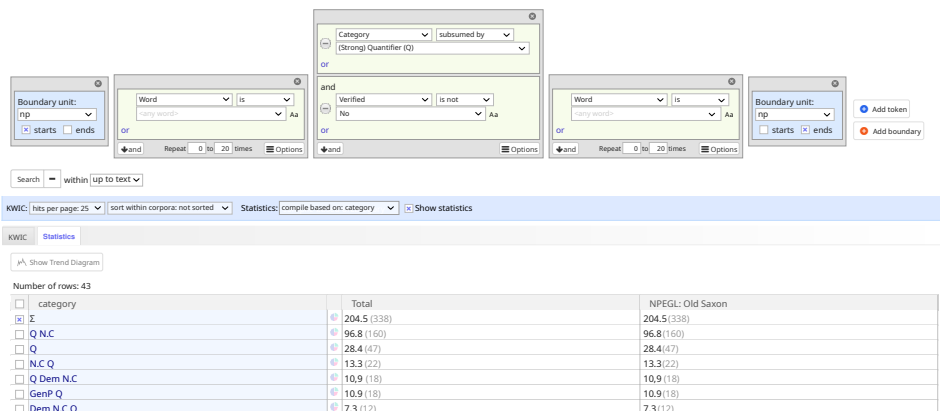


Figure 4: Query and corresponding frequency list of all patterns that contain a strong quantifier (Q) in the manually checked Old Saxon material.

the observed effect is an artifact of the annotation and verification process by also looking at unverified material. All of these additional studies can be carried out from the Korp search infrastructure.

Apart from the concordance view of the data, it is also possible to view results in terms of frequency lists, where the user can choose which properties are used to define the types for which the counts are collected. An example is given in Figure 4, where the user has specified a query that matches NPs that contain a strong quantifier (category Q), and has chosen to view the frequencies of sequences of categories. The table at the bottom shows that there are 338 NPs that contain a quantifier, divided over 34 patterns. The most frequent pattern, a quantifier followed by a common noun (Q N.C) makes up almost half of these cases with 160 hits. The next two most frequent patterns are a single quantifier (Q, 47 hits) and a common noun followed by a quantifier (N.C Q, 22 hits). This way of looking at the database gives the corpus user a quick, quantitative overview of the data on a higher level. Clicking on any row in the frequency table presents the user with a concordance view of the items that match the row's description, so that it is easy to switch between a high level overview of the data and detailed inspection of single attestations.

5 Concluding remarks and availability

We have introduced the NPEGL database, a resource produced in the context of the project *Constraints on syntactic variation: noun phrases in early Germanic lan-*

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guages, which set out to empirically investigate NP-internal variation in terms of make-up and word order in Old Germanic languages. The NPEGL database contains annotated NPs from six historical languages: Old English, Old Icelandic, Old Saxon, Old High German, Old Swedish and Gothic. Each entry in the database documents one NP, and gives information about its context as well as about its internal make-up. The database was populated by extracting NPs from existing corpora, after which part of the entries was manually inspected and corrected. For the purpose of enriching the database with project-relevant linguistic information, we developed a set of guidelines for the annotation of contextual features and the function and the structure of the NP, in a theory-neutral way that we hope facilitates the reuse of this resource for further research.

Vetted parts of the database described in this paper are made publicly available. More information can be found at <https://spraakbanken.gu.se/en/resources/npegl>. This page gives, among other things, links to searchable versions of the material in the Karp and Korp interfaces. In addition, most of the source material has licences that allow us to distribute derivative works. For these parts of the database, we also offer downloadable versions of the data under creative commons licences.

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Appendix: Annotation labels

Some labels such as **⟨Undec⟩** (“undecidable”) or **⟨Other⟩** occur several times in different contexts, and hence appear to be multiply ambiguous. However, this will not create any ambiguity insofar as they occur as an option only relative to a specific context (or embedded in a unique path), which makes it clear e.g. whether **⟨Other⟩** stands for an “other” grammatical function, see Table 5, or an “other” type of coordination, see Table 7, etc.

In the following, we give an exhaustive overview of all annotation labels used in NPEGL.

Table 4: Property labels 1 – Inflection: case, number, gender

Description	Label
Nominative	Nom
Accusative	Acc
Dative	Dat
Genitive	Gen
Instrumental	Instr
Vocative	Voc
Oblique case (= morphological case is “undecidable”)	Obl
Singular	Sg
Dual	Du
Plural	Pl
Number cannot be decided	Undec
Masculine	Mas
Feminine	Fem
Neuter	Neu
Gender cannot be decided	Undec

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Table 5: Property labels 2 – Grammatical (= syntactic) function

Description	Label
Argument	Arg
Argument of verb	Arg.ofV
Subject of verb	Arg.ofV.Sb
Object of verb	Arg.ofV.Ob
Other argument of verb	Arg.ofV.Oth
Complement of preposition	Arg.ofP
Argument of noun	Arg.ofN
Complement of adjective	Arg.ofA
Complement of degree element	Arg.ofDeg
Predicate	Pred
Predicate with copular verb	Pred.Cop
Predicate in other contexts	Pred.Oth
Apposition	App
Vocative	Voc
Adverbial	Adv
Other grammatical function	Other

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Table 6: Category labels: lexical categories

Description	Label
Noun	N
Common noun	N.C
Proper name	N.P
Modifier	Md
Positional predicate	Md.Pos
Cardinal element (numeral or weak quantifier)	Md.Nu/WQ
Numeral	Md.Nu/WQ.Nu
Weak quantifier	Md.Nu/WQ.WQ
Adjective	Md.Aj
Lexical adjective	Md.Aj.Lx
Past participle	Md.Aj.Lex.Pst
Present participle	Md.Aj.Lex.Pre
Derived adjective (non-participial)	Md.Aj.Lex.Der
Prototypical adjective	Md.Aj.Lex.Pro
Functional adjective	Md.Aj.Fn
Ordinal numeral	Md.Aj.Fn.Ord
Defective adjective	Md.Aj.Fn.Df
Determiner-like adjective	Md.Aj.Fn.Dt
Demonstrative	Dem
	H
Norse adjectival article (<i>h)inn</i>	
Possessive	Poss
Personal pronoun	Per
(Strong) Quantifier	Q

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Table 7: Category labels: coordination

Description	Label
Coordinator	&
Coordinator of NPs	&.NP
Coordinator of nouns	&.N
Coordinator of possessives	&.Pos
Coordinator of adjectives	&.Aj
Coordinator of numerals	&.Nu
Uncertain type of coordination	&.Other
Initial part of a discontinuous coordinator (double coordination)	&.Init

Table 8: Category labels: phrasal/clausal categories

Description	Label
NP	NP
Genitival phrase	GenP
Prepositional phrase	PP
Apposition	App
Adjectival associate	Assoc
Relative clause	RC
Complement clause	CC
Finite complement clause	CC.Fi
Non-finite complement clause	CC.Nf
Adverbial	Adv

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Table 9: Category labels: subdependents

Description	Label
Modifier of adjective	Mdmd
Complement of adjective	Mdcm
Nominal complement of modifier	Mdcm.N
Prepositional complement of modifier	Mdcm.P
Complement of degree element	Dgcm
Unmarked (“bare”) nominal complement of degree	Dgcm.Br
Marked/clausal complement of degree	Dgcm.Mk

Table 10: Formal / morphological / syntactic property labels

Description	Label
Weak adjectival declension	Wk
Strong adjectival declension	Str
Ambiguous adjectival declension (= undecidable whether strong or weak)	Undec
Zero declension	Zero
Positive (or unspecified) degree	Pos
Comparative degree	Cmp
Superlative degree	Sup
Suffixed article (<i>t</i>)	Sf
Relational noun (<i>t</i>)	Rel
Complex (<i>t</i>)	Complex
Definite (<i>t</i>)	Def
Apposition does not contain a head noun (<i>t</i>)	NoN

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Table 11: Semantic property labels

Description	Label
Animate	Anim
Human individual	Anim.HInd
Human collective term	Anim.HColl
Other animate denotation	Anim.Oth
Tangible	Tang
Tangible object denotation	Tang.Obj
Tangible substance denotation	Tang.Subs
Abstract	Abs
Dynamic denotation	Abs.Dyn
Other abstract denotation	Abst.Oth
Denoting ethnicity, origin, affiliation etc.	Ethnic
Denoting colour	Colour
Denoting physical property or dimension	Phys/Dim
Evaluative adjective	Eval
Relational/denominal adjective	RelDen
Denoting degree or event quantification	Deg/Q
Other classes of lexical adjectives	LexRest
Possessor	Pos
Kinship	Kin
Partitive	Part
Other kind of argument	OArg
Other genitive relation	Oth
GenP has animate referent	Anim

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Chapter 2

How to measure syntactic diversity: Patternization – methods and algorithms

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This chapter develops an approach to diagnosing, comparing, and measuring word order variation in a systematic fashion, attempting to put numbers on the degrees of that variation – in isolation and in comparison. Moreover, it explores some ways of giving these numbers a graphical realization thus visualizing syntactic diversity. Since it operates on strings of syntactic categories referred to as *patterns*, the method itself will be labelled *Patternization*. Patternization is a purely mathematical approach based on some simple combinatorial and statistical notions, and presupposes an annotated corpus (minimally, part-of-speech tagging). For illustration, the discussion is primarily based on the NPEGL¹ annotation system and the databases of Old Germanic noun phrases in NPEGL, but the methodology described here as such is intended to be applicable more generally.

1 Introduction

When comparing noun phrases in two languages such as, say, Spanish and modern German, one noticeable feature is the position of adjectives relative to their head noun: *un coche rojo* – *ein rotes Auto* ‘a red car’. Thus when studying (word order) variation in the noun phrase, the positioning of certain elements is a useful point of departure.

¹One output of the project *Constraints on syntactic variation: noun phrases in early Germanic languages* (NPEGL), led by Kristin Bech, is the creation of an annotated noun phrase database comprising material from Old Icelandic, Old English, Old Saxon, Old Swedish, Old High German and Gothic. For an overview and discussion, the reader is explicitly referred to Pfaff & Bouma (2023 [this volume]); relevant details are briefly discussed in Section 1.1 below.



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In a pilot study leading up to the NPEGL project (Bech et al. 2023 [this volume]), the prenominal vs. postnominal distribution of a range of modifier elements in some Old Germanic languages was examined. Table 1 illustrates the positions of adjectives and possessives in relation to the noun (relative frequencies).

Table 1: Modifier–noun order in Old English, Old High German, Old Saxon, and Old Icelandic (Bech et al. 2023: 82, Table 2 [this volume])

	Old English	Old High German	Old Swedish	Old Icelandic
ADJ–N	96.6%	81.7%	81.3%	86.9%
N–ADJ	3.4%	18.3%	18.7%	13.1%
...				
POSS–N	99.7%	82.0%	93.7%	30.5%
N–POSS	0.3%	18.0%	6.3%	69.5%
...				

Such a procedure puts numbers on the preference of a given kind of modifier to occur either in pre- or postnominal position, and these numbers can be seen a measurement of diversity. While this sort of binary approach is clearly an important first step and a widely used method, it is limited in scope. For one thing, it reveals a certain bias – justified though it may be – in that the categories to be compared are pre-determined. In a relevant sense, it is not exhaustive. Secondly, it is not very flexible in that it focuses on one binary parameter (pre- vs. postnominal) for one variable category. Thirdly, and related to the previous point, potential co-dependencies are not captured.

Relying on a number of computational methods, this chapter attempts to develop a more sophisticated and systematic approach to diagnosing, measuring and visualizing word order variation. In the remainder of this section, I will provide some information about the source material/NPEGL, and establish some technical background. Notably, I will define the central component of the approach to be developed here: the *Pattern*. Section 2 introduces the numbers of the current NPEGL entries that will be the basis for further discussion; in addition, a simple measurement for diversity is presented. In Section 3, a more subtle method to explore diversity is developed. I will show how potential permutations of category labels can be related to actual attestations of noun phrase patterns, and how this allows us to measure the degree of variation as well as the limitations of that

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variation. Section 4 discusses some macro specifications of “patterns” and shows how these can be used to probe for certain correlations between two categories. A somewhat different perspective is taken in Section 5, where I sketch a probabilistic model to describe the distribution of categories in the nominal space. I will also explore a possibility to visualize that probabilistic distribution. Section 6 concludes. In addition, there is an appendix briefly describing some Python methods that underlie the procedures discussed in this chapter.

1.1 The NPEGL database(s): category labels and restrictions

Technically speaking, NPEGL is not one database, but a collection of databases (for Old Icelandic, Old English, Old Saxon, etc.) that are all based on the same annotation system. This system employs flat annotation, i.e. it essentially encodes linearity, but not dependency or constituency. On the other hand, by definition, every database entry is a constituent, viz. a noun phrase (= NP).

The central unit in this annotation system is the category: every NP component receives a category label. The notion of category underlying the NPEGL annotation conflates parts of speech and constituents; in the X-bar theoretic sense, the category inventory of NPEGL comprises both X^0 s (single word units like the head noun, demonstratives, adjectives etc.) and XPs (phrasal units like genitive phrases and clauses like relative clauses). Thus, at the outset, all NP components are on equal footing due to the flat annotation; they differ primarily by their category label and their linear position. In the NPEGL system, it is possible to encode a number of dependencies; moreover, it also involves a rich annotation for morphological and semantic features, information about syntactic function, and various kinds of metainformation (see Pfaff & Bouma 2023 [this volume], Pfaff 2019a) for a detailed overview and discussion), but these aspects are irrelevant here since we will first and foremost be concerned with linear properties of categories.

Some categories allow for sub-specification of up to four levels, which is encoded via path notation (the levels are separated by a dot); for instance, the modifier category distinguishes cardinal elements and adjectives, and the adjective category, in turn, distinguishes *lexical adjectives* and *functional adjectives* etc. This is illustrated in (1), based on the NPEGL entry (OIce.629.122).

- (1) marga aðra röskva menn [er þá voru ...]
 Md.Card Md.Aj.Fn.Dt Md.Aj.Lx.Pro N.C RC
 ‘many other brave men who then were ...’

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Here, the components of the labels of the first three elements are to be read as follows (the arrows indicate the fully specified label):

Md	= class of modifiers
Md.Card	= class of cardinal elements
→ Md.Card.WQ	= weak quantifiers
Md.Aj	= class of adjectives
Md.Aj.Fn	= class of functional adjectives
→ Md.Aj.Fn.Dt	= determiner-like adjectives
Md.Aj.Lx	= class of lexical adjectives
→ Md.Aj.Lx.Pro	= prototypical adjectives

In other words, depending on the level of construal, this example can be seen as involving three modifiers, or a cardinal element and two adjectives, or a weak quantifier, a functional adjective and a lexical adjective. These (sub-)category levels will be referred to as cat^0 (X), cat^1 (X.Y), cat^2 (X.Y.Z) and cat^3 (X.Y.Z.W). The class of nouns (N) allows a cat^1 distinction between common nouns (N.C) and proper nouns (N.P), whereas relative clauses (RC) are not distinguished further. Whenever I report findings from NPEGL, I will use the original annotation labels,² but in the running text, I will often simply use e.g. “Adj” instead of Md.Aj.Lx, “N” instead of N.C, or “Num” instead of Md.Card.Num.

The numbers to be presented here are based on the contents of the NPEGL databases, but it is essential to be explicit about what they relate to. NPEGL employs a pre-sorting strategy apriori excluding certain irrelevant (e.g. one-word) noun phrases, and, since annotation is still in progress at the time of writing, “100%” can never mean “all noun phrases in the respective text(s)”, but merely “all relevant NPs currently annotated” (see Table 3). It is thus crucial to emphasize that the numbers reported here are mainly intended as an illustration for the underlying methodology rather than as final results in their own right.

For the sake of exposition and for rather practical purposes, I will put two further restrictions on the available data sets in NPEGL by creating *working databases* **ndb_x** (= “nominal database”)³ that

²With one exception: for the sake of readability, I will use “Md.Card” instead of the rather bulky label “Md.Nu/WQ” for cardinal elements used in the official NPEGL annotation.

At the end of the chapter, an overview of the category labels used here is given; for the full overview, see Pfaff & Bouma (2023 [this volume]), Pfaff (2019a).

³In the following, I will use the shorthand form **ndb** where the subscript indicates the respective language. For instance, **ndb_{OE}** means “working nominal database for Old English”.

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- (i) only include NPs that contain exactly one “N.C” (= common noun),⁴ and
- (ii) do not include NPs comprising a coordination structure.

Condition (i) ensures that the core component of the noun phrase, i.e. the head noun, is present; otherwise, notions like *pre-* vs. *postnominal* would be nonsensical. Condition (ii) reduces the number of unnecessary complications and unnecessarily long NPs, which do not add anything to the present discussion.

1.2 Caveat: Patternization

The ideas and methods reported here emerged from experimenting with some peculiarities of the NPEGL annotation system and the question of how the database contents can be utilized to study word order variation.⁵ No excessive claim to novelty is made here insofar as the approaches taken are largely based on simple mathematical and combinatorial procedures. Yet the purpose here is not to develop a full-fledged statistical analysis (nor a syntactic analysis, for that matter); the goal is more modest, viz. to offer some practical suggestions and methodological reflections on how to think about word order variation.

At the outset, several procedures, as described here, will either appear rather trivial, or tedious and cumbersome (or downright impossible) – if performed manually. It is therefore crucial to emphasize that the methods discussed here (and their execution) rely on computational assistance, and the actual “protagonist” remains hidden: “PATTERNIZATION” is a Python tool that I have been developing in the course of the above-mentioned experimenting, and it is this tool that does the actual work. In its current shape, PATTERNIZATION is adapted to the NPEGL annotation system and processes the NPEGL databases.

This chapter is not, however, meant to be a tool documentation, even though some functionalities will be briefly described in the appendix. Rather its purpose is to show what PATTERNIZATION actually does and what the motivation for a given procedure is, instead of focusing on technical details of execution. At a more abstract level, the intention is to motivate *Patternization* as a general approach to syntactic diversity, independent of any concrete tools and independent of a specific annotation scheme.

⁴Thus ruling out elliptic noun phrases (without overt head noun), but also proper names, which behave differently from common nouns in relevant (syntactic) respects.

⁵Originally, this chapter was intended as a mere appendix to Pfaff & Bouma (2023 [this volume]).

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1.3 Patterns

Pfaff (2015, 2019b) uses the term “pattern” in order to have labels with which to describe the surface diversity found in modified definite noun phrases in Icelandic; the relevant patterns are illustrated in (2) (from Pfaff 2015: 29).

- (2) a. **A-WK N-DEF** (I)
 gul-i bíll -inn
 yellow-WK car -DEF
- b. **ART A-WK N** (II)
 hinn fullkomin-i glæpur
 ART perfect-WK crime
- c. **N-DEF A-WK** (III)
 heimspekingur -inn mikl-i
 philosopher -DEF great-WK
- d. **A-STR N-DEF** (IV)
 full-ur strákur -inn
 drunk-STR boy -DEF

The labels given – pattern (I), pattern (II) etc. – each stand for a (linear) surface string with specific formal properties and ordering, without, however, suggesting any theoretical status.⁶ In this setup, syntactic category (Adj, N), adjectival inflection (strong/weak), and article form (free/suffixed) are formal parameters (or distinctive features) that make up a pattern.

Ultimately, these patterns are just members of a small pre-determined set. In order to deal with diversity within the noun phrase at large, however, certain extensions are inevitable since we cannot tell apriori what kind of patterns we may encounter, or how many. In the following, I will generalize this basic notion of pattern in a particular way that makes best-possible use of the annotation system in NPEGL.

Let us define a pattern simply as a string of objects within a given domain where “domain” essentially corresponds to a syntactic constituent; in the present case: domain = noun phrase/NP. A pattern will be represented as an n -tuple constituting a linear sequence of n formal objects: (X_1, X_2, \dots, X_n) . The most obvious value for “formal object”, which we will be using here, is that of a category (label), and since NPEGL allows for four levels of categorial annotation, we have,

⁶Pfaff (2019b) moreover shows that the same pattern (in the sense of identical surface strings) can have a different syntactic construal at different times.

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in principle, four repositories of pattern-building elements. Differently from the narrow conception in (2), we allow for patterns consisting of potential components from a considerably larger pool and, moreover, for patterns of variable length (minimally, though, of length > 1).

Consider the Icelandic example in Table 2 (meaning ‘these two big horses’) with the corresponding NPEGL category labels (see Section 1.1).

Table 2: Four pattern construals of the same NP

	<i>þessir</i>	<i>tveir</i>	<i>stóru</i>	<i>hestar</i>	
cat^0	Dem	Md	Md	N	$\rightarrow \text{patt}^0$
cat^1	Dem	Md.Card	Md.Aj	N.C	$\rightarrow \text{patt}^1$
cat^2	Dem	Md.Card.Nu	Md.Aj.Lx	N.C	$\rightarrow \text{patt}^2$
cat^3	Dem	Md.Card.Nu	Md.Aj.Lx.Pro	N.C	$\rightarrow \text{patt}^3$

This arrangement of labels gives us four possible pattern construals at a different level of granularity, where patt^n is to be read as “pattern instantiated by a given NP at the cat^n level of annotation (or simply cat^n pattern)”:

patt^0 : (Dem, Md, Md, N)

patt^1 : (Dem, Md.Card, Md.Aj, N.C)

patt^2 : (Dem, Md.Card.Nu, Md.Aj.Lx, N.C)

patt^3 : (Dem, Md.Card.Nu, Md.Aj.Lx.Pro, N.C)

Notice that we are not limited, in principle, by category level and can also tap into the maximal pool of category labels $\text{CAT}^0 \cup \text{CAT}^1 \cup \text{CAT}^2 \cup \text{CAT}^3$, or a subset thereof, to construe patterns. For instance, the above example can just as well be construed as pattern (Dem, **Md**, Md.Aj.Lx, N.C). In this pattern, the first modifier slot is underspecified as it were (restricted to *some* modifier category), so it would also capture noun phrases like

- *these **few** big horses* (Md \rightarrow Md.Card.WQ),
- *these **other** big horses* (Md \rightarrow Md.Aj.Fn),
- *these **beautiful** big horses* (Md \rightarrow Md.Aj.Lx).

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A definition of patterns as a sequence of category labels has to be understood relative to a given categorizing system. NPEGL categories include phrasal and clausal categories, thus the patterns to be discussed here are not simply sequences of words, even though the above examples may suggest so. This system also includes patterns such as the following:

- (Md.Aj.Lx, N.C, **GenP**, **PP**) genitive phrase + prepositional phrase
- (Md, N.C, Dem, **RC**) relative clause
- (Dem, Md.Aj.Lx, N.C, **CC.Fi**) complement clause (finite)

Even though GenP may and the other boldprint categories will comprise several words, formally, they are treated as one category, and in this sense, these examples behave just like the above examples, viz. as quartuples (= patterns involving four categories).

2 Basic numbers and Pattern Diversity

The current numbers of NPs, categories, and patterns (sorted by category level) in the NPEGL databases, more specifically, in their respective ndb databases, are illustrated in Table 3. By definition, every NP in ndb_x contains exactly one lexical noun “N.C” (see Section 1.1), thus the respective numbers of occurrences of that category is the same as the numbers of NPs given in Table 3. Table 5 lists the next three most frequent categories.

Table 3: ndb-subdatabases in NPEGL: NPs, categories, patterns

		Old Icelandic	Old English	Old High German	Old Swedish	Old Saxon
NPs		7981	3260	604	687	6696
CATs	cat ⁰	19	16	16	17	16
	cat ¹	25	22	20	21	20
	cat ²	28	27	23	24	23
	cat ³	34	30	28	31	28
PATTs	patt ⁰	384	151	92	75	245
	patt ¹	509	191	103	86	289
	patt ²	590	214	113	99	351
	patt ³	708	260	124	107	383

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Table 4: ndb-subdatabases in NPEGL: NPs, categories, patterns

(a) NPs					
	Old Icelandic	Old English	Old High German	Old Swedish	Old Saxon
	7981	3260	604	687	6696

(b) CATs					
	Old Icelandic	Old English	Old High German	Old Swedish	Old Saxon
cat ⁰	19	16	16	17	16
cat ¹	25	22	20	21	20
cat ²	28	27	23	24	23
cat ³	34	30	28	31	28

(c) PATTs					
	Old Icelandic	Old English	Old High German	Old Swedish	Old Saxon
patt ⁰	384	151	92	75	245
patt ¹	509	191	103	86	289
patt ²	590	214	113	99	351
patt ³	708	260	124	107	383

Table 5: Most frequent categories at cat² – absolute frequencies and occurrence in patterns

	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
category	Md.Aj.Lx	Dem	Dem	GenP	Dem
abs. freq.	2013	1302	260	178	2485
CAT_IN_PATT	200	75	41	21	108
category	Poss	Md.Aj.Lx	Poss	Poss	Md.Aj.Lx
abs. freq.	1706	853	134	173	1759
CAT_IN_PATT	94	82	18	15	122
category	Dem	GenP	GenP	Md.Card.Nu	GenP
abs. freq.	1677	604	77	163	1642
CAT_IN_PATT	162	59	20	22	124

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The label *Occurrences* in Table 5 indicates the absolute frequency of the respective category, while *Cat_in_Patt* indicates in how many different patterns that category occurs. As can be seen, the two numbers do not necessarily correlate; a category can be very frequent without being very versatile, and vice versa. For space reasons, will not look at individual patterns in detail here; suffice it to say that the most frequent pattern in each ndb_x is of length 2: (N.C, Poss), (Dem, N.C), (Poss, N.C), etc.

Given the basic numbers in Table 3, we can calculate a simple type-token ratio – patterns per NPs – which will be referred to as *Pattern Diversity* (PATTDIV), where, hypothetically, a value of 1.0 = 100% indicates maximal diversity (every NP instantiates a different pattern). If we take these numbers at face value, we get the ratios illustrated in Table 6.

Table 6: Pattern Diversity: patterns per NPs (see Table 3)

	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
cat ⁰	4.8%	4.6%	15.2%	10.9%	3.7%
cat ¹	6.4%	5.9%	17.1%	12.5%	4.3%
cat ²	7.4%	6.6%	18.7%	14.4%	5.2%
cat ³	8.9%	8.0%	20.5%	15.6%	5.7%

However, a note of caution is in order, for the numbers in Table 6 give a distorted impression. Notice, in particular, that the numbers of annotated NPs in the various language databases are of different sizes, with a significant difference between Old Icelandic/Old Saxon and Old High German/Old Swedish. In the course of annotation, a certain degree of saturation will be reached, meaning that, while the number of NPs increases steadily, it happens less and less often that a new pattern is introduced and thus the ratio – patterns per NPs – gets “diluted”. In other words, for a large number of NPs, the diversity index becomes smaller.

It is, therefore, prudent to establish a *standardized common denominator* *scd* of, say, *scd* = 1000, i.e. patterns per 1000 NPs, in order to provide a more balanced picture. When calculating the values for PATTDIV on that basis, we get the numbers in Table 7.⁷

One straightforward observation is that we can put a number on diversity and claims such as “the Old Icelandic noun phrase has more variation than the Old

⁷In the Appendix, we will briefly address the technicalities of this procedure. Also, since the *ndbs* for Old High German and Old Swedish are of size < 1000, they will be ignored here.

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Table 7: Revised PATTDIV with $s_{cd} = 1000$

	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
cat ⁰	13.1%	8.6%			9.5%
cat ¹	16.5%	10.6%			10.2%
cat ²	18.5%	11.7%			12.6%
cat ³	21.8%	13.8%			13.4%

English/Saxon noun phrase” can be given numerical substance via the PATTDIV index. Thus, while simple, PATTDIV gives us an elegant measurement for (degrees of) syntactic diversity.

3 Combinatorial flexibility

We will now look at some more advanced issues; consider the examples in (3), found in Old Icelandic saga texts.⁸

- (3) a. *sína fullkomna vináttu*
 poss perfect friendship
 b. *fullkomna vináttu sína*
 perfect friendship poss
 c. *vináttu sinni fullkominni*
 friendship poss perfect
 d. *fullkominni sinni vináttu*
 perfect poss friendship
 e. *sinni vináttu fullkominni*
 poss friendship perfect
 ‘his perfect/complete friendship’⁹

These examples present a rather peculiar instance of diversity insofar as the same lexical items, and, a fortiori, the same categories are involved in all five

⁸Retrieved from the *Saga Corpus*: <http://malheildir.arnastofnun.is/?mode=forn#?corpus=forn>.

⁹The possessive and the adjective visibly differ with respect to case, accusative vs. dative (as a consequence of being governed by different verbs). Such case differences are irrelevant in the present context.

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cases, but in different constellations, i.e. patterns. Now instead of comparing frequencies, let us take the fact *attestation* at face value and focus on the three categories involved. The maximal number of permutations involving three elements, such as {N, ADJ, Poss}, is $3! = 3 \times 2 \times 1 = 6$ possible constellations – five of which are shown in (3), while the missing one does not seem to be attested.¹⁰ We can encode this observation with a feature [+/-ATT], or simply assign a truth value, cf. (Table 8).

Table 8: Attested and non-attested patterns of {N, Poss, ADJ }

{N, Poss, ADJ }			5/6
i.	Poss ADJ N	[+ATT]	TRUE
ii.	ADJ N Poss	[+ATT]	TRUE
iii.	N Poss ADJ	[+ATT]	TRUE
iv.	ADJ Poss N	[+ATT]	TRUE
v.	Poss N ADJ	[+ATT]	TRUE
vi.	N ADJ Poss	[-ATT]	FALSE

We will take the observation that five out of six possible patterns (involving three categories) are attested as a measurement of *combinatorial flexibility* and notate it as **COMBFLEX**({N, ADJ, Poss}) = 5/6.¹¹ Thus combinatorial flexibility tells us something about which categories combine in how many ways. Differently from pattern diversity, it tells us something about actual diversity in relation to potential diversity by making reference to the maximum of possible permutations.

When assessing combinatorial flexibility, the actual number of OCCURRENCES of the respective patterns is irrelevant; what counts is their ATTESTATION value. By default, [-ATT] is tantamount to zero occurrences. However, for many practical purposes, a *threshold value* X might be warranted such that [+ATT] requires

¹⁰The usual disclaimers apply: “not attested” in a (historical) corpus does not necessarily entail that the construction in question is, in fact, ungrammatical.

In the following, the term ATTESTATION will be used as a binary parameter (+/-ATT) indicating *whether* a particular configuration is found in a given language/text in the first place – rather than *how often*; when talking about (absolute) frequencies, we will instead use OCCURRENCE.

¹¹In accordance with the project title *Constraints on syntactic variation*, Table 8 can also be given a purely extensional interpretation: Rows i-v in Table 8 represent the variation, Column vi. is the constraint (on variation).

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there to be $x \geq X$ OCCURRENCES; in that case, $[-ATT]$ is the result of $x < X$ OCCURRENCES. For the sake of illustration, the following discussion is based on the minimum setting $X = 1$ and $[+ATT] \leftrightarrow x \geq 1$.

The illuminating example (3) above was an accidental finding, but it led to an interesting way of looking at syntactic diversity. In the following, we will develop this into a fullblown method that is systematic and, above all, exhaustive in the sense that it enables us to examine the whole spectrum of attested per potential permutations in a given domain. Before addressing the actual procedure, I will give a brief definition of the mathematical notions *permutation* and *combination* and some terminology relevant for the implementation.

3.1 Basic combinatorics refresher

Combinatorics is a branch of (discrete) mathematics that examines the ways in which (arrangements of) objects can be counted. For the discussion to follow, we will especially rely on the concepts (*sub-*)*permutation* and *combination*. Given a set S with n distinct elements, then $n!$ (read: n factorial) is the number of possible permutations, i.e. different arrangements, of the n elements; the ordering of the elements matters. A combination is essentially a set, here a subset of S , and the number of k -combinations is the number of different subsets of S of cardinality k . We have $\binom{n}{k}$ (read: n choose k) k -combinations in S . Being a set, the internal ordering of a combination does not matter.

The relevant details are summarized and illustrated below:

\Rightarrow Given a *sample space* (= set) S , with $|S| = n$, and $k \in \mathbb{N} \leq n$, then there are

- $n! = n \times (n-1) \times (n-2) \times \dots \times 2 \times 1$ (full) **permutations** of size n
- $\binom{n}{k} = \frac{n!}{k!(n-k)!}$ **k -combinations** \sim sub-sets of size k
- $\binom{n}{k} \times k! = \frac{n!}{(n-k)!}$ **k -permutations** \sim sub-permutations of size k

\Rightarrow Suppose $S = \{A, B, C, D, E, F\}$ with $n = |S| = 6$; let $k = 3$; then there are

$$(I) \quad \binom{6}{3} = \frac{6!}{3!(6-3)!} = 20 \text{ possible } 3\text{-combinations:}$$

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{A, C, B}	{A, C, D}	{A, D, E}	{A, C, E}	{A, B, D}
{A, D, F}	{A, E, F}	{A, C, F}	{A, E, B}	{A, B, F}
{F, D, C}	{F, E, B}	{B, C, D}	{C, E, B}	{B, C, F}
{B, D, F}	{C, D, E}	{B, D, E}	{C, E, F}	{D, E, F}

Combinations are sets, hence the ordering does not matter; therefore
 $\{A, C, B\} = \{C, A, B\} = \{B, A, C\} = \{B, C, A\}$ etc.

(II) $\binom{6}{3} \times 3! = 20 \times 6 = 120$ possible *3-permutations*:

(A, C, B)	(A, B, C)	(B, A, C)	(B, C, A)	(C, A, B)	(C, B, A)
(A, C, D)	(A, D, C)	(C, A, D)	(C, D, A)	(D, A, C)	(D, C, A)
(A, D, E)	(A, E, D)	(D, A, E)	(D, E, A)	(E, A, D)	(E, D, A)
(A, C, E)	(A, E, C)	(C, A, E)	(C, E, A)	(E, A, C)	(E, C, A)
(A, B, D)	(A, D, B)	(B, A, D)	(B, D, A)	(D, A, B)	(D, B, A)
(A, D, F)	(A, F, D)	(D, A, F)	(D, F, A)	(F, A, D)	(F, D, A)
(A, E, F)	(A, F, E)	(E, A, F)	(E, F, A)	(F, A, E)	(F, E, A)
(A, C, F)	(A, F, C)	(C, A, F)	(C, F, A)	(F, A, C)	(F, C, A)
(A, E, B)	(A, B, E)	(B, A, E)	(B, E, A)	(E, A, B)	(E, B, A)
(A, B, F)	(A, F, B)	(B, A, F)	(B, F, A)	(F, A, B)	(F, B, A)
(F, D, C)	(C, F, D)	(D, C, F)	(D, F, C)	(F, C, D)	(C, D, F)
(F, E, B)	(B, F, E)	(E, B, F)	(E, F, B)	(F, B, E)	(B, E, F)
(B, C, D)	(B, D, C)	(C, B, D)	(C, D, B)	(D, B, C)	(D, C, B)
(C, E, B)	(B, E, C)	(C, B, E)	(B, C, E)	(E, B, C)	(E, C, B)
(B, C, F)	(B, F, C)	(C, B, F)	(C, F, B)	(F, B, C)	(F, C, B)
(B, D, F)	(B, F, D)	(D, B, F)	(D, F, B)	(F, B, D)	(F, D, B)
(C, D, E)	(C, E, D)	(D, C, E)	(D, E, C)	(E, C, D)	(E, D, C)
(B, D, E)	(B, E, D)	(D, B, E)	(D, E, B)	(E, B, D)	(E, D, B)
(C, E, F)	(C, F, E)	(E, C, F)	(E, F, C)	(F, C, E)	(F, E, C)
(D, E, F)	(D, F, E)	(E, D, F)	(E, F, D)	(F, D, E)	(F, E, D)

(Sub-)permutations will be represented as tuples since the ordering does matter: $(A, C, B) \neq (C, A, B) \neq (B, C, A)$ etc.

In the following, I will use the term *permutation group* for the set of possible permutations of a given combination:

combination	{A, C, B}
permutation group	{ (A, B, C), (A, C, B), (B, C, A), (B, A, C), (C, A, B), (C, B, A) }

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3.2 Patterns and permutations

For the present purpose, the relevant sample space S_{cat} obviously makes reference to category labels (or annotation features more generally). S_{cat} may be the entire categorial inventory or constitute a more or less random selection/subset of category labels, e.g.

- $S_{cat} = \text{CAT} = \text{cat}^0 \cup \text{cat}^1 \cup \text{cat}^2 \cup \text{cat}^3$ (complete category set)
- $S_{cat} = \text{cat}^1 / \text{cat}^2$ ($\text{cat}^1 / \text{cat}^2$ categories)
- $S_{cat} = \{\text{Poss, Md.Aj, PP, Q, Dem, GenP, N.C, RC}\}$ (random selection)

The general procedure is as follows: after establishing S_{cat} and the prospective pattern size k , we generate all $\binom{|S_{cat}|}{k}$ permutation groups, which will then serve as search patterns to browse the database. The query results, in turn, will allow us to determine $\text{COMBFLEX}(\{c_1, c_2 \dots c_k\})$ for any k categories $c_1, c_2 \dots c_k \in S_{cat}$.

For convenience, we can reduce some unnecessary noise. Since the *ndb* restriction guarantees that every NP contains exactly one noun, we will take advantage of that and only consider combinations that include a noun. Thus with $k = 3$, we first generate *all* 3-combinations of S_{cat} , but sort out those that do not contain a category label “N.C”, as in (4). For those combinations that do, however, we will then generate the respective permutation groups, cf. (5).

- (4) a. {RC, Dem, Q} (combinations *not* satisfying
b. {Mdmd, GenP, Poss} the restriction »contains “N.C”«
c. {Dem, Q, Poss} will be ignored)
- (5) a. { N.C, Poss, Md.Aj } (satisfies the restriction)
⇒ generate permutations:
(Poss, N.C, Md.Aj), (Poss, Md.Aj, N.C), (N.C, Md.Aj, Poss),
(N.C, Poss, Md.Aj), (Md.Aj, Poss, N.C), (Md.Aj, N.C, Poss)
b. { Dem, N.C, RC } (satisfies the restriction)
⇒ generate permutations:
(Dem, N.C, RC), (N.C, Dem, RC), (Dem, RC, N.C),
(RC, Dem, N.C), (N.C, RC, Dem), (RC, N.C, Dem)
etc.

In the next step, the respective *ndb_x* will be probed for attestations of each member of all permutation groups generated. In (6), a small selection of the results for a search in *ndb_{OIcel}* with $k = 3$ is given.

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(6)	a.	{Md.Aj, App, N.C}:	1 / 6
	i.	(App, Md.Aj, N):	FALSE
	ii.	(App, N.C, Md.Aj)	FALSE
	iii.	(Md.Aj, App, N.C):	FALSE
	iv.	(Md.Aj, N.C, App):	TRUE
	v.	(N.C, App, Md.Aj):	FALSE
	vi.	(N.C, Md.Aj, App):	FALSE
	b.	{N.C, Dem, RC}:	2 / 6
	i.	(Dem, N.C, RC):	TRUE
	ii.	(N.C, Dem, RC):	TRUE
	iii.	(RC, N.C, Dem):	FALSE
	iv.	(RC, Dem, N):	FALSE
	v.	(N.C, RC, Dem):	FALSE
	vi.	(Dem, RC, N.C):	FALSE
	c.	{N.C, Dem, Md.Aj.Lx}:	3 / 6
	i.	(Dem, Md.Aj, N.C):	TRUE
	ii.	(Dem, N.C, Md.Aj):	TRUE
	iii.	(Md.Aj, N.C, Dem):	FALSE
	iv.	(N.C, Dem, Md.Aj):	TRUE
	v.	(Md.Aj, Dem, N.C):	FALSE
	vi.	(N.C, Md.Aj, Dem):	FALSE
	d.	{N.C, Md.Card.WQ, Md.Aj}:	4 / 6
	i.	(Md.Aj, Md.Card.WQ, N.C):	TRUE
	ii.	(Md.Aj, N.C, Md.Card.WQ):	TRUE
	iii.	(Md.Card.WQ, Md.Aj, N.C):	TRUE
	iv.	(Md.Card.WQ, N.C, Md.Aj):	TRUE
	v.	(N.C, Md.Aj, Md.Card.WQ):	FALSE
	vi.	(N.C, Md.Card.WQ, Md.Aj):	FALSE
	e.	{N.C, Md.Aj, Poss}:	5 / 6

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i. (Md.Aj, N.C, Poss):	TRUE
ii. (Poss, Md.Aj, N):	TRUE
iii. (N.C, Poss, Md.Aj):	TRUE
iv. (Poss, N.C, Md.Aj):	TRUE
v. (Md.Aj, Poss, N.C):	TRUE
vi. (N.C, Md.Aj, Poss):	FALSE
<hr/>	
f. {Q, N.C, Md.Aj}:	6 / 6
i. (Q, Md.Aj, N.C):	TRUE
ii. (Q, N.C, Md.Aj):	TRUE
iii. (Md.Aj, Q, N.C):	TRUE
iv. (Md.Aj, N.C, Q):	TRUE
v. (N.C, Md.Aj, Q):	TRUE
vi. (N.C, Q, Md.Aj):	TRUE

As might be expected, in many cases, not more than one or two of the permutations are ATTESTED, and often those are not very insightful.¹² However, we also find combinations, for which up to all six out of six possible permutations are ATTESTED, and permutation groups with COMBFLEX = 4/6 or higher are surely worth closer examination. But the most outstanding feature of this procedure is that it is completely exhaustive: for any 3-permutation in S_{cat} , we will determine whether it is ATTESTED or not, and, concomitantly, for any permutation group, we will ascertain its combinatorial flexibility – as partially illustrated in (6). In Table 9, the numbers of permutation groups for each value of COMBFLEX are given:

Thus we have, for instance, six permutation groups in Old Saxon with the maximal COMBFLEX 6/6, five permutation groups in Old English with COMBFLEX 5/6 etc. Based on those numbers, we can, in turn, calculate a mean combinatorial flexibility μ -COMBFLEX that tells us how many permutations we find on average – per permutation group and per language, cf. Table 10.

The numbers in Table 10 constitute a simplification insofar as they are based on the number of permutation groups of which at least one permutation yields TRUE, while permutation groups with COMBFLEX 0/6 are not considered here. Let us refer to a permutation group with COMBFLEX 1/6 – 6/6 as C_{att} (= “attested combination”), and conversely, to every potential permutation group generated on

¹²For instance, the fact that only permutations with the relative clause in final position are attested, cf. (6b), is not really surprising.

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Table 9: Combinatorial flexibility in $S_{\text{cat}} = \text{cat}^2$ with $k = 3$

COMBFLEX	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
1/6	31	41	27	31	13
2/6	59	41	19	17	28
3/6	20	10	6	7	20
4/6	13	2	0	3	10
5/6	19	5	0	0	4
6/6	11	0	0	0	6

Table 10: Mean combinatorial flexibility in $S_{\text{cat}} = \text{cat}^2$ with $k = 3$

	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
μ -COMBFLEX	2.8/6	1.9/6	1.6/6	1.7/6	2.8/6

the basis of the respective category inventory (see Table 3) as C_{pot} (= “potential combination”). With the numbers for these, we can calculate the ratio attested permutation groups per potential permutation groups; effectively, this ratio tells us how often three categories can co-occur, given the entire spectrum of categories available and the resulting possible three-way combinations. Likewise we can calculate the mean combinatorial flexibility that includes non-ATTESTED permutation groups (i.e. with the value 0/6); call this μ -COMBFLEX⁰, cf. Table 11.

Table 11: Potential and attested combinations; modified combinatorial flexibility

	Old Icelandic	Old English	OH German	Old Swedish	Old Saxon
categories	28	27	23	24	23
C_{pot}	351	325	231	253	231
C_{att}	153	99	52	58	81
$\frac{C_{\text{att}}}{C_{\text{pot}}}$	0.436	0.305	0.225	0.229	0.351
μ -COMBFLEX ⁰	1.2/6	0.6/6	0.4/6	0.4/6	1.0/6

Obviously, since a permutation is a discrete sequence, we cannot literally have something like 1.9 or 0.6 (*out of 6*) permutations. μ -COMBFLEX and μ -COMBFLEX⁰ must be understood more abstractly as the overall degree of categorial versatility indicating how likely categories $\in S_{\text{cat}}$ are to combine with other categories $\in S_{\text{cat}}$.

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Hence mean combinatorial flexibility allows us to measure the overall *potential* syntactic diversity in relation to a maximum – thus entailing a measurement of the constraints on that diversity.

3.3 Patterns in the patterns

Even though the procedure as described above involves permutation groups at large, implicitly we have already stipulated a condition: “N.C”; i.e. we have been looking at potential permutations in the presence of a noun. We can go one step further by fixing a second parameter. Consider the permutation group $\{ \text{N.C, Md.Aj, X} \}$ where X is a variable over categories $\in S_{cat}$. Here we are constructing a macro permutation group probing for the distribution of categories X in the context of a noun and an adjective.

For instance, with $X = \{\text{Dem, Num, Poss, Q, WQ}\}$ we can examine the behaviour of elements that (on a generous conception) may be considered determiner(-like) elements in that context. Below, the results for ndb_{OIcel} are given, indicating how many and which $x \in X$ are attested in the respective permutation:

- | | | |
|---------------------------|---|--|
| (7) a. (x, Md.Aj, N.C): | 5 | $x \in \{\text{WQ, Dem, Num, Poss, Q}\} = X$ |
| b. (x, N.C, Md.Aj): | 5 | $x \in \{\text{WQ, Dem, Num, Poss, Q}\} = X$ |
| c. (Md.Aj, x, N.C): | 5 | $x \in \{\text{WQ, Dem, Num, Poss, Q}\} = X$ |
| d. (Md.Aj, N.C, x): | 4 | $x \in \{\text{Dem, Num, Poss, Q}\} \subset X$ |
| e. (N.C, x, Md.Aj): | 4 | $x \in \{\text{Dem, Num, Poss, Q}\} \subset X$ |
| f. (N.C, Md.Aj, x): | 1 | $x \in \{\text{Q}\} \subset X$ |

For this particular sample, we can, among other things, infer that all items in X occur in the permutations in (7a)–(7c), and that demonstratives, possessives and numerals have an identical distribution in the context of nouns and adjectives: all three occur in the permutations (7a)–(7e), and all three do not occur in the permutation (7f).¹³

Provided the dataset is large enough, instead of merely considering Md.Aj, we can use any category $y \in S_{cat}$ as a second parameter and let $X = \in S_{cat}$ in order to probe into $\{ \text{N.C, y, X} \}$ and examine the entire categorial space and determine the overall extent of co-distributions.

¹³Be careful not to confuse the numbers given in (7) with values for combinatorial flexibility; $\text{COMBFLEX}(\{\text{N.C, Md.Aj, x}\})$ is 6/6 for $x = \text{Q}$, 5/6 for $x = \text{Dem/Num/Poss}$, and 3/6 for $x = \text{WQ}$.

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3.4 Markedness hierarchies(?)

In Section 3.2, we looked at permutation groups and combinatorial flexibility from a purely quantitative perspective; Table 11 only gives the numbers of categories and permutation groups, but no information about *which* categories are involved in *which* permutation group, or *which* permutation groups occur in *which* language with *which* combinatorial flexibility.

Naturally, we can perform various qualitative re-runs of the whole procedure by examining *which* permutation groups are ATTESTED in all or some (or none) of the individual languages. Specifically, for every permutation group $pg \in C_{pot}$ (i.e. the entirety of permutation groups generated), we can compare COMBFLEX(pg) for the respective languages. In Table 12, one permutation group is illustrated.

Table 12: COMBFLEX({Poss, N, Md.Aj}) in comparison

	Old Icelandic	Old English	Old High German	Old Swedish	Old Saxon
{Md.Aj, Poss, N}	5/6	1/6	2/6	3/6	2/6
(Poss, Md.Aj, N)	TRUE	TRUE	TRUE	TRUE	TRUE
(Poss, N, Md.Aj)	TRUE	FALSE	TRUE	TRUE	TRUE
(N, Poss, Md.Aj)	TRUE	FALSE	FALSE	TRUE	FALSE
(Md.Aj, N, Poss)	TRUE	FALSE	FALSE	FALSE	FALSE
(Md.Aj, Poss, N)	TRUE	FALSE	FALSE	FALSE	FALSE
(N, Md.Aj, Poss)	FALSE	FALSE	FALSE	FALSE	FALSE

This way, we can directly compare the individual permutations and their ATTESTATION in the respective languages. That is we can examine whether there is a regularity as to whether a given permutation is ATTESTED or not. Notice, in particular, that the individual permutations in Table 12 are arranged in a particular manner such that like values form “blocks” as it were: there is a TRUE-block and a FALSE-block, but no TRUE-FALSE-TRUE alternations in any language.

While this is merely an initial observation, it can be formulated as an empirical and methodological question: can all permutation groups be arranged in this way? In order to illustrate the relevance of this question, consider the scenario for the hypothetical languages V–Z in Table 13.

These “results” plausibly suggest that (A, B, C) is the unmarked or default pattern in the permutation group since it is ATTESTED in all languages under

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Table 13: COMBFLEX({A, B, C}) – hypothetical (idealized) scenario

	V	W	X	Y	Z
{A, B, C}	5/6	4/6	3/6	2/6	1/6
(A, B, C)	TRUE	TRUE	TRUE	TRUE	TRUE
(B, C, A)	TRUE	TRUE	TRUE	TRUE	FALSE
(B, A, C)	TRUE	TRUE	TRUE	FALSE	FALSE
(A, C, B)	TRUE	TRUE	FALSE	FALSE	FALSE
(C, A, B)	TRUE	FALSE	FALSE	FALSE	FALSE
(C, B, A)	FALSE	FALSE	FALSE	FALSE	FALSE

consideration. Given the arrangement, we can moreover construe the left-hand column, read top-down, as a markedness hierarchy, or even as an implicational hierarchy; e.g. if a language has (B, A, C), it also has (B, C, A) etc.

The extent to which this arrangement is possible is of course an empirical question, but whenever it is possible, COMBFLEX not only gives a measurement for flexibility as such, but can also be understood as an indicator of the degree of markedness possible/allowed in a given language (relative to a given permutation group).

4 Search patterns and matched patterns

So far we have used the term “patterns” indiscriminately for strings of category labels. In this subsection, we will have a look at some possible refinements. When working with databases and search interfaces, an obvious distinction is that between a query and the output to that query. Consequently, I will make a distinction between *search patterns* (S-patterns) and *matched patterns* (M-patterns), where the former abstractly define properties that we are interested in, while the latter are the concrete findings in a given database satisfying the respective criteria. Notably, we will allow specifications where the two are not necessarily a perfect match. In Table 14, some possible configurations for S-patterns (red) and corresponding M-patterns (blue) are given.¹⁴

¹⁴More advanced refinements could include the incorporation of aspects of the regular expression syntax, which would allow S-patterns such as (A, {B or F}, C) or (A, {NOT B}, C).

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Table 14: S-patterns and M-patterns

precise_pattern(A, B, C):	(A, B, C)
rigid_pattern(A, B, C):	(... A, B, C ...)
flexi_pattern(A, B, C):	(... A, ... B, ... C ...)
Left_rigid_pattern(A, B, C):	(A, B, C ...)
Left_flexi_pattern(A, B, C):	(A, ... B, ... C ...)
Right_rigid_pattern(A, B, C):	(... A, B, C)
Right_flexi_pattern(A, B, C):	(... A, ... B, ... C)

A `precise_pattern` works according to the motto *what you search is what you get*; we have a perfect match. In contrast, the corresponding `rigid_pattern` yields `TRUE` also for those cases that contain material preceding or following the actual search string. Finally, a `flexi_pattern` also yields `TRUE` if somethings intervenes between the labels specified in the S-pattern, in other words, it merely encodes the relative linear ordering, but not adjacency.

The findings presented in the previous sections are based on `precise_pattern`, but of course, `COMBFLEX` can also be computed on the basis of `rigid_pattern` or `flexi_pattern`. This may be useful e.g. when we are not interested in accompanying material such as NP-final relative clauses, or intervening adverbials (like *very*). In particular, the procedure as described so far treats e.g. (Dem, Adj, N), (Dem, Adj, Adj, N), (Q, Dem, Adj, N) and (Dem, Adj, N, RC) etc. as distinct patterns, and we may miss generalizations. Specifications such as `flexi_pattern(Dem, Adj, N)` allow us to treat those as one pattern at a relevant and more abstract level, e.g. conflate patterns where demonstratives precede adjectives in prenominal position etc.

The `Left_/Right_` alignment patterns impose the additional condition that the first/last category matches. One possible application of these will be illustrated with an example from `ndbOldIcel`. Demonstratives in Old Icelandic can occur prenominally and postnominally, with or without accompanying material; notably, they can occur noun phrase finally (8).

- | | | |
|-----|--------------------------------------|------------------------|
| (8) | sá maður
DEM man
‘that man’ | maður sá
man DEM |
|-----|--------------------------------------|------------------------|

Now assume we have $S_{cat} = \{\text{Poss, Q, Md.Aj.Lx, Md.Aj.Fn, Md.Card.Nu, GenP, Md.Card.WQ}\}$ and are interested in their compatibility with demonstratives postnominally. To that end, we compare two S-patterns (N, x, Dem), with $x \in S_{cat}$. In

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(9), the number of occurrences in that pattern are given for each category, first for an alignment pattern and next for the corresponding non-alignment version.

(9) $\forall cat \in S_{cat}$:

$\forall np \in ndb_{OIcel}$:

a. $\rightarrow \text{Right_flexi_pattern}(np, N.C, cat, Dem)$

returns TRUE for $[_{NP} \dots N.C \dots cat \dots Dem]$

$cat =$	Poss	0
	Q	0
	Md.Aj.Lx	0
	Md.Aj.Fn	0
	Md.Card.Nu	0
	Md.Card.WQ	0
	GenP	0

b. $\rightarrow \text{flexi_pattern}(np, N.C, cat, Dem)$

returns TRUE for $[_{NP} \dots N.C \dots cat \dots Dem \dots]$

$cat =$	Poss	21
	Q	10
	Md.Aj.Lx	5
	Md.Aj.Fn	1
	Md.Card.Nu	9
	Md.Card.WQ	8
	GenP	21

We observe an interesting discrepancy. The alignment pattern in (9a) yields zero hits for each category, showing that demonstratives cannot follow those in postnominal position **and** simultaneously be pattern-final. On the other hand, (9b) shows that each pattern does occur once the alignment constraint is dropped. This means that a demonstrative actually can follow those categories postnominally provided it is itself followed by other material. In this present case, we can identify the cause as relative clauses; in Old Icelandic, the demonstrative *sá* often co-occurs with a relative clause (or sometimes a complement clause). If we modify the S-pattern accordingly, we get the results in (10).

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(10) $\rightarrow \text{flexi_pattern}(np, \text{N.C}, cat, \text{Dem}, \text{RC})$
 returns TRUE for $[_{NP} \dots \text{N.C} \dots cat \dots \text{Dem} \dots \text{RC} \dots]$

	Poss	20
	Q	10
	Md.Aj.Lx	5
<i>cat</i> =	Md.Aj.Fn	1
	Md.Card.Nu	9
	Md.Card.WQ	8
	GenP	19

These numbers are almost identical to those in (9b), suggesting that the presence of a relative clause is indeed a pre-condition for demonstratives to follow the categories in postnominal position.¹⁵ Some examples are given for illustration in (11) (intervening material is underlined).

- (11) a. líkamir *dauðra* *manna* þeir er í moldu höfðu legið
 bodies dead.GEN men.GEN DEM REL in ground had lain
 ‘the bodies of dead men that had lain in the ground’ (OIce.509.120)
- b. konur *nokkurar* þær er hann hafði leyst af óhreinum öndum
 women some DEM REL he had released of impure spirits
 ‘some woman whom he had released of impure spirits’ (OIce.861.230)
- c. wind *hvassan* þann er för þeirra flutti í góða höfn
 wind sharp DEM REL journey their transported in good harbour
 ‘a sharp wind that brought them to a good harbour’ (OIce.915.632)

In short, different specifications for S-patterns allow us to examine patterns at different levels of granularity; all methods described in the previous sections are applicable. Moreover, the approach of comparing two S-patterns gives us a simple method of probing for correlations or co-dependencies by examining discrepancies.

5 Schrödinger’s *Cats*

In the previous sections, we examined the details of word order variation in the NP focusing on patterns and permutations. In this section, we will abstract from

¹⁵Moreover, a closer inspection of the respective M-patterns reveals that the demonstrative must be adjacent to the relative clause in postnominal position: [... N.C ... *cat* ... Dem, RC ...]. Some authors even suggest that *sá* is a relative pronoun in this use, e.g. Wagener (2017); Sapp (2019).

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concrete patterns, and look at the distribution of categories from a non-discrete perspective. More specifically, we will first have a look at a probabilistic category distribution across the entire NP. In a next step, we will take the noun as an anchoring position dividing the NP into a prenominal and a postnominal sphere, and examine the distribution of categories (modulo N.C) in those narrow domains. Finally, we will visualize this probabilistic distribution in a Cartesian coordinate system.

5.1 Probablistic category distribution

We begin by counting category occurrences per positon. In the first round, we simply start at the NP-initial position and count the categories in position 1, position 2 ... up to position n , where n is the number of categories comprised by the longest NP in the respective database. For illustration, consider the following patterns; the subscripts indicate the position (or column in a table):

- (12) a. Dem₁ Adj₂ N₃
 b. Adj₁ N₂
 c. Q₁ Dem₂ Adj₃ N₄ RC₅
 d. N₁ Dem₂ RC₃
 e. Q₁ Adj₂ N₃
 f.

Since this procedure is numeric and not phrase structure sensitive, the same category can occur in different positions, and different categories can occur in the same position. In other words, this notion of position is not a syntactic one, but simply indicates left-alignment. When all NPs in a given database are thusly aligned, we add the category occurrences per column as well as the overall total of items in each column. In a parallel fashion, category occurrences can be counted backwards starting from the final position (= right-aligned), i.e. positions -1, -2, -3 ... - n .

In Tables 15 and 16, the overall column totals and the numbers for some categories in *ndb_{OIceI}* are given for the first and last five slots starting from the initial and final positions, respectively.

With these numbers, we can calculate some simple distributional ratios. For instance, the ratio *category column total per overall column total* indicates the probability for a randomly selected NP, that the respective position is occupied by the respective category; let us notate this as **PosPROB**(*position, category*). For instance: PosPROB(2, Md.Aj.Lx) = 8.8%, or PosPROB(-1, RC) = 13.6%.

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Table 15: Category occurrences in Old Icelandic, left-aligned

1		2		3		4		5	
N.C:	2437	N.C:	4145	N.C:	1277	RC:	391	RC:	93
Md.Aj.Lx:	1113	Md.Aj.Lx:	705	RC:	630	N.C:	117	Dem:	10
Dem:	1051	Dem:	351	Dem:	213	Dem:	50	N.C:	5
RC:	—	RC:	6	Md.Aj.Lx:	147	Md.Aj.Lx:	44	Md.Aj.Lx:	4
.....		
total:	7981	total:	7981	total:	3280	total:	946	total:	163

Table 16: Category occurrences in Old Icelandic, right-aligned

-5		-4		-3		-2		-1	
Dem:	34	Dem:	174	N.C:	745	N.C:	3299	N.C:	3769
N.C:	25	N.C:	140	Dem:	544	Md.Aj.Lx:	1325	RC:	1090
Md.Aj.Lx:	10	Md.Aj.Lx:	113	Md.Aj.Lx:	368	Dem:	869	Md.Aj.Lx:	194
RC:	—	RC:	—	RC:	5	RC:	39	Dem:	54
.....		
total:	163	total:	946	total:	3280	total:	7981	total:	7981

Likewise, we can calculate *category column total per overall category total* (see Table 5), which indicates the probability that the respective category will occur in that particular position; for instance: the probability that a lexical adjective will occur in the initial position is 55.3%.

In other words, these ratios allow us to map out the probabilities of category distribution within the average NP. But so far, all categories have been treated alike, and, other than left/right alignment, there is no ordering or structural criterion. A third position from either direction could, in principle, amount to a prenominal or a postnominal position – which is obviously relevant information not accessible here. Since we are investigating noun phrases, the head noun is obviously a designated category. More to the point, since, by our *ndb*-restriction, every NP contains exactly one noun, we can use the noun as a special anchoring point and divide the NP into a prenominal and a postnominal sphere, while leaving the noun as such out of the consideration (= assigning it position +/-0). This reduces the numbers of positions in a non-trivial way, and puts them in relation to the noun so that we will be talking e.g. about the *final prenominal position*, or the *second postnominal position*.

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Once we have partitioned the NP relative to the N position, we apply the same procedure as described above. In Tables 17 and 18, the numbers for some categories are given.

Table 17: Category occurrences in the prenominal field, left-aligned

	1		2		3		4
Md.Aj.Lx:	1113	Md.Aj.Lx:	575	Md.Aj.Lx:	67	Md.Aj.Lx:	3
Dem:	1051	Dem:	62	GenP:	6	GenP:	1
GenP:	194	GenP:	35	Dem:	2	Dem:	—
.....		
total:	5544	total:	1399	total:	122	total:	5

Table 18: Category occurrences in the postnominal field, left-aligned

	1		2		3		4		5
RC:	501	RC:	523	RC:	93	RC:	14	RC:	2
Md.Aj.Lx:	170	Md.Aj.Lx:	60	Md.Aj.Lx:	22	Md.Aj.Lx:	3	Md.Aj.Lx:	—
Dem:	488	Dem:	69	Dem:	4	Dem:	—	Dem:	—
PP:	125	PP:	28	PP:	4	PP:	1	PP:	—
.....					
total:	4212	total:	913	total:	168	total:	28	total:	2

There are four columns in Table 17 and five columns in Table 18 because that is the maximum number of categories that occur simultaneously in ndb_{Otel} , prenominally and postnominally, respectively. This is an abstraction over those spaces, because the enumerations obviously also includes NPs with less than four prenominal and less than five postnominal categories,¹⁶ but disregards the noun itself. If there is only one prenominal category *cat*, the total of *cat*, and thus the column total, increases by one in position 1 (or -1),¹⁷ but nothing happens to the other positions. For this reason, the column total is highest in position 1/-1, and decreases as we move to the left/right since there are more NPs with at least one prenominal category than with two, etc.

¹⁶Thus, for instance, 5544 is the number of NPs containing *at least* one prenominal category, 1399 NPs containing *at least* two prenominal categories etc.

¹⁷With only one prenominal element, the initial position is identical to the final position.

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5.2 Distance from N: visualizing categorial distribution

As just noted, the overall total numbers decrease for columns further to the right. But this correlation does not (necessarily) apply to the ratio PosPROB ; for instance, $\text{PosPROB}(1, \text{Dem})_{pre}$ and $\text{PosPROB}(1, \text{Md.Aj.Lx})_{pre}$ are about the same, ca. 20%. However, while that ratio steadily increases for adjectives from position 1 to 4 (20.1% – 41.1% – 54.9% – 60.0%), it decreases for demonstratives (19.0% – 4.4% – 1.6% – 0.0%).

Obviously, this trend also tells us something about the distributional properties of categories. When comparing ratios, we abstractly observe that some categories *tend to be closer to the noun*: they score high(er) in the positions to the right (e.g. adjectives), which means that they are often preceded by material, while others *tend to be further away from the noun*: they score high(er) in the positions to the left (e.g. demonstratives), which means that they often precede material. Obviously, this is a reflex of more general word order regularities; after all when co-occurring, e.g. demonstratives normally precede adjectives (in prenominal position; see a.o. Cinque 2005). Theoretical syntax has a number of discrete, formal devices to capture those regularities, e.g. phrase structure rules, topological fields, functional sequences etc., but as stated above, in this section, we will consider category distribution in a continuous, non-discrete space.

The general idea is that, if we apply the sequences of column ratios for each category against each other in an appropriate fashion, we will get a mean value $x \in \mathbb{R}$, with $4 \geq x > 0$, for each category indicating “distance from N”. For simplicity, the maximal score here is 4 because there are four columns; also, the minimal score is greater than zero since 0 abstractly denotes the noun itself. There are several possible parameters to take into consideration, but also a number of non-trivial complications. I will not discuss the mathematical technicalities of deriving an optimal algorithm to calculate x here; instead I will use a simpler method for the calculation (see Appendix). For Old Icelandic, Old English and Old Saxon, the respective scores for the most frequent categories are given in Table 19.

Now we construe the NP as a Cartesian plane such that the y -axis ($x = 0$) represents the noun (position) in abstracto, the negative x -axis the prenominal space, and the positive x -axis the postnominal space. Since we are focusing on the prenominal space, we have to conceive of the above values as negative numbers. We will furthermore map (absolute) category frequencies onto the y -axis, which allows us to treat categories as coordinates in the Cartesian plane, i.e. to locate categories in two-dimensional space. In addition, precedence relations are represented as a graph network where precedence scores are calculated on the

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Table 19: “Distance-from-the-noun” scores (prenominally)

(a) OIcel		(b) OEngl		(c) OSax	
Mdmd:	4.0	Mdmd:	4.0	Mdmd:	3.9
Q:	3.6	Q:	3.7	Md.Card.Nu:	3.9
Dem:	3.1	Dem:	3.5	Dem:	3.8
Md.Card.WQ:	2.4	Poss:	3.2	Q:	3.1
Md.Card.Nu:	2.1	GenP:	2.1	Poss:	2.6
Poss:	1.9	Md.Card.Nu:	1.8	Md.Aj.Fn:	1.0
Md.Aj.Fn:	0.5	Md.Card.WQ:	1.1	GenP:	0.7
GenP:	0.5	Md.Aj.Fn:	0.3	Md.Aj.Lx:	0.3
Md.Aj.Lx:	0.2	Md.Aj.Lx:	0.1	Md.Card.WQ:	–

basis of co-occurrences of two categories A and B in the individual NPs (how often do A and B co-occur, and in which order(s)?). These precedence relations are specified as follows: $A \rightarrow B$ (red arrow) – A always precedes B when co-occurring; $A \rightarrow B$ (green arrow) – A precedes B in more than 66% of co-occurrences; $A \rightarrow B$ (blue arrow) – A always precedes B, but there are fewer than 10 co-occurrences.

In Figures 1–3 I give an illustration of the prenominal space of the Old Icelandic, Old English and Old Saxon NP based on the above scores and specifications.

“Distance from the noun” (= position along the x -axis) is an abstract value without a concrete (or discrete) structural counterpart; it does not neatly map onto position or precedence, even though it is calculated on the basis of positional relations between individual categories. As shown in Figure 1, for instance, lexical adjectives have a somewhat lower score than genitive phrases, but the former precede the latter in the few instances of co-occurrences, similarly, for functional adjectives and numerals. In other words, this distance value does not translate to precedence relations.¹⁸

Presumably, co-occurrence frequency should be given greater prominence since it allows us to assess the generality of the precedence relation. After all,

¹⁸ As an extreme case, consider Mdmd, which virtually has a perfect score. This is partially due to rounding and does not entail that it necessarily precedes three other categories. In the current setup, it means that it is almost never preceded by another category (the green arrow in Figure 1 indicates that it is sometimes preceded by Q), but it always precedes something else. In particular, Mdmd never occurs adjacent to the noun because there is always at least one intervening category, viz. the modified modifier, cf. *very* **(big/many) horses*; this latter observation is highlighted above by a different font colour.

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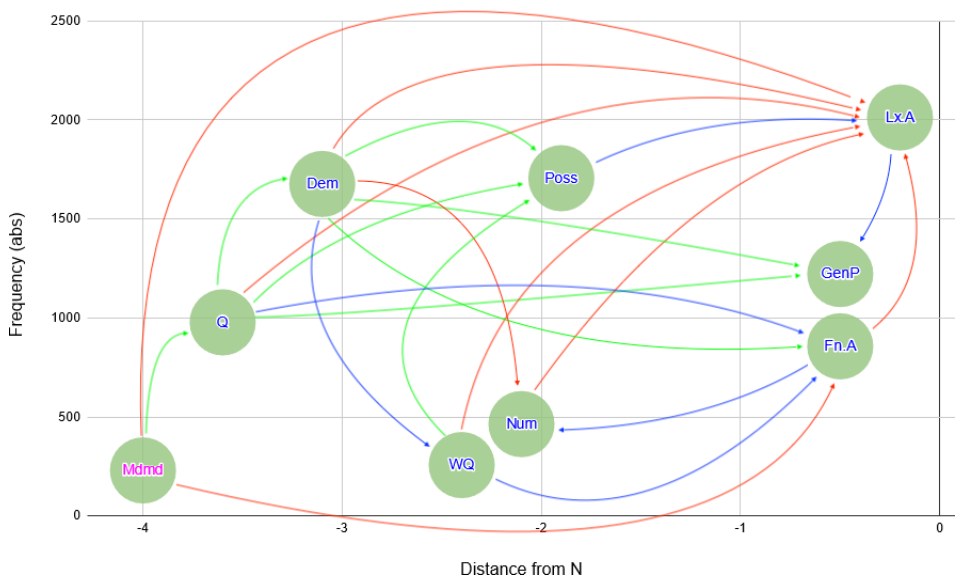


Figure 1: Categorical distribution in the Cartesian plane (Old Icelandic)

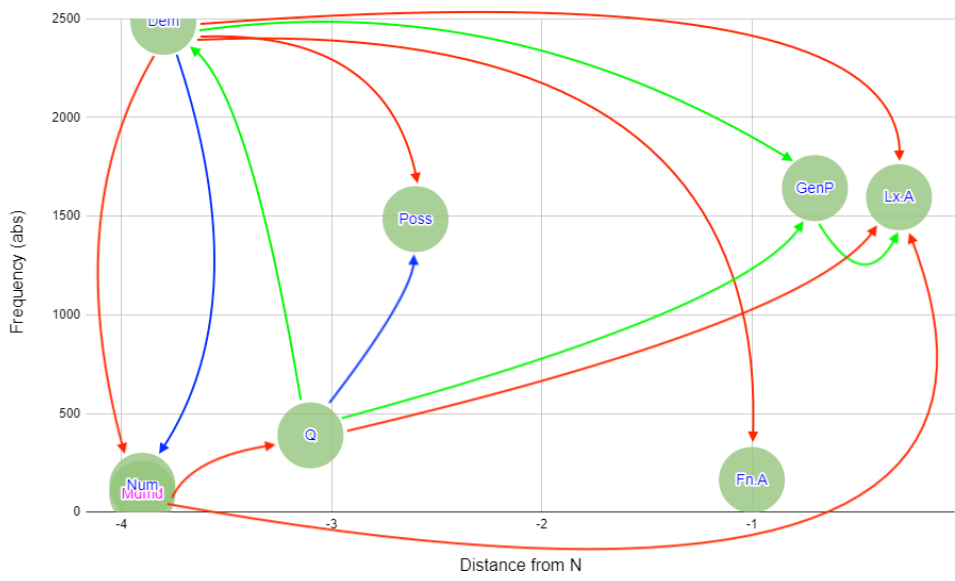


Figure 2: Categorical distribution in the Cartesian plane (Old Saxon)

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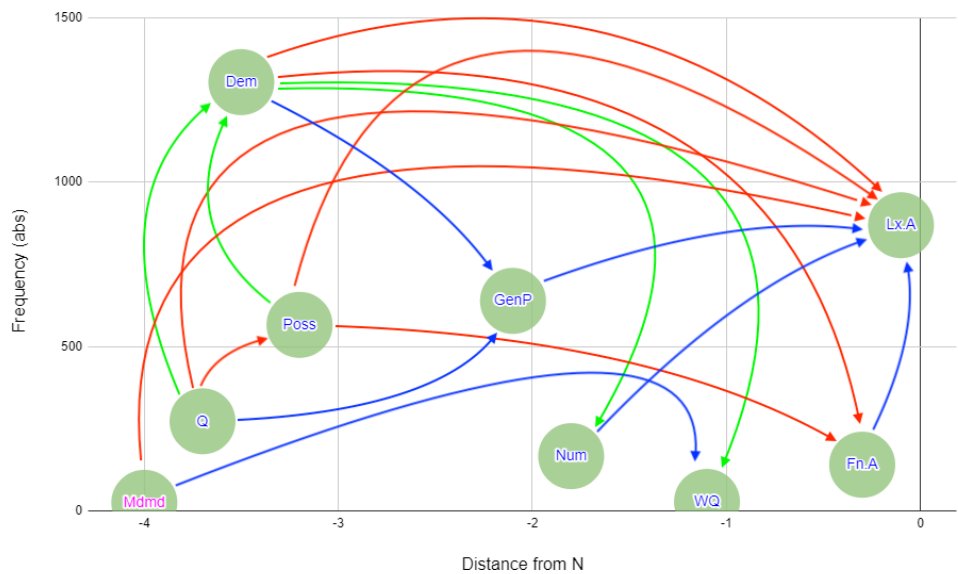


Figure 3: Categorical distribution in the Cartesian plane (Old English)

if there is only one co-occurrence of A and B, the precedence ratio is trivially 100%, but this may not always be very insightful. Since we are only considering NPs with at least two prenominal categories here, there are no isolated categories in these diagrams, i.e. categories that are not connected by an arrow. For simplicity, co-occurrence frequency is indicated by the colour code, but it could also be represented separately: for any two categories A and B that are connected by an arrow, the pair (A, B) is mapped onto the number of their co-occurrences, which could be represented as a value along the z-axis thus rendering a three-dimensional representation. I have refrained here from doing so mostly for practical reasons, because there are limits as to how much information can be visualized simultaneously.

In the same fashion, the postnominal space or the entire NP can be visualized. For the latter case, there are two possible scenarios: (i) the prenominal and the postnominal spaces are combined, or (ii) the scores are calculated on the basis of the numbers in Tables 15 and 16. In scenario (i), several categories will show up twice, prenominally and postnominally. Moreover, the two spaces do not communicate, and precedence relations across N ($x=0$) are trivial because prenominal material always precedes postnominal material. In scenario (ii), each category occurs once, and all potential precedence relations between categories are captured.

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However, we loose, the nominal anchoring restriction; in other words, there is no distance from the noun, but merely distance from first or final position.

Even though (several aspects of) this method can be refined in various ways, it does give us an insightful way of visualizing categorial distribution. Provided the dataset is large enough, the diagrams in Figures 1-3 can be seen as the “fingerprints” of the prototypical NP in the respective language (or at least, in a given database or text). Clearly, these fingerprints are different, not merely due to their distance scores, see Table 19, but also in terms of category frequency, see Table 5, and co-occurrence frequency. In other words, categorial distribution as illustrated in Figures 1–3 allows us to graphically represent distributional differences between languages, and, by extension, to visualize syntactic diversity itself.

6 Summary

I have attempted to show that there are more sophisticated ways of diagnosing and quantifying word order variation in the noun phrase than merely comparing prenominal vs. postnominal occurrences of certain elements. Based on the itself rather unspectacular notion of a pattern and some simple mathematical operations, we have given a numerical expression to various dimensions and limitations of syntactic diversity, versatility and probabilistic distribution of categories.

As has already been suggested, almost every aspect of *Patternization* can be modified and refined in various ways. For one thing, the components of patterns were characterized as “formal objects”, which allows for patterns to include, apart from category/part-of-speech labels, e.g. morphological or semantic information (depending on the annotated information available in the source database). In other words, there is room for a more complex pattern architecture than the one we have used here.

The focus on noun phrase patterns in this chapter is due to the fact that this work emerged from the NPEGL project, but obviously, nothing prevents us from patternizing VPs or clauses in the same fashion. Even though the patterns may become more complex or larger, the methods for calculating PATTDIV or COMBFLEX will be the same. We are not even obliged to merely consider constituents as the framework for patterns; in principle, any sequence can serve that purpose. We have already seen how the NP can be divided into a prenominal and a postnominal field even though neither is a constituent. Nonetheless, both can be patternized and processed in the same fashion as the NP as a whole. Even though not shown here, we can also determine PATTDIV and COMBFLEX e.g. for the postnominal space alone.

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Finally, the procedures and methods described here are, of course, not dependent on the NPEGL annotation, but are applicable more widely. The minimal prerequisite for patternization is that a given database has at least some part-of-speech annotation, and, when comparing two datasets, that they be annotated with the same set of labels and according to the same criteria.

I will leave further explorations to future work.

Abbreviations

+/-ATT	attestation value
C_{att}	attested combination
C_{pot}	potential combination
cat^n	(sub)category at level n
COMBFLEX	combinatorial flexibility
μ -COMBFLEX	mean combinatorial flexibility
M-pattern	matched pattern
ndb	working database
$patt^n$	pattern at level n
PATTDIV	pattern diversity
PosPROB	probability of a category occurring in a given position
S-pattern	search pattern
S_{cat}	sample space of category labels
scd	standardized common denominator

NPEGL annotation labels

Dem	demonstrative
CC.Fi	finite complement clause
GenP	genitive phrase
Md	modifier
Md.Aj	adjective
Md.Aj.Fn	functional adjective
Md.Aj.Lx	lexical adjective
Md.Card	cardinal element
Md.Card.Num	numeral
Md.Card.WQ	weak quantifier
Mdmd	modifier of modifier
N.C	common noun

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PP	prepositional phrase
Q	quantifier
RC	relative clause

Appendix

In this section, I will briefly discuss some functionalities of (the Python-based tool) PATTERNIZATION. PATTERNIZATION takes the individual annotated databases in NPEGL as input and returns *database objects*. Those objects provide some default constants, e.g. database size and a list of all annotated NPs in the database (i.e. the database itself), and a number of methods with various parameters and default settings to analyze and process the contents of the database. Some methods are described below; this is not an exhaustive list, and I will merely address issues that are pertinent to the above discussion.

Working databases

- **restrict_Val**(val, ja=True)

This method restricts the current database in accordance with certain specifications: the argument *val* can be a category label, but also a semantic or morpho-syntactic feature, or even a lemma. The argument *ja* determines whether *val* must be present or not. The *ndb*-restriction is encoded via **restrict_Val**("N.C", ja=True) AND **restrict_Val**("&", ja=False). This procedure is actually a simple query and the modified working database (= *ndb*) can be taken to be an output in its own right, but the method is recursive, and the modified database has the same functionalities as the original one. That means an output of **restrict_Val** can be restricted further or processed otherwise.

Categories and patterns

- **Categorize**(level=2)
- **Patternize**(level=2)
- **Cat_in_Patt**(cat, level=2)

These methods check the basic inventory of the current working database: **Categorize** returns all attested categories and **Patternize** all attested patterns (i.e.

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NP types, not tokens). The parameter *level* specifies $\text{cat}^{\text{level}}$ (default: cat^2). `Cat_in_Patt` returns all patterns in which a given category *cat* occurs, cf. Table 5. The number of patterns and categories can be concomitantly retrieved via the Python in-built function `len()`.

Pattern Diversity

- **PattDiv**(level=2, x=False, rnd=False, run=100, size=1000)
- **Randomize**(size=1000)

The method `PattDiv` with the default setting `rnd=False` calculates `PATTDiv` as *patterns per NP*; see Section 2, Table 6. But as noticed in that section, this ratio plausibly requires a standardized common denominator, e.g. $\text{scd} = 1000$. The method `Randomize()` creates a randomized sub-database `randomDB` from the current working database with the default size 1000 NPs ($=\text{scd}$). We can now calculate $\frac{p}{1000}$ with p = number of patterns in a given `randomDB`. Due to the randomness involved, however, we are bound to get different values for p for different `randomDBs`. One straightforward way to establish a representative value for p is to run the procedure a sufficiently large number n of times and calculate the mean value $\mu\text{-}p$ as follows:

$$(13) \quad \mu\text{-}p = \frac{1}{n} \sum_{i=1}^n p_i \quad \Rightarrow \quad \text{PATTDiv} = \frac{\mu\text{-}p}{\text{scd}}$$

(with p_i = number of patterns in sub-database `randomDB_i`)

The method `PattDiv` with the setting `rnd=True` does exactly that. The parameter *run* specifies the number n of repetitions, and calculates `PATTDiv` according to (13). Obviously, the larger the value n , the more precise is the value for $\mu\text{-}p$. There is, however, a practical (computational) problem. In a perfect world, we should consider all possible sub-databases in order to get the most balanced value $\mu\text{-}p$, but this is impossible. For instance, `ndbOSax` contains 6696 NPs, so we would have $\binom{6696}{1000}$ sub-databases to take into consideration, which is a number with more than 1000 digits. Therefore, an exhaustive procedure is unrealistic. The results in Table 7 are based on the setting (`rnd=True`, `run=500`), which already returns a relatively good and stable approximation.

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S-patterns and Combinatorial Flexibility

- **precise_pattern**(np, *cats)
(likewise: **rigid_pattern**, **flexi_pattern** . . . = S-patterns, see Section 4)
- **CombFlex**(samspace, long=3, restrict="N.C", func=precise_pattern,
count=bool, threshold=1, group_threshold=2)

The methods to diagnose S-patterns such as `precise_pattern` take an NP as a first and a sequence of category labels (i.e. a pattern) as a second argument. They return True if the NP satisfies the specification of the S-pattern (Table 14) in question.

`CombFlex` is a rather complex method, but essentially performs the procedure described in Section 3.2 to determine combinatorial flexibility. The only mandatory argument is *samspace*, which takes a list of category labels as input and thus establishes the sample space. In a first step, it will generate all combinations of length *long*, and if the argument *restrict* is specified (by default "N.C"), it will sort out those combinations that do not satisfy the restriction (here: contain "N.C"). It then generates the respective permutation groups from the combinations remaining. In a next step, it browses the current working database examining every individual NP. Every permutation generated constitutes an S-pattern specified by the parameter *func* (by default, `precise_pattern`). Essentially, the output of `CombFlex` is the number of times the method *func* yields True for each permutation, with permutations sorted into permutation groups. By default, this is encoded as Boolean values, as illustrated in (6) via the setting (count=bool); the alternative setting (count=int) gives the actual number of OCCURRENCES for each individual permutation.

The output can be modified by establishing a threshold value: the parameter *threshold* determines the minimal number of OCCURRENCES required in order for a given permutation to be considered TRUE (= +ATT; see the discussion in section 3). Similarly, the parameter *group_threshold* determines the minimal number of OCCURRENCES required within a permutation group, and can serve as a fine-tuning mechanism. Plausibly, *group_threshold* \geq *threshold*. If a given pattern/permutation occurs less than *threshold* times, it is assigned the value FALSE (-ATT), and if there are less than *group_threshold* OCCURRENCES within a given permutation group, that permutation group will not be part of the output (i.e. that permutation group will not be in C_{att}).

Ranking positions and distance from the noun

- **rankFirst/rankLast**(level=2, part=-1)

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- **I_precede_cats/I_follow_cats**(level=2, part=-1, pair=True)
- **Probabilize**(level=2, part=-1)

The ranking methods perform the procedure described in Section 5.1: they count category occurrences according to their position, where `rankFirst` starts with the first position and proceeds to the right (= left-aligned) and vice versa for `rankLast` (= right-aligned). The parameter *part* determines which partition of the NP is to be considered: a negative value identifies the prenominal sphere thus producing output as displayed in Table 17, a positive value the postnominal sphere, cf. Table 18, and the value 0 the entire NP, see Tables 15 and 16.

The precedence methods `I_precede_cats/I_follow_cats` calculate for each category cat_A which other categories cat_{B_n} it precedes/follows, and how often. The parameter *pair* determines whether general precedence ($A, \dots B$) is to be counted (*pair*=False), or whether only immediate precedence (A, B) is to be considered (the default setting *pair*=True). The precedence scores graphically represented (with colours) in Figures 1-3 are based on `I_precede_cats(part=-1, pair=True)`.

Finally, the method `Probabilize` calculates the distance-from-N scores (see Section 5.2) with a simple method that glosses over some complications. It considers only patterns of $len > 2$; for the setting *part*=0 (entire NP), this is a given, but when considering the pre- or postnominal space, it means that NPs with only one pre-/postnominal category are ignored. Each category occurrence is assigned a score depending on its relative position and pattern length in relation to a common multiple of all pattern lengths. The scores are added up per column, and once the procedure is completed, the category score is divided by the number of category occurrences in the respective column. In addition, I have appended a factor that renders the maximum score as equal to the maximum of columns (in the examples used in this chapter, it was 4), but nothing hinges on that. The scores in Table 19 are calculated with this method.

As mentioned, this is a rather simple method to calculate a mean distance value, and there are certainly more sophisticated ways. However, in several alternatives, the scores accumulate around the middle score (i.e. ca. 2.0) and hardly show any spread, which would not be a very useful basis for assessing precedence relations, and for visualization more generally. Mainly for this reason, the above method was chosen here.

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Chapter 3

Noun phrase modifiers in early Germanic: A comparative corpus study of Old English, Old High German, Old Icelandic, and Old Saxon

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This chapter gives an overview of modifier position in noun phrases in the early Germanic languages Old English, Old High German, Old Icelandic, and Old Saxon. We first present data for the relative position of adjectives, cardinal numerals, possessives, participles, and quantifiers in relation to the head noun. Then we compare aspects of the different languages and discuss factors that might account for the distribution, such as texts and genres, weight, and lexical factors. We show that the default position for modifiers in early Germanic languages is prenominal, and that instances of postnominal modification in most cases can be explained with reference to specific factors. Because the evidence for default prenominal modification is so clear in these languages, we question whether noun phrase modification was ever by default, or even mostly, postnominal in Proto-Germanic, despite the evidence from Runic data and early Gothic, which shows adjectives in postnominal position.

1 Introduction

The present study provides an overview and discussion of the general noun phrase modification patterns in four old Germanic languages: Old English, Old



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High German, Old Icelandic, and Old Saxon. The Germanic languages stem from Proto-Germanic, one branch of the Indo-European family of languages. There is no one agreed approach to the dating and naming of the earliest periods of Germanic. It is generally agreed that the earliest runic remains¹ are of a North-West Germanic language, which had started to develop separately from East Germanic, and which later developed into Common Scandinavian (North Germanic) and West Germanic, each developing sub-divisions over time. As for the East Germanic branch, Gothic is the only language for which we have fairly robust evidence (with particular relevance to the topic of this chapter, see Ratkus 2011). In our study Old Icelandic represents North Germanic, whereas Old English, Old High German, and Old Saxon represent West Germanic.

The four languages we investigate stem from different time periods. Old English and Old High German cover the period from approximately 700 to 1100, while Old Saxon is mainly attested in 9th century texts. Old Icelandic is the “youngest” of the languages in terms of written sources, with written material, apart from runes, primarily from the 13th century onwards. However, Old Icelandic was spoken for a long time before that, and generally covers the period from the 7th to the 15th century.

The question therefore arises as to whether these languages are comparable. Here we take recourse to Lass’s (2000) proposal that different Germanic languages reflect different stages in the development away from their common ancestor. For example, Gothic and Old Icelandic are ranked as being “oldest”, i.e. closest to their common ancestor, with Old English in second place, followed by Old High German (2000: 30). Old Saxon is not part of Lass’s ranking scale, but it patterns with Old English in having the same archaic features. The ranking is based on linguistic criteria² (2000: 26), and is thus independent of manuscript production dates. Our assumption is that the four languages of this study all represent an “old” stage.

2 Background

The point of departure for the study was the reported divergence in the literature on what the canonical order is for modifier and noun in the languages.

¹The oldest rune stone is the Svingerud stone, discovered in the autumn of 2021, near Oslo, Norway, and revealed to the world in January 2023. It dates from between 1 and 250 CE.

²The linguistic criteria are: root-initial accent, at least three distinct vowel qualities in weak inflectional syllables, a dual, grammatical gender, four vowel-grades in (certain) strong verbs, distinct dative in at least some nouns, inflected definite article (or proto-article), adjective inflection, infinitive suffix, and person/number marking on the verb.

3 Noun phrase modifiers in early Germanic languages

It is generally recognized that substantial changes have taken place in the Germanic languages with respect to their organizational principles. The changes have traditionally been described as a development from relatively free word order to a more rigid order, which characterizes the corresponding present-day varieties. In the past decades, however, a considerable body of research has revealed that the order in the earlier stages was not “free”, but rather partly determined by information structure, that is to say that speakers had some freedom to organize their phrases so as to be able to present information in certain ways; as old information or new, as backgrounded or emphasized information, for instance. In modern varieties on the other hand, the organization is largely syntactically fixed, with more limited scope for variation, though the extent of fixedness differs between the modern languages.

The detailed work on the nature of word order changes in Germanic carried out so far has largely focused on clauses, and in particular the order of the lexical verb in relation to other sentence elements (see for instance articles in Hinterhölzl & Petrova 2009; Ferraresi & Lühr 2010; Batllori & Hernanz 2011; Meurman-Solin et al. 2012; Bech & Eide 2014). In addition, most of these are single-language studies, and comparative studies are lacking.

Less attention has been paid to word order within noun phrases, even though they, too, display a change from flexible to firm word order. There are exceptions, such as Demske (2001); Allen (2012); Breban (2012); Vartiainen (2012); Börjars et al. (2016), but these focus on the development of the determiner system rather than word order, Fischer (2000, 2001, 2006, 2012); Haumann (2003, 2010); Bech (2019) for Old English, Bech (2017) for Old Norwegian and Old English, and Tiemann (2023 [this volume]) for Old Norwegian, and for an overview of modifier order in early Germanic based on the literature, see Ratkus (2011: §4.4).

2.1 Modifier example: adjective phrases

A central noun phrase modifier is the adjective,³ for which a structural distinction is made between attributive (also referred to as adnominal) and predicative adjectives; the former occur inside the noun phrase, and the latter occur as part of a predicate subcategorized by a copula (Fischer 2000, 2001; Pysz 2009 and Haumann 2010 in discussions of Old English noun phrases use the terms differently,

³In structural terms, adjectives are heads of adjective phrases which can consist of the adjective or host more material. The corpora distinguish between single adjectives and adjective phrases, and so did we in our queries. For the sake of simplicity we refer to “adjectives” in the following, except when it is necessary to refer to adjective phrases, e.g. in the case of a contrast between simple and complex adjective phrases.

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not strictly for a positional distinction). Some simple examples are *the good man* (attributive) and *the man is good* (predicative). Since our concern is with variation within the noun phrase, we consider only structurally attributive adjectives.

Below are examples of the positions of which adjectives can occur in the early Germanic languages; note that all the patterns except (6) are possible in all the languages. Example (1) shows a prenominal adjective, and in (2), the adjective is postnominal (in all examples any modifier relevant at that point is in bold, and the noun head is in italics). As (1) and (2) show, when the noun phrase contains only one adjective, it can occur before or after the noun, though the factors which influence the frequency of the patterns vary across the languages.⁴

(1) Old English

& Crist hine lufode for his **clænan** *mægðhade*
and Christ him loved for his pure.DAT.SG.WK chastity.DAT.SG
'and Christ loved him for his pure chastity' (coaelhom,+AHom_1:1.3)

(2) Old Icelandic

og sendi honum *gullhring* **digran**
and sent him goldring.ACC.SG large.ACC.SG.STR
'and sent him a large golden ring' (1250.STURLUNGA.NAR-SAG,396.291)

If two adjectives modify a noun, the adjectives may flank the noun (3); frequently the second adjective then occurs with a conjunction (4)–(5) (the latter has been excluded from some studies of attributive adjectives, but see Haumann 2003 and Grabski 2017).

(3) Old Saxon

Thuo forun thar **uuisa** *man* **snella** *tesamne*
then went there wise.NOM.PL.STR man.NOM.PL bold.NOM.PL.STR together
'Then wise, bold men travelled there together.' (OSHeliandC.100.201-202)

(4) Old High German

Mënniscon chünne [...] táz frägee únsih cóta . dānnan sîn mûot
man.GEN.PL race.NOM.SG DEM ask.SBJV us gods whence its mind
uuānchôe . álde sîn lôz ze únchundi zîhe . in
tremble.SBJV or its destiny to uncertainty travel.SBJV in

⁴In the examples, we only provide detailed glossing of the noun phrase of interest. Additional glossing is only provided if necessary for the understanding of the examples.

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gnôten *díngen* únde únguissen
 difficult.DAT.PL.STR matter.DAT.PL and uncertain.DAT.PL.STR
 ‘The race of men should ask us, the gods, why its mind trembles or its
 destiny becomes insecure in difficult and uncertain matters.’
 (N_Mart_Cap.I.14-37 (edition 3959–3972))

- (5) Old Icelandic
 Gissur, **góður** *höfðingi* og **göfugur**,
 Gissur.NOM.SG good.NOM.SG.STR chieftain.NOM.SG and noble.NOM.SG.STR
 fór langa leið og mikinn heiðarveg með sitt föruneysi.
 travelled long way and great heath-road with his.REFL company
 ‘Gissur, a good and noble chieftain, travelled a long way and along a wide
 road across a heath with his company.’ (1210.JARTEIN.REL-SAG,.191)

Further evidence of freedom of noun phrase word order comes from an example like (6), which shows that Old Icelandic permitted attributive adjectives to occur outside the noun phrase. This type, however, appears to be rare in Old Icelandic (25 instances), and we have not found examples of it in the other languages.

- (6) Old Icelandic
 þá lét Guð hana framar **góðum** ná *verkum* en aðra
 then let God her more good.DAT.PL achieve deed.DAT.PL than other
 helga menn
 holy men
 then God let her achieve good deeds more than any other holy men’
 (1150.HOMILIUBOK.REL-SER,.23)

2.2 Noun phrase modifier position: previous studies

As regards Proto-Germanic, Lehmann’s (1972) discussion of word order is framed within assumptions about word-order harmony in the sense of Greenberg (1963), and he argues for adjective–noun being the neutral order in Proto-Germanic, partly on the basis that this would be “in harmony” with the object–verb order (see also Lehmann 2005–2007 and discussion of possessives in Braunnüller 1982, and for evidence against this interpretation of word order harmony, see Dryer 1992). For the two varieties for which we have ample sources and many descriptions, Old Norse⁵ and Old English, the assumed neutral position varies between

⁵We use “Old Norse” here to refer to the old Scandinavian languages in general. In this chapter, we focus on one of them, Old Icelandic.

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the languages.

Work on Old Norse that comments on noun-phrase internal word order generally describes the postnominal position as neutral for modifiers, with prenominal position being associated with emphasis, or rhythmic and stylistic variation (e.g. Iversen 1972; Valfells & Cathey 1971: 28; Faarlund 2004: 67–8; Barnes 2008; Börjars et al. 2016). There are, however, no dedicated large-scale empirical studies of noun-phrase word order for Old Norse (but see Tiemann 2023 [this volume] for Old Norwegian). Our study shows that prenominal, not postnominal, position is the default position for modifiers (see Section 4).

In Old English, on the other hand, the prenominal position is deemed to be neutral and the postnominal position somehow marked, with postposition traditionally assumed to have been emphatic or stylistically marked (e.g. Mitchell 1985: 78; Fischer et al. 2000: 46). Some relatively recent works on Old English provide interesting discussion of adjective–noun order and the factors that influenced it (Fischer 2000, 2001, 2006, 2012; Haumann 2003, 2010; Pysz 2009; Grabski 2017, 2020). However, the accounts do not arrive at the same conclusions, and the fact that some data are excluded from the discussion and that the studies are written within different theoretical and terminological frameworks also make it difficult to compare and evaluate claims.

Fischer (2000, 2001, 2006, 2012) takes adjectival inflection as a point of departure and argues that there is an iconic relation between the inflectional property, the information status (given–new), and the position of the adjective. Strong adjectives are assumed to be generally associated with new information and therefore placed in postposition, and weak ones with old information and placed prenominally.

Haumann (2003, 2010), on the other hand, finds that the position of the adjective follows exclusively from interpretive and functional differences, such as restrictive vs. non-restrictive modification, individual-level vs. stage-level reading and attribution vs. predication. There is therefore in her view a clear division of labour between prenominal and postnominal adjectives, which is largely independent of adjectival inflection. Both Fischer’s and Haumann’s studies have been subject to critique, for instance in Grabski (2017) and Bech (2019), both of whom find that their proposed analyses do not fully match the data.

Pysz’s (2009) aims are not so much to establish the semantic and information-structural factors that influence the order, but to provide a theoretical analysis accounting for the difference in structure between prenominal and postnominal modification. In the end she uses two separate and incompatible frameworks (Head-driven Phrase Structure Grammar and a movement-based analysis) to account for different types of noun phrases.

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In his PhD thesis, Grabski (2017) examines adjectival pre- and postmodification in Old English, using the YCOE corpus (Taylor et al. 2003). Like us (see Table 2), he finds that premodification is overwhelmingly more common for Old English than postmodification. Contra Fischer (2000, 2001, 2006, 2012) and Hausmann (2003, 2010), he finds that adjectival inflection does not indicate interpretive properties. Rather, in the relatively rare case that an adjective is postposed, it is due to the general ‘verb-like’ character of the adjective; i.e. it is ‘adverb-like’ (e.g. *full* ‘full’ or *heah* ‘high’), a participle, has a stage-level reading (referring to incidental rather than inherent characteristics), or is modified by other elements. Of the previous studies on Old English adjectival position, Grabski’s study is the one that most closely tallies with our study.

There are no dedicated studies of noun-phrase word order in Old Saxon or Old High German, but Walkden (2014) provides examples of both pre- and postnominal adjectives in Old Saxon. Schrodtt (2004: 37) describes the prenominal position as the regular one in Old High German, but points out that the adjective can follow the noun for metrical and rhythmical reasons (see also Demske 2001: 70 and Petrova 2023: Section 2.2 [this volume])

The divergence in the accounts of modifier–noun order is unexpected, given the common ancestry of the languages and the similarities in current varieties.

The present study is organized as follows. In Section 3 we present the corpora used. Section 4 contains a description of the method, as well as the empirical findings with respect to the position of adjectives, cardinal numerals, possessives, participles, and quantifiers in relation to the noun head. In Section 5 we provide a more detailed description and discussion of specific factors that influence word order in the different languages, before we conclude in Section 6.

3 Data

For this study we used various available corpora, as shown in Table 1. As is evident from Table 1, the corpora are of very different sizes, hence the issue of representativity and comparability arises.

The YCOE corpus for Old English contains all the main Old English prose texts, both translated (from Latin) and non-translated, and of various genres. The most well-represented genres are homilies, religious treatises and biographies/lives, but the corpus also contains texts from a number of other genres: history, travel-ogues, fiction, rules, philosophy, science, ecclesiastical laws, secular laws, charters and wills, Bible, medical handbooks, geography, apocrypha, and prefaces. The texts are mostly from the West Saxon dialect area. Although quite a few genres are represented, the corpus obviously does not fully capture Old English as it

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Table 1: The corpora used for this study

Language	Corpus
Old English (OE)	<i>York–Toronto–Helsinki Parsed Corpus of Old English Prose</i> (YCOE, Taylor et al. 2003); 1.5 million words; syntactically annotated
Old High German (OHG)	<i>Referenzkorpus Altdeutsch</i> 1.1 (ReA, Donhauser et al. 2018; Donhauser 2015); 500,000 words; annotated for lemma, part-of-speech and morphosyntax
Old Saxon (OS)	<i>Heliand Parsed Database</i> (HeliPaD, Walkden 2015); 46,067 words; syntactically annotated
Old Icelandic (OI)	<i>Icelandic Parsed Historical Corpus</i> texts 1150–1350 (IcePaHC, Wallenberg et al. 2011) ≈ 235,000 words; syntactically annotated

must have been at the time, but it is generally deemed to represent the language well.⁶

The Old Icelandic texts in IcePaHC have a heavy bias towards saga narrative texts: 11 out of 15 texts for 1150–1350 are classified as sagas, with the genres of science, sermons, law and history each only represented by a single text. The Old Icelandic data are standardised for modern Icelandic orthography, and we do not change this here. Three of the texts which we use, *Alexander*, *Homiliubok* and *Marta*, are assumed to be translations or retellings of Latin source texts.⁷ As such, any specific findings for these texts should be viewed with caution.

HeliPaD is a parsed version of the most substantial Old Saxon text, the *Heliand*, a gospel harmony in alliterative verse dating to the 9th century. It follows the Sievers (1878) edition of the C (Cotton) manuscript, and is annotated according to the general principles of the Penn historical corpora of English; see Walkden (2016) for more information about this corpus.

ReA includes the complete Old High German attestation (750–1050) except glosses and single word records, as well as the complete Old Saxon attestation dated back to roughly the same time period (800–1200). The texts are lemmatized and annotated for parts of speech and morphosyntax, searchable via AN-

⁶For details see <https://www-users.york.ac.uk/lang22/YCOE/YcoeHome.htm>.

⁷For details see <https://github.com/antonkarl/icecorpus/tree/master/info>.

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NIS (Krause & Zeldes 2016). In the present paper, only the Old High German records of ReA are considered, while Old Saxon is treated based on HeliPaD. The Old High German attestation consists of poetic texts and translations from Latin. Representatives of the first type of texts are heroic poems, e.g. *Hildebrandslied*, or religious poems, like Otfrid's *Gospel Book*. Translations attested from the Old High German period differ in their degree of freedom from the respective Latin original. Interlinear translations (e.g. *Benediktinerregel*, *Murbacher Hymnen*) are form-by-form and word-by-word translations. Non-interlinear, or free translations, e.g. the translation of Isidorus's treaty *De Fide*, the translation of Tatian's *Gospel Harmony*, or the *Monsee Fragments* also display a close relation to the structure of their original but allow for free patterns considered as evidence for genuine Old High German grammar (Dittmer & Dittmer 1998). There is no prose work composed in the vernacular language and handed down to us from the Old High German period, which is a basic problem when treating questions of word order both at the constituent and the sentential level (Fleischer 2006).

It is of course a problem that the textual witnesses of the languages are so different in terms of both size and genre, in addition to being from different time periods, as discussed in Section 1. This is, however, a problem that does not have a solution, since we have to use whatever texts we have for these older languages. We nevertheless think the languages can be compared, but always with these caveats in mind.

4 Method and patterns

We queried the corpora presented in Table 1 to extract the data presented in Table 2. YCOE, IcePaHC and HeliPaD are annotated in (mostly) the same way, i.e. they are syntactically parsed. ReA, on the other hand, contains morphosyntactic span annotation, and in addition the modifiers are tagged for pre- and post-nominal position at the part-of-speech level. It is therefore possible to retrieve comparable information from all the corpora.

Table 2 shows the query results for the four languages. Old English is the most consistent of the languages, with 97.6% of the modifiers in prenominal position. Old High German and Old Saxon are quite similar in the general distribution, but show some differences with respect to individual patterns. The total for Old Icelandic shows a lower percentage of prenominal modifiers than the other languages, but this is in large part due to the special position of possessives. It is important to note that these are relatively rough categories and that there may be some noise in the data, since we have not done manual sifting to any great extent, which is normally necessary in any corpus work intended to give absolute numbers. We are, however, quite certain that any data noise does not skew the data to the extent of invalidating the general findings, as the aim of this pa-

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per is to provide an overview for the different languages. Figure 1 visualizes the percentages in Table 2.⁸

Table 2: Modifier–noun order in Old English, Old High German, Old Icelandic, and Old Saxon

	OE		OHG		OI		OS	
	n	%	n	%	n	%	n	%
ADJ–N	40,957	96.6	3,097	81.7	3,529	86.9	1,335	81.3
N–ADJ	1,454	3.4	694	18.3	532	13.1	307	18.7
CARD–N	8,075	96.7	662	90.9	616	93.3	108	79.4
N–CARD	278	3.3	66	9.1	44	6.7	28	20.6
PART–N	2,190	92.1	176	67.7	77	87.5	64	88.9
N–PART	189	7.9	84	32.3	11	12.5	8	11.1
POSS–N	29,647	99.7	3,528	82.0	1,339	30.5	1,403	93.7
N–POSS	78	0.3	774	18.0	3,057	69.5	94	6.3
QUANT–N	18,179	97.6	1,350	86.1	1,742	84.8	261	74.4
N–QUANT	442	2.4	218	13.9	312	15.2	90	25.6
MOD–N	99,048	97.6	8813	82.8	7303	64.9	3171	85.7
N–MOD	2441	2.4	1836	17.2	3956	35.1	527	14.3

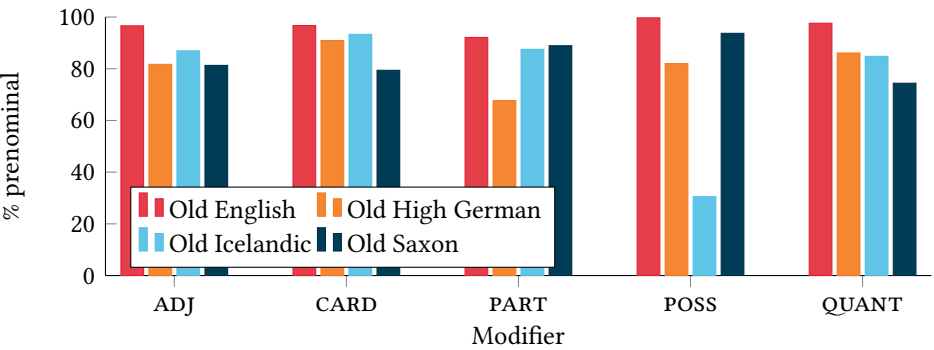


Figure 1: Modifier–noun order in Old English, Old High German, Old Saxon, and Old Icelandic

⁸The data in the ADJ–N/N–ADJ rows in Table 2 also contain 108 instances of flanking, which would then be counted twice, both the prenominal and in the postnominal category. See Section 5.6 for more about flanking.

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In Sections 4.1–4.5 we give examples of the different patterns presented in Table 2. We exemplify each pattern from one or two languages, but all the languages show all the patterns, though to different extents.

4.1 Adjective–Noun, Noun–Adjective

This group contains adjectives that either stand alone before or after the noun or occur together with other modifiers.

(7) Old English

a. ADJ–N

Se frumsceapena mann Adam
 DEF.NOM.SG first.created.NOM.SG.WK man.NOM.SG Adam.NOM.SG
 næs gestryned ne acenned
 not.was begotten not born
 ‘The first man, Adam, was neither begotten nor born.’
 (cocathom2,+ACHom_II,1:4.59.41)

b. N–ADJ

Se þrida het Heanric, þam se fæder becwæð
 DEF third was.called Henry DEF.DAT.SG DEF father bequeathed
 gersuman unateallendlice
 treasure.ACC.PL innumerable.ACC.PL.STR
 ‘The third was called Henry, to whom the father left innumerable
 treasures.’ (cochronE,ChronE_[Plummer]:1086.59.2889)

The constituent *utewardum* in (8) represents a special category of modifiers named “positional predicates”, discussed in Pfaff (2023 [this volume]). Positional predicates agree in case, gender and number with the head noun, but semantically they resemble adverbs/adverbials. These behave differently from other adjectives; one prominent feature is that they occur postnominally.

(8) N–ADJ

Pa gefengon hi þara ðreora scypu twa æt þam
 then captured they DEF.GEN three.GEN ships.ACC two.ACC at DEF.DAT.SG
 muþan utewardum
 mouth.DAT.SG outside.DAT.SG.STR
 ‘Then they captured two of the three ships outside the river mouth.’
 (cochronC,ChronC_[Rositzke]:897.26.991)

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The two patterns (ADJ–N, N–ADJ) can also be found within a complex noun phrase, e.g. (9).

- (9) Old Icelandic
 ADJ–N and N–ADJ
 af því að hann var **fésnauður** *maður* en *drengur*
 because he was poor.NOM.SG.STR man.NOM.SG but fellow.NOM.SG
góður og karlmaður í skapi
 good.NOM.SG.STR and man.of.valour in mind
 ‘because he was a poor man but a good fellow and a man of valorous mind’ (1210.JARTEIN.REL-SAG,.29)

4.2 Cardinal numeral–Noun, Noun–Cardinal numeral

Here we include cardinal numerals in pre- or postnominal position. The numerals may occur together with other elements.

- (10) Old Saxon
- a. CARD–N
 Giuuet im thuo umbi **thria** *naht* after thiú [...] an
 went he.DAT then about three.ACC.PL night.ACC.PL after DEM to
 Galilealand thesaro thiedo drohtin
 Galilee DEM.GEN.SG/PL people.GEN.SG/PL lord.NOM.SG
 ‘Then the lord of this people went to Galilee, about three nights after that.’ (HeliandC.1027.1994-1996)
 - b. N–CARD
 endi hiet sia nahor gangan, Andrease endi Petrus erist sane,
 and called they.ACC nearer go Andrew and Peter first soon
gibruother **tuena**
 brotherACC.PL two.ACC.PL
 ‘and called them to come closer, Andrew and Peter at first, two brothers’ (HeliandC.686.1255-1258)
- (11) Old High German
- a. CARD–N
 Huuer uuac **dhrim** *fingrum* allan aerduhuasun?
 who weighed three.DAT.PL finger.DAT.PL all earth
 ‘Who weighed the whole earth with three fingers?’
 (Isidor_1.1 > I_DeFide_4 (edition 805–815))

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b. N-CARD

Wir duemes tház [...] mit unsen *fíngoron* **zuein**
 we do DEM with our finger.DAT.PL two.DAT.PL
 ‘We do this [...] with our two fingers.’
 (Otfrið_1.1 > O_Otfr.Ev.5.2 (edition 68–78))

4.3 Possessive–Noun, Noun–Possessive

The YCOE corpus (Old English) and the HeliPaD corpus (Old Saxon) treat possessive pronouns differently from the IcePaHC corpus (Old Icelandic), but crucially all corpora mark them as distinct from non-possessive pronouns, so we were able to get comparable datasets across the corpora, via corpus-specific searches. The point to take home for Old English is that possessives are extremely rare post-nominally. Old Icelandic, on the other hand, is different from the other varieties in favouring the order noun–possessive, as shown in Table 2.

(12) Old Icelandic

a. POSS–N

En þeir feðgar ríða heim með *sína* *menn*
 and they father and son ride home with their.REFL.ACC.PL man.ACC.PL
 ‘And father and son ride home with their men.’
 (1350.FINNBOGI.NAR-SAG,663.2204)

b. N–POSS

og hann skal sitja fyr *ádrykkju* *minni* í kveld
 and he shall sit before drinking.DAT.SG my.DAT.SG tonight
 ‘and he shall sit as my drinking-mate tonight’
 (1275.MORKIN.NAR-HIS,1574)

(13) Old Saxon

a. POSS–N

diuridon *usan* *drohtin*
 glorified our.ACC.SG lord.ACC.SG
 ‘(They) glorified our lord.’ (HeliandC.32.83)

b. N–POSS

dopta allan dag druhtfolc mikil, uuerod an uuatere [...]
 baptized all day people great people in water
handon *sinon*
 hand.DAT.PL his.DAT.PL
 ‘(He) baptized the great multitude in water all day with his hands.’

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(HeliandC.533.978-981)

4.4 Participle–Noun, Noun–Participle

This category comprises both present and past participles, with or without agreement marking.⁹

(14) Old High German

a. PART–N

ih bisueru thih bi themo **lebenten** *gote*
 I beseech you for DEF.DAT.SG living.DAT.SG.WK god.DAT.SG
 ‘I beseech you for the sake of the living God.’
 (Tatian_1.1 > T_Tat190 (edition 9-19))

b. N–PART

Galih ist himilo rihhi *gaberge* **gabor(ga)nemo** in
 similar is heaven’s kingdom treasure.DAT.SG hidden.DAT.SG.STR in
 acchre
 field
 ‘The kingdom of heaven is like a sacred store of wealth in a field.’
 (Monsee_1.1 > MF_1_M.X (edition 106–116))

(15) Old English

a. PART–N

i. and of heora muðe and nosþyrlum stod **stincende**
 and of her mouth and nostrils stood stinking.NOM.SG.STR
steam
 steam.NOM.SG
 ‘and her mouth and nostrils emitted stinking vapour’
 (cocathom2,+ACHom_II,_23:200.49.4451)

⁹Postnominal participles are often small clauses rather than attributive adjectives, as in (i) from Old English.

(i) Nu ic geseo minne *geleafan* **blowende** and mine *sawle*
 now I see my.ACC.SG faith.ACC.SG flourishing.ACC.SG.STR and my.ACC.SG soul.ACC.SG
anlyht and þysne *dracan* **acwealdne** licgean
 illuminated.ACC.SG.STR and DEM.ACC.SG dragon.ACC.SG killed.ACC.SG.STR lie
 ‘Now I see my faith flourishing and my soul illuminated and this dragon lie killed.’
 (comargaT,LS_16_[MargaretCot.Tib._A.iii]:13.10.152)

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- ii. & **gebigedum** *cneowum* gebæd for ðam folce
and bent.DAT.PL.STR knee.DAT.PL prayed for DEF people
‘and prayed for the people with bent knees’
(cotempo,+ATemp:11.5.354)
- b. N-PART
se nama tacnaþ þone sige þe *Drihten*
DEF name marks DEF victory that Lord.NOM.SG
gesigefæsted *wiþstod* *deofle*
triumphant.NOM.SG.STR withstood devil
‘the name marks the victory in which the triumphant Lord withstood
the devil’ (coblick,HomS_21_[BlHom_6]:67.18.815)

4.5 Quantifier–Noun, Noun–Quantifier

Here we searched for any quantifier.

(16) Old Icelandic

- a. QUANT–N
og tók nú Knútur við Hollsetulandi og **öllu** því
and took now Knútur with Holstein and all.DAT.SG DEM.DAT.SG
ríki er átt hafði Haraldur jarl
kingdom.DAT.SG which possessed had Haraldur earl
‘and now Knútur accepted Holstein and all that kingdom which Earl
Haraldur had possessed’ (1260.JOMSVIKINGAR.NAR-SAG,309)
- b. N–QUANT
Það er mælt um *sakir* þær **allar** sem hér
it is spoken about case.ACC.PL DEM.ACC.PL all.ACC.PL which here
eru taldar
are told
‘It is spoken about all those cases which are told here.’
(1270.GRAGAS.LAW-LAW,334)

(17) Old Saxon

- a. QUANT–N
Thar hie sittean fand Andrease endi Petrus bi them ahastrome,
there he sit found Andrew and Peter by DEF water.stream

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bethia **thia** *gibruoder*
both.ACC.PL DEF.ACC.PL brother.ACC.PL

‘There he found Andrew and Peter sitting by the river, both the brothers.’ (HeliandC.630.1152-1156)

b. N-QUANT

Uuerthe **thin** *uulleo* **obar** *thesa* *uuerold* **alla**
become.SBJV your will over DEM.ACC.SG world.ACC.SG all.ACC.SG

‘Your will be done over all this world.’ (HeliandC.853.1604-1606)

5 Discussion: specific factors in the different languages

In this section we examine whether there are specific factors in the different languages that influence the element order. We specifically consider the influence of text types, different types of possessive modifiers, weight, individual lexical items, lexicalized patterns, and whether the adjectives flank the head noun. We have not considered all these factors for each language, but rather picked out factors to investigate more closely on the basis of Table 2. We assume that these factors could be at play in all the languages, but selected those languages for which these factors were most clearly influential.

5.1 Old High German texts and genres

As outlined in Section 3, the Old High German corpus consists of poems and vernacular translations of Latin sources, both making it methodologically unjustified to simply assume that the attested word order patterns represent genuine Old High German grammar. Applied to the question at issue, this means that the variation in the order of nouns and modifiers illustrated in the examples above may be the result of metrical considerations or of non-native loan syntax, rather than of independent, language-internal factors. As the degree of dependence of the vernacular writings on the word order of the Latin original differs among the individual translations, the method of comparing the source syntax and its representation in the translations has become a leading principle in assessing evidence for native Old High German grammar (Dittmer & Dittmer 1998; Donhauser 1998; Fleischer 2006; Fleischer et al. 2008).

To test how factors such as genre and loan syntax affect the word order in noun phrases in Old High German, the rate of pre- and postnominal modifiers was retrieved and compared for individual texts as representatives of the following three text types:

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- (i) poetry, represented by Otfrid’s *Gospel Book* and the poetic records included in Steinmeyer’s (1916 [1971 3rd ed]) collection of Minor Old High German documents;
- (ii) interlinear translations such as the *Benediktinerregel* and *Murbacher Hymnen* as representatives of the strict form-by-form and word-by-word type of translations;
- (iii) non-interlinear translations such as the copy of Isidorus’s treaty *De Fide*, the texts comprised in the manuscript collection called the *Monsee Fragments* and the translation of Tatian’s *Gospel Harmony* into Old High German.

The numbers and rates of adnominal modifiers of the various types, surfacing in pre- and postnominal position, were retrieved for these three types of texts individually from the ReA corpus. They are provided in Table 3, and visualized in Figure 2, where P stands for “poetry”, ILT for “interlinear translations” and NILT for “non-interlinear translations”.

Table 3: Pre- and postnominal modifiers in poetry, interlinear translations and non-interlinear translations in Old High German

		Poetry		Interlinear translations		Non-interlinear translations	
		n	%	n	%	n	%
ADJ	ADJ–N	973	77.3	403	74.4	634	88.9
	N–ADJ	276	22.1	139	25.6	79	11.1
CARD	CARD–N	105	86.1	97	93.3	281	98.6
	N–CARD	17	13.9	7	6.7	4	1.4
PART	PART–N	23	67.6	51	62.2	30	57.7
	N–PART	11	32.4	31	37.8	22	42.3
POSS	POSS–N	1232	76.9	62	28.3	1591	99.1
	N–POSS	370	23.1	157	71.7	15	0.9
QUANT	QUANT–N	372	67.3	131	94.9	442	97.1
	N–QUANT	181	32.7	7	5.1	13	2.9

The numbers in Table 3 give rise to some important generalizations. First, they confirm the observation that could be inferred from Table 2, namely that participles used as modifiers have a unique status among modifiers in that they tend to

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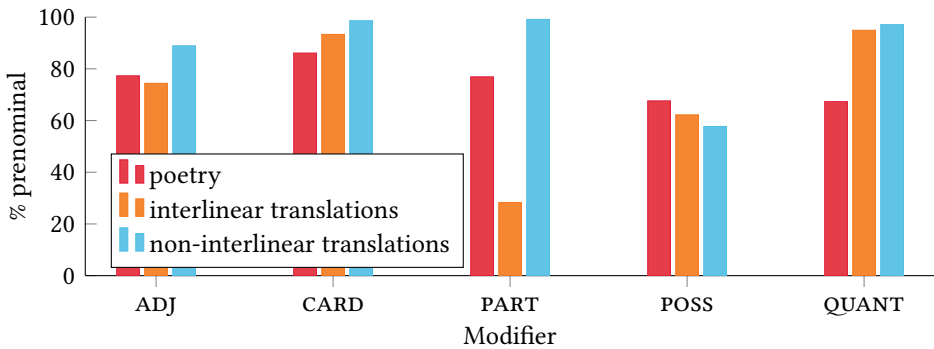


Figure 2: Pre- and postnominal modifiers in poetry, interlinear translations and non-interlinear translations in Old High German

follow their head nouns more independently of the text type, i.e. independently of factors such as rhyme or loan syntax. Note that participles score even higher in postnominal position in non-interlinear translations than in poetry and texts with a high degree of loan syntax, which suggests that this is a genuine property that modifying participle phrases share with clausal modifiers, e.g. attributive relative clauses, in Old High German.

Apart from participles, all remaining modifying categories display lower rates of postnominal position in non-interlinear translations than in the remaining two types of texts. For cardinal numbers, possessives and quantifiers, the percentage of postnominal modifiers in non-interlinear translations is almost negligible, below 3% of all attested cases. Adjectives surface after the noun in non-interlinear translation more often than with cardinal numerals, possessive and quantifiers, i.e. in 11.1% of the cases, but this rate is lower than the overall one in Table 2, which is 18.3%.

A closer look at the Old High German patterns in non-interlinear translations and their relation to the Latin sources reveals that the proportion of independently produced, and thus native, postnominal categories is even lower than the numbers in Table 3 suggest. Consider the numbers in Table 4.

Table 4 shows that the rate of postnominal modifiers not influenced by Latin is extremely low in non-interlinear translations. For example, possessives are never attested in postnominal position if there is no corresponding Latin sentence displaying this pattern. With cardinals, there is a single example (18) in which the Old High German text contains a postnominal cardinal numeral independently of the Latin original. Note that the corresponding Latin pattern involves a single cardinal *duos* ‘two.ACC.PL’ selecting the prepositional phrase *de discipulis suis*

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Table 4: Latin influence on postnominal modifiers in non-interlinear translations in Old High German (participles are excluded)

	Equal to Latin	Different from Latin	Misparsings	Total
N-ADJ	66	4	9	79
N-CARD	3	1	0	4
N-POSS	14	0	1	15
N-QUANT	11	2	0	13

‘of his disciples’ as a complement. In other words, not only does the Old High German translation change the order of the cardinal and the reflexive possessive relative to the noun, but also the structure within the object phrase.

- (18) gihalota / sine *iungiron* **zuene**
called his disciple.ACC.PL two.ACC.PL
‘(He) called his two disciples.’ (Tatian_1.1 > T_Tat64 (edition 10–20))
Lat. convocans / duos de discipulis suis

Regarding adjectives, the picture is similar. The comparison between the Latin original and the vernacular translation reveals that in only 4 of 79 examples does the scribe opt for a postnominal placement of the respective modifier independently of its position in the source text. Three of these examples, however, are less conclusive. One is (19), where the adjective *folle* forms the extended phrase ‘full of hate’, which is used as an apposition postposed after the head noun. The second one is (20), which involves the quantifier *al* annotated as an adjective, probably because it translates the prenominal Latin adjective *universus*. The third one, given in (21), is special in that it involves a very infrequent Old High German pattern used to translate the absolute constructions of the Latin original. One valid example with a postnominal adjective remains, given in (22). It is found in the oldest one of the three translations taken into consideration, suggesting that the independent postnominal use of adjectives is likely a non-productive pattern only present in the earliest phase of the Old High German attestation.

- (19) iudea *liuti* **nides** **folle**
Jewish people.NOM.PL hate.GEN.SG full.NOM.PL.STR
‘the Jewish people, full of hate’
(Monsee_1.1 > MF_2_VG.XXXI (edition 186–206))
Lat. iudei repleti sunt zelo at inuidia

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- (20) Tho antlingita thaz *folc* *al*
 then replied DEF.NOM.SG crowd.NOM.SG all.NOM.SG
 ‘Then the whole crowd replied.’ (Tatian_1.1 > T_Tat199 (edition 250–260))
 Lat. Et respondens universus populus
- (21) after *moysise* *dodemu*
 after Moses.DAT.SG dead.DAT.SG.STR
 ‘after the death of Moses’ (Isidor_1.1 > I_DeFide_6 (edition 70–80))
 Lat. defuncto moyse
- (22) dhazs dher forasago auh dhen selbun *druhtin* *dh rifaldan*
 that DEF prophet also DEF same Lord.ACC.SG threefold.ACC.SG.STR
 in sinem heidim araughida
 in his shape showed
 ‘that the prophet referred to the same threefold Lord in his
 manifestations’ (Isidor_1.1 > I_DeFide_4 (edition 929–939))
 Lat. Quem ut trinum in personis ostenderet

Let us look at the quantifiers. As the numbers in Table 4 suggest, in 11 out of 13 examples, the postnominal quantifier in Old High German is explainable as a syntactic loan, given that the Latin original also displays a postnominal quantifier. In two examples, given in (23) and (24), the quantifier is prenominal in the Latin original but postnominal in the translation. The fact that there are two modifying categories present in the examples will be discussed in detail in Section 5.6 below.

- (23) sibun *geista* *andere* mit imo
 seven spirit.ACC.PL other.ACC.PL.STR with him
 ‘seven other spirits with him’ (Tatian_1.1 > T_Tat57 (edition 194–204))
 Lat. septem alios spiritus secum
- (24) Inti sulihhen *ratissun* *managen*
 and such.DAT.PL.STR parable.DAT.PL many.DAT.PL.STR
 ‘and with many such parables’ (Tatian_1.1 > T_Tat74 (edition 38–48))
 Lat. et talibus multis parabolis

5.2 Possessive modifiers in Old Saxon and Old Icelandic

In Old Saxon, whether a possessive modifier can be postnominal or not is determined by person and number. Specifically, the indeclinable modifiers *is*

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(POSS.3SG.M/N) and *iro* (POSS.3SG.F, POSS.3PL), which are simply the genitive forms of the corresponding pronouns, are always prenominal (814/814 examples in the HeliPaD). By contrast, the other possessives *min* (POSS.1SG), *unka* (POSS.1DU), *usa* (POSS.1PL), *thin* (POSS.2SG), *inka* (POSS.2SG), *iuwa* (POSS.2PL), and *sin* (POSS.REFL) are all declined as adjectives, and these forms may be either prenominal (507/589; 86%) or postnominal (82/589; 14%).

Old Icelandic pronominal possessors inflect like strong adjectives and are often considered to belong to the same class (Heltoft 2010: 20; Barnes 2008). However, with respect to order they pattern radically differently. As the data in Table 5 (taken from Table 2, but presented separately for clarity) show, while adjectives are predominantly prenominal, the predominant pattern for pronominal possessors is postnominal. In this respect, Old Icelandic pronominal possessors may show similar positional behaviour to pronominal possessors in Gothic (see Ratkus 2011: 213), but diverge strikingly from parallel elements in Old English and Old Saxon.

Table 5: Position of adjectives and pronominal possessors in Old Icelandic (1150–1350)

	Prenominal		Postnominal	
	<i>n</i>	%	<i>n</i>	%
ADJ	3 529	86.9	532	13.1
POSS	1 339	30.5	3 057	69.5

Examples of prenominal and postnominal pronominal possessors are shown in (25) and (26), respectively.

- (25)

Nú fara **sína** leið hvorir

now goes his.REFL.ACC.SG way.ACC.SG each

‘Now each one goes his own way.’ (1310.GRETTIR.NAR-SAG,1542)
- (26)

Stigu þeir Svarthöfði á bak og fóru leið

stepped they Svarthöfði onto back and went way.ACC.SG

sína

their.REFL.ACC.SG

‘They and Svarthöfði mounted the horses and went on their way.’

(1250.STURLUNGA.NAR-SAG,401.492-493)

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Börjars et al. (2016: 19–20) argue that the prenominal position for pronominal possessors may be associated with information-structural properties such as contrast or emphasis. The natural use of ‘own’ in the idiomatic translation of (25) may be taken to support this claim. As we saw in Section 2.2, the assumption in the literature is that the postnominal position is canonical and the prenominal position emphatic or otherwise marked also for adjective phrases, but the data in Tables 2 and 5 make this an unlikely scenario.

5.3 Weight matters: Old English and Old Icelandic

It has been shown that weight matters when it comes to element order at clausal level (see e.g. Taylor & Pintzuk 2012 for Old English). And indeed, the Old English data indicate that this is the case with respect to noun phrase constituents as well (see also Grabski 2017).

In Table 6, “simple AP” refers to adjective phrases consisting of just one adjective and “complex AP” refers to a phrase where the adjective is modified or combined with a complement.

Table 6: Position of simple adjective phrases and complex adjective phrases in Old English (excluding flanked adjectives)

	Prenominal		Postnominal	
	<i>n</i>	%	<i>n</i>	%
Simple AP	40 957	96.6	1 454	3.4
Complex AP	950	72.1	367	27.9

When the adjective phrase consists of one adjective (simple AP), it overwhelmingly occurs prenominally. If the AP is complex, it still occurs prenominally in the majority of cases, but about a quarter of the cases occur postnominally. Example (27) shows a prenominal complex AP, and (28) is an example of a postnominal complex AP.

- (27) Ure Drihten sæde oft **swiðe digle** *bigspell*
our Lord said often very profound.ACC.PL parable.ACC.PL
‘Our Lord often told very profound parables.’ (coaelhom,+AHom_3:1.397)

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- (28) Drihten God ælmihtig, heo cwæð, ic eom þin *þeowa*
 Lord God almighty she said I am your.NOM.SG servant.NOM.SG
clæna and **ungewæmmed** **fram eallum mannum**
 pure.NOM.SG.STR and undefiled.NOM.SG.STR from all men
 “Lord God almighty”, she said, “I am your servant, pure and undefiled by
 any man.” (comargaC,LS_14_[MargaretCCCC_303]:4.23.43)

As regards the postnominal complex APs, it should be noted that most of the noun phrases in which they occur also have a prenominal element. This is often a numeral, such as *ane* in (29),¹⁰ or a quantifier, such as *sumne* in (30), but adjectives also occur, such as *anwintre* in (31).¹¹ As exemplified by (29) and (30), these cases are often presentational; i.e. an entity or a person is introduced, and then further information is given in the postnominal AP. This is often also the case where an adjective precedes the noun: the head of the noun phrase is presented in the discourse, and then elaborated on in the postnominal AP (31).

- (29) Quirinus him andwyrde, ic habbe **ane** *dohtor*
 Quirinius him answered I have a.ACC.SG.STR daughter.ACC.SG
wlitige **on ansyne**
 beautiful.ACC.SG.STR in countenance
 ‘Quirinius answered him, “I have a daughter who is beautiful in
 countenance”.’ (coaelhom,+AHom_24:102.3821)
- (30) Pa geseah ic somninga me ætstandan **sumne** *monnan*
 then saw I suddenly me stand.near some.ACC.SG.STR man.ACC.SG
uncupes **ondwleotan**
 unknown.GEN.SG.STR face.GEN.SG
 ‘Then I suddenly saw a certain man with an unfamiliar face stand near
 me.’ (cobede,Bede_4:26.352.31.3563)
- (31) Witodlice ðæt lamb sceal beon **anwintre** *purlamb*,
 truly DEF lamb shall be one.winter.NOM.SG.STR pur-lamb.NOM.SG
clæne & **unwemme**
 pure.NOM.SG.STR and perfect.NOM.SG.STR
 ‘Truly that lamb shall be a one year old male lamb, pure and perfect.’
 (cootest,Exod:12.5.2828)

¹⁰Old English did not have an indefinite article, but the numeral *an* frequently resembles the indefinite article in function, representing a stage in the development towards the present-day indefinite article (Rissanen 1967: 261).

¹¹The word *oðer* ‘other’ is tagged as an adjective in the YCOE corpus, and it frequently occurs in these constructions.

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For Old Icelandic as well, the corpus data indicate some correlation between weight and position. At a broad level, comparing simple APs with complex APs, we see that though complex APs more frequently occur prenominally than post-nominally, this is only marginally so, and the proportion of complex APs in prenominal position is lower than the rate for simple APs, see Table 7.

Table 7: Position of simple adjective phrases and complex adjective phrases in Old Icelandic (1150–1350) (excluding flanked adjectives)

	Prenominal		Postnominal	
	<i>n</i>	%	<i>n</i>	%
Simple AP	3 046	94.2	188	5.8
Complex AP	136	52.9	121	47.1

Generally, these complex prenominal APs consist of an adjective modified by an intensifier, e.g. (32), (33) although they can also involve an adjectival complement, e.g. (34)–(36).

- (32) Þórhallur var **vel** **auðigur** *maður*
 Þórhallur was rather rich.NOM.SG.STR man.NOM.SG
 ‘Þórhallur was a rather rich man.’ (1310.GRETTIR.NAR-SAG,1760)
- (33) Hann var **harðla góður** *klerkur* og inn mesti
 he was very good.NOM.SG.STR clerk.NOM.SG and DEF most
 spekingur að viti
 wise.man in wit
 ‘He was a very good clerk and the most wise man of wit.’
 (1300.ALEXANDER.NAR-SAG,18)
- (34) Öllum þotti þetta hið mesta þrekvirki orðið af tólf
 all.DAT seemed DEM DEF most daring act become of twelve
vetra **gömlum** *manni*
 winter.GEN.PL old.DAT.SG.STR man.DAT.SG
 ‘This seemed to everyone the most daring act by a twelve-year old man.’
 (1350.FINNBOGI.NAR-SAG,631.327)

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- (35) Á þessum sama tíma gerðist þessu líkt
 at DEM same time become DEM.DAT.SG similar.NOM.SG.STR
tákn
 wonder.NOM.SG
 ‘At the same time there became a wonder similar to this one.’
 (1350.MARTA.REL-SAG,.884)
- (36) en síðan að vera námgjarn að Guðs lögum og góður kenninga
 and then to be eager to learn of God’s laws and good teachings
 við sér ófróðari menn
 with they.REFL ignorant.CMPR.WK man.ACC.PL
 ‘and then to be eager to learn of God’s laws and good teachings with men
 more ignorant than themselves’ (1150.HOMILIUBOK.REL-SER,.114)

The only categorical positional distribution with respect to weight we observe for Old Icelandic is that complex APs containing a degree or comparative clause cannot be fully prenominal. The most frequent configuration is one where the AP is discontinuous with a prenominal head adjective and a postnominal modifier or complement, e.g. (37) and (38).

- (37) Og eru dæmi til þess að níðið hefir bitið enn
 and are proof to DEM.GEN that insult.DEF has bitten even
 ríkari menn en þu ert
 richer.CMPR.WK man.ACC.PL than you are
 ‘And that is proof of the fact that the insult has bitten men even richer
 than you are.’ (1275.MORKIN.NAR-HIS,.1334)
- (38) Hann var þá svo frægur maður fyrir sakir
 he was then so famous.NOM.SG.STR man.NOM.SG for sake
 afls og hreysti að engi þótti þá slíkur af
 strength.GEN and prowess.GEN that no.one thought then such of
 ungum mönnum
 young men
 ‘He was so famous because of his strength and prowess that no one was
 thought his like amongst young men.’ (1310.GRETTIR.NAR-SAG,.1428)

5.4 Lexical differences: Old Saxon quantifiers

Within individual classes of modifiers, there is substantial variation between individual lexical items. Old Saxon quantifiers and adjectives are a case in point; Table 8 illustrates.

Table 8: Lexical variation in Old Saxon quantifiers and adjectives

	Prenominal		Postnominal	
	<i>n</i>	%	<i>n</i>	%
<i>mikil</i> ‘much’	15	15.3	83	84.7
<i>tvena</i> ‘two’	7	25.9	20	74.1
<i>manag</i> ‘many’	39	43.8	50	56.2
<i>al</i> ‘all’	153	87.9	21	12.1
<i>sulik</i> ‘such’	76	98.7	1	1.3

The adjective/quantifier *mikil* ‘much, great’ occurs overwhelmingly in postnominal position, which is strongly against the trend for all types of modifiers in Old Saxon as well as in the other early Germanic languages. An obvious hypothesis is that whether it is postnominal or prenominal depends on whether it is an adjective (‘great’) or a quantifier (‘much’). However, this hypothesis does not seem to be correct. In both (39) and (40) *mikil* is an adjective rather than a quantifier, but in (39) *mikil* is prenominal whereas in (40) it is postnominal.

- (39) *endi suokeat iu burg odra, micil manno*
and seek you.DAT city other great.ACC.SG.STR man.GEN.PL
uuerod
people.ACC.SG
‘and seek another city, a great crowd of people’ (HeliandC.1013.1945-1946)
- (40) *that im uuerod mikil, folc folgoda*
that him.DAT people.NOM.SG great.NOM.SG.STR folk followed
‘that a great crowd followed him’ (HeliandC.1264.2368-2370)

Meanwhile, the quantifier *manag* ‘many’ has a slight tendency to be postnominal, but is almost as frequently prenominal. And at the other end of the spectrum *sulik* ‘such’ is found almost exclusively in prenominal position; the lone counterexample to this generalization (HeliandC.311.587-592) has *sulik* following a metrical caesura, and hence can be viewed as appositional.

5.5 Lexicalized patterns: Old English

When we consider the postnominal adjectives in Old English, we see that most of them reflect specific collocations and lexicalized patterns, cf. Table 9, rather than

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distinctive noun + adjective combinations. Some of these are kept in Present-day English, e.g. *God almighty* (41), *spoonful* (42) and *Christ himself* (43). Among the lexicalized patterns we also find the positional predicates such as the one exemplified in (8).

- (41)

ac

he is *God*

ælmih̥tig

but he is God.NOM.SG

almighty.NOM.SG.STR

‘but he is God almighty’ (coaelhom,+AHom_4:163.609)
- (42)

&

anne *cuculere*

fulne

ameredes huniges &

grene

and a

spoon.ACC.SG

ful.ACC.SG.STR

purified

honey

and green

popig

poppy

‘and a spoonful of purified honey and green poppy’

(coherbar,Lch_I_[Herb]:106.1.1711)
- (43)

Crist

sylf

sang Pater noster ærest

Christ.NOM.SG

self.NOM.SG.STR

sang Pater noster first

‘Christ himself sang Pater noster first.’ (colaw1cn,LawICn:22.2.125)

Table 9: Lexical patterns in postnominal adjectival modifiers in Old English

Adjectival modifiers	n	%
Postnominal adjectival modifiers	1 454	100.0
Specific collocations and lexicalized patterns	1 186	81.6
Examples tagged correctly and not displaying a particular lexical pattern	196	13.5

The first row in Table 9 gives the number of all items tagged as adjectives occurring postnominally in noun phrases in the YCOE corpus, without any further manual checking of accuracy, cf. also Table 2. The second row refers to the number of examples in this set which feature a recurrent noun + adjective combination, which can, but does not have to be, lexicalized. The final row gives the number of examples that remain once (1) the collocations and lexicalized examples referred to in the second row have been deducted from the overall number and (2) any examples where the tagging is not correct, e.g. because the adjective

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is a complement of the noun phrase rather than a modifier in the noun phrase, have been removed. If we take these examples to be a truer reflection of the productive use of the postnominal position for adjectives, it is clear that postnominal adjectives are even less productive in Old English than suggested by the numbers in Table 2. Old English has few postnominal modifiers in general, and the ones that occur can almost always be explained with reference to specific factors such as weight and lexicalized patterns.

5.6 Flanked adjectives

In Old English, adjective phrases can be flanked, i.e. with one adjective occurring preminally and the other postnominally (44), sometimes with overt coordination (45)–(46) (see Section 2.1).

- (44) þa geseah he sittan ænne **sweartne** *deofol*
 then saw he sit a.ACC.SG black.ACC.SG.STR devil.ACC.SG
 ormætnne on his hrycge
 immense.ACC.SG.STR on his back
 ‘Then he saw an immense, black devil sit on his back.’
 (coalive,+ALS_[Martin]:1182.6755)
- (45) and gefette ænne mæssepreost, Policarpus gehaten, **halig**
 and fetched a.ACC.SG masspriest Policarpus called holy.NOM.SG.STR
 wær and **snotor**
 man.NOM.SG and wise.NOM.SG.STR
 ‘and fetched a mass priest called Policarpus, a holy and wise man’
 (coalive,+ALS_[Sebastian]:124.1287)
- (46) **Earme** *menn* & **tydre** &
 miserable.NOM.PL.STR man.NOM.PL. and weak.NOM.PL.STR and
 deadlice
 mortal.NOM.PL.STR
 ‘miserable men, weak and mortal’
 (cocathom1,+ACHom_I,_18:323.181.3587)

If flanking is a factor in the ordering of noun phrase elements, we would expect the number of examples with two prenominal adjectives to be low, and the number of postnominal adjectives that are part of a flanking pair to be substantial. This is indeed the case: out of the 196 postnominal modifiers that did not occur in

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a lexicalized pattern (see Table 9), 49 (25%) occurred in flanking constructions.¹² In comparison, among the 40,957 instances of prenominal adjectives (see Table 2), there are only 296 (0.7%) examples of two co-occurring prenominal adjectives, as in (47). Of those, 21.6% are classifiers, i.e. adjectives denoting type or origin, such as *Romaniscan* in (47) (see Bech 2017: 15).

- (47) *oðer gewuna is mæssesonga in þære halgan*
 another custom is mass.service in DEF.DAT.SG holy.DAT.SG.WK
Romaniscan cirican
 Roman.DAT.SG.WK church.DAT.SG
 ‘Another custom in the holy Roman church is the service of the mass.’
 (cobede,Bede_1:16.66.15.615)

Furthermore, of the 296 examples containing two prenominal adjectives, the first adjective is *agen* ‘own’, *ilca* ‘same’, *self* ‘self’, *swilc* ‘such’, or *oðer* ‘other’ (58) in 186 (62.8%) of the cases; i.e. what can be said to be “peripheral, non-descriptive, determiner-like adjectives” (see Bech 2017: 12).

- (48) *& eac swa me sædon oþre æfæste*
 and also so me said other.NOM.PL.STR religious.NOM.PL.STR
weras
 man.NOM.PL
 ‘and other religious men also told me this’
 (cogregdC,GDPref_and_3_[C]:16.211.2.2797)

In Old English, flanking seems to be used in order to avoid placing two (or more) regular lexical adjectives preminally.

Old Icelandic exhibits examples of flanked adjective phrases as well, and there is a good deal of variation. There are examples with two adjectives and no coordinator (49), or overt coordination (50), as well as examples involving several adjectives and a mixture of asyndetic coordination and overt coordination, e.g. (51) and (52).¹³

¹²Note that this only concerns flanking without overt coordination, i.e. the type in (44), not the one in (45) or (46).

¹³*Einn* is a numeral that is acquiring properties associated with an indefinite article at this stage. We have glossed it as a numeral, but translated it as ‘a certain’ in (51).

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- (49) Haraldur konungur Sigurðarson reið fyrir framan fylking sína
 Haraldur king Sigurðarson rode for front legion his.REFL
svörtum hesti blesóttum
 black.DAT.SG.STR horse.DAT.SG blazed.DAT.SG.STR
 ‘King Haraldur Sigurðarson rode in front of his legion on a black horse
 with a blaze.’ (1275.MORKIN.NAR-HIS.,2054)
- (50) Hann var **ungur maður og vænn**
 he was young.NOM.SG.STR man.NOM.SG and handsome.NOM.SG.STR
 ‘He was a young and handsome man.’ (1275.MORKIN.NAR-HIS.,1715)
- (51) Svo barst að eitthvert sumar að einn **íslenskur**
 so happened PTCL some summer that one.NOM Icelandic.NOM.SG.STR
maður, ungur og frágur, kom til konungs
 man.NOM.SG young.NOM.SG.STR and swift.NOM.SG.STR came to king
 og bað hann ásja
 and asked him help
 ‘So it happened one summer that a certain Icelandic man, young and
 swift, came to the king and asked him for help.’
 (1275.MORKIN.NAR-HIS.,113)
- (52) Hann var **vitur maður og**
 he was wise.NOM.SG.STR man.NOM.SG and
vinsæll ör og mjög
 blessed.with.friend.NOM.SG.STR swift.NOM.SG.STR and very
orðfær linur og lærður vel
 well-spoken.NOM.SG.STR gentle.NOM.SG.STR and learned.NOM.SG.STR well
 ‘He was a wise, swift, very well-spoken, gentle and well-learned man,
 blessed with friends.’ (1210.THORLAKUR.REL-SAG.,101)

Moreover, the flanked configuration is more common than structures involving two prenominal adjectives and structures involving two postnominal adjectives, see Table 10. Of the 112 examples represented in Table 10, only 6 did not have a coordinator, and only one of these is flanked, i.e. the example in (49).

With respect to noun phrases containing three adjectives, there are eight examples in the IcePaHC data and seven out of these eight are in the configuration A-N-A-A, e.g. (53) and (54), i.e. also flanked, and all eight examples involve at least one coordinator.

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Table 10: Position of two simple adjectives in Old Icelandic (1150-1350)

	Both prenominal		Both postnominal		Flanked	
	n	%	n	%	n	%
Two adjectives	25	22.3	25	22.3	62	55.4

- (53) Hann var ráðamaður að Hofi, **mikill** *maður* og
 he was influential.man at Hofi great.NOM.SG.STR man.NOM.SG and
sterkur og **hinn** **ódælasti**
 strong.NOM.SG.STR and DEF.NOM.SG obstinate.SUPL.NOM.SG.WK
 ‘He was an influential man at Hofi, a great and strong and most obstinate
 man.’ (1350.FINNBOGI.NAR-SAG,657.1794)
- (54) Svo er frá Fjölni sagt, að hann væri **vitur**
 so is from Fjölnir said that he be.PST.SBJV wise.NOM.SG.STR
maður og **ráðugur** og **illgjarn**
 man.NOM.SG and shrewd.NOM.SG.STR and malicious.NOM.SG.STR
 ‘So it is said of Fjölnir that he were a wise and shrewd and malicious
 man.’ (1260.JOMSVIKINGAR.NAR-SAG,893)

There is just one example where all three adjectival phrases occur on the same side, and that is postnominally, shown in (55).

- (55) og keisarinn **riður** fram að sjónum og hefir í hendi *spjót*
 and emperor.DEF rides forth to sea and has in hand spear.ACC.SG
 eitt **mikið**, **gullrekið** og
 one.ACC big.ACC.SG.STR inlaid-with-gold.ACC.SG.STR and
alblóðugt
 all.bloody.ACC.SG.STR
 ‘and the emperor rides forth to the sea and has in his hand a certain spear,
 big, inlaid with gold and all bloody’
 (1260.JOMSVIKINGAR.NAR-SAG,586–587)

The general impression for Old Icelandic is that there is a dispreference for “unbalanced” noun phrases, so when there is more modification, flanked adjectives is a way of achieving balance.

Flanking of nouns appears to be a relevant pattern in Old High German as well, helping to account for the distribution of postnominal modifiers in the examples

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taken from non-interlinear translations and discussed in Section 5.1. If we look at those examples which contain a postnominal modifier independently of the Latin original, we find that in five out of six of these, there is another prenominal modifier present in the noun phrase. This applies in the examples (18), (20), (22), (23) and (24), in which the noun appears to be flanked by two modifiers.¹⁴ The example in (21) is the only exception in that it involves an independent postnominal modifier without a prenominal one in the same noun phrase.

Flanking also helps to explain why adjectives which are postnominal in Latin are left in this position in the Old High German. Among the examples taken from non-interlinear translations and discussed in Section 5.1, there are 13 cases of double modification. Both modifiers are postnominal in Latin but in the translation, one is prenominal while the other one is left after the noun. This applies to double modification by way of adjectives alone, cf. (56), but also by way of determiner-like categories co-occurring with adjectives, see (57) and (58).

- (56) **ubil** *scalc* **inti lazzo**
 bad.NOM.SG servant.NOM.SG and lazy.NOM.SG.WK
 ‘bad and lazy servant’ (Tatian_1.1 > T_Tat149 (edition 258–268))
 Lat. serve male et piger
- (57) **this** **ist min** *sun* **leobar**
 DEM is my.NOM.SG son.NOM.SG dear.NOM.SG.STR
 ‘this is my dear son’ (Tatian_1.1 > T_Tat91 (edition 146–156))
 Lat. hic est filius meus dilectus
- (58) **mit diu her gientota** / [...] **thisiu** *uuort* **allu**
 when he finished DEM.ACC.PL word.ACC.PL all.ACC.PL.STR
 ‘when the Lord had finished all these sayings’
 (Tatian_1.1 > T_Tat153 (edition 3–13))
 Lat. cum consummasset / [...] sermones hos omnes

Although the rate of postnominal modifiers is low in Old High German, and although the independent evidence for postnominal modification is extremely restricted, flanking of nouns in constructions involving multiple modifiers appears to be a factor leading to variation in the position of adnominal modifiers in Old High German.

¹⁴Example (19) is set aside here because, as argued in Section 5.1, the adjective phrase *nides folle* ‘full of hate’ is an apposition adjoined to the noun phrase, rather than a part of it.

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Finally, flanking is possible in Old Saxon too, though it is not particularly common. There are a total of 30 such examples in the HeliPaD, including (3) above. Caution is needed, as we are dealing with a poetic text. Twenty-five of these examples involve a line break between the two adjectives, along with a further three that have a caesura (half-line break) between the two adjectives. Only two examples feature no metrical break, and both involve the functional adjective *sulic* ‘such’. One of these is (59).

- (59) that thu iu **sulic** *uuti* **mikil** githolos
 that you ever such.ACC.SG.STR torture.ACC.SG great.ACC.SG.STR suffer
 undar theson thioda
 under DEM people
 ‘that you ever endure such great torture under these people’
 (OSHeliandC.1723.3095-3097)

Still, in view of the existence of such examples it seems reasonable to expect that flanked adjectives are a factor in modifier positioning in Old Saxon as they are in the other early Germanic languages investigated.

6 Conclusion

In this study we aimed to give an overview of modifier position in Old English, Old High German, Old Saxon, and Old Icelandic noun phrases. We recognize that though by name, these are all “Old” varieties of Germanic languages, they are at different time distances from Proto-Germanic. However, as argued in Section 1, this does not invalidate the comparison. We also recognized issues that arise from the radically different amount of data available for the different languages, difference in corpus design and thus in queries, and the different nature of the texts. With respect to the latter issue, we showed in Section 5.1 that detailed studies of genres can also lead to interesting results.

The languages we have compared here show some striking similarities with respect to the order of elements in the noun phrase; for instance in that the orders exemplified in (1)–(5) exist in all languages. All languages show substantially more flexibility with respect to word order than their modern varieties, but we have identified some common patterns, most obviously in that modifiers overwhelmingly occur prenominal. Only in Old Icelandic is this pattern to some extent obscured by the preference for possessors to occur postnominally. As pointed out by Ratkus (2011), this may be a property that Old Icelandic shares with Gothic, which would be interesting since these are the two early Germanic

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varieties which Lass (2000: 30) identifies as most archaic. Indeed, Ratkus (2011: 266) speculates that “at an early stage in the development of Germanic, adjectives were used in post-position to the noun.” However, Ratkus (2011: 219–222) also points out that it is only in earlier Runic inscriptions and in early Gothic that evidence for postnominal modifier position is found; in the later Gothic represented by the *Skeireins*, in later Runic, and in older Germanic languages in general, prenominal modifier position is the general rule, as we have also shown. Thus, we think the issue of what the default word order in Proto-Germanic was merits further consideration, though it is beyond the scope of this chapter to explore this.

The position of possessors is also of special interest in Old Saxon, where we saw in Section 5.2 that those possessors which are expressed as indeclinable genitive forms of pronouns are invariably prenominal, whereas those that decline like adjectives can also be postnominal, but still only at about the same rate as adjectives in general are postnominal.

Though different principles for determining word order were at work in the early varieties from those that operate in the corresponding modern varieties, the principle of avoiding heavy modifiers prenominally applies in these varieties, just as in the modern ones. This includes the possibility of having the complement of a prenominal adjective following the noun, as in *older languages than the ones we have looked at*.

A particularly interesting shared pattern we have identified is the preference for a balanced noun phrase; that is, if there are multiple modifiers, these tend to be split between pre- and postnominal position. This is of theoretical significance: approaches to noun phrase structure can account for head-first and head-last structures, and in some approaches a flatter structure is assumed that allow independent factors – such as information structure – to determine the word order. However, we are not aware of any analysis in which the head noun acts as a kind of pivot around which the structure aims for a balance.

Abbreviations

ACC	accusative	DEM	demonstrative
ADJ	adjective	GEN	genitive
CARD	cardinal numeral	MOD	modifier
CMPR	comparative	N	noun
DAT	dative	NOM	nominative
DEF	definite	PL	plural

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POSS	possessive	SG	singular
PTCL	particle	STR	strong
QUANT	quantifier	SUPL	superlative
REFL	reflexive	WK	weak
SBJV	subjunctive		

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Chapter 4

The Old English quantifiers *fela* ‘many’ and *manig* ‘many’, and Ælfric as a linguistic innovator

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This chapter explores the Old English quantifiers *fela* and *manig*, both meaning ‘many’, with special focus on *fela*. It is shown that the works of Ælfric and the *Peterborough Chronicle*, both from the late Old English period, stand out with respect to which constructions *fela* enters into. In those texts, *fela* can occur in agreement constructions or with a partitive genitive, whereas in the rest of the Old English texts, the genitive is used consistently. Thus, *fela* shows clear signs of moving from being the head of the noun phrase, taking a genitive complement, to becoming a modifier of a head noun. *Manig*, on the other hand, has always been a modifier of a nominal head. I show that the variation in the use of *fela* in Ælfric’s texts and the chronicle is determined by semantic factors, and that the trajectory of change is what we would expect for a word of this kind. As the construction with *fela* changed, it was in many cases no longer structurally distinguishable from constructions with *manig*. In addition, as inflections were levelled, the genitive plural case marking was no longer there to support *fela*. Hence, *fela* lost the lexical competition, since *manig* in any case was the most frequent quantifier meaning ‘many’, and did not have to undergo any radical structural changes.

1 Introduction

Mitchell (1985: vol. I, 172–174) groups *fela* and *manig* under “indefinites”, and lists three different uses: i) dependent (attributively in agreement constructions) (1);



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ii) independent with a partitive genitive (2), or iii) alone (3).¹ *Fela* is indeclinable and cannot be compared, but it can be accompanied by an intensifying adverb.² Note that when *fela* stands alone, it often means ‘much’ rather than ‘many’, as in (3).

- (1) *fela þing*
many thing.ACC.PL
‘many things’ (OEng.562.416; ÆHS)
- (2) *fela oðra wundra*
many other.GEN.PL wonder.GEN.PL
‘many (of) other wonders’ (OEng.507.515; ÆHS)
- (3) *Fela ic hæbbe eow to secganne*
much I have you to say
‘I have much to say to you.’ (OEng.834.824; Cura)

In contrast to *fela*, *manig* can be declined weak or strong. If an adjective occurs between *manig* and a noun head, the adjective is declined strong unless a possessive or demonstrative intervenes (Mitchell 1985: vol. I, 61). It is unclear whether *manig* can be compared; Mitchell (1985: vol. I, 174 fn. 112) seems to suggest that *mæstra* may be a superlative of *manig* rather than of *micel*. Like *fela*, *manig* can be used dependently (4), independently with a partitive genitive (5) or alone (6).

- (4) *wel monige godcunde lareowas*
well many.ACC.PL religious.ACC.PL teacher.ACC.PL
‘very many religious teachers’ (OEng.970.662; ASC(A))
- (5) *hiora monigne*
them.GEN many.ACC.SG
‘many of them’ (OEng.908.724; Bede)
- (6) *& eac monige cwomon to bicgenne þa þing*
and also many.NOM.PL came to buy DEF things
‘and many also came to buy the things’ (OEng.376.864; Bede)

¹I only gloss according to what is necessary for the purposes of this study. Hence, I gloss the noun phrases for case and number, and in some of the longer sentences presented later in this study, I provide some glosses that are necessary in order to understand the structure of the sentence.

²The *Dictionary of Old English* (–2023) lists three exceptions, where *fela* in fact is declined.

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Apart from what is found in Mitchell (1985), it seems that very little has been written about *fela*. Roehrs & Sapp (2018) deal with complex quantifiers, so they specifically do not consider *fela* (2018: 389), but they mention in a footnote that *fela* is probably a head-type rather than a phrase-type quantifier (2018: 389, fn. 6). Wright’s (1925) and Campbell’s (2007) Old English grammars mostly provide phonological information about *fela*. *Fela* has not been deemed worthy of attention in the Old English (Hogg 1992) or Middle English (Blake 1992) volume of the *Cambridge history of the English language* either. The time has therefore come to give *fela* its fifteen minutes of fame.

Section 2 provides information about the texts and corpora used, Section 3 presents the results for both *fela* and *manig*, and Section 4 contains the discussion. The discussion focuses on *fela* in Ælfric’s texts and the *Peterborough Chronicle*, the latter of interest because it shows the transition from Old to Middle English. Reference is especially made to Roehrs & Sapp (2018) on complex quantifiers, as it is highly relevant for the present study. Section 5 concludes the study.

2 Material and method

For the purposes of this study, I used both the *Noun Phrases in Early Germanic Languages* database (NPEGL, see Pfaff & Bouma 2023 [this volume]) and the *York–Toronto–Helsinki Corpus of Old English Prose* (YCOE, Taylor et al. 2003). I first searched for *fela*, with the spelling variants *fela*, *feola*, *feala*, and *fæla*,³ including with capital letters, in the NPEGL database,⁴ and I did the same in the YCOE corpus. NPEGL is a noun phrase database that is created on the basis of the material in the YCOE corpus. The advantage of using both is that the NPEGL database provides the textual context for the examples, while the YCOE provides a syntactic analysis. I extracted all examples of *fela* from all the Old English texts that contained ten or more instances of *fela*, see Table 1. I then wrote all the examples down manually in a file, in order to sort them into the categories presented in Table 2, and to gain an understanding of the usage through studying each example in context.

As regards *manig*, I limited the extraction to seven texts from Old English (see Table 4), and the spellings were *manig*, *monig*, *mænig*, *maneg*, *moneg*, and

³The *Dictionary of Old English* (–2023) lists a few other spelling variants, and I searched for those as well, but they either occur in poetry, or in texts that are not considered in this study, so I do not list them here.

⁴Unless otherwise marked, all the examples are from the NPEGL database, and can be found by entering the unique ID provided, in the format Language.number.number.

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Table 1: The texts used in the study. The Old English texts are those that contained ten or more instances of *fela*

Text	Corpus file name	Abbreviation
<i>The Anglo-Saxon Chronicle</i> (A ms)	cochronA	ASC(A)
<i>The Anglo-Saxon Chronicle</i> (D ms)	cochronD	ASC(D)
<i>Bede's Ecclesiastical History</i>	cobede	<i>Bede</i>
<i>Cura Pastoralis</i>	cocura	<i>Cura</i>
<i>Orosius</i>	coorosiu	<i>Oros</i>
<i>Bald's Leechbook</i>	colaece	<i>Leech</i>
<i>Vercelli Homilies</i>	coverhom	<i>Verc</i>
<i>Gregory's Dialogues</i>	cogregdH	<i>Greg</i>
<i>The Gospel of Nichodemus</i>	conicodA	<i>Nich</i>
<i>Heptateuch</i> (Old Testament)	cootest	<i>Hept</i>
<i>The West-Saxon Gospels</i>	cowsgosp	WSG
<i>The Homilies of Wulfstan</i>	cowulf	<i>Wulf</i>
<i>Ælfric's Lives of Saints</i>	coaelive	<i>ÆLS</i>
<i>Ælfric's Catholic Homilies 1</i>	cocathom1	<i>ÆCH1</i>
<i>Ælfric's Catholic Homilies 2</i>	cocathom2	<i>ÆCH2</i>
<i>Ælfric's Homilies Supplemental</i>	coaelhom	<i>ÆHS</i>
<i>Ælfric's Letter to Sigeward</i>	colsigewZ	<i>Sigew</i>
<i>Old English Peterborough Chronicle</i>	cochronE	<i>OE Pet</i>
<i>Middle English Peterborough Chronicle</i>	cmpeterb	<i>ME Pet</i>

mæneg, including with capital letters and all possible case forms. In this search, I only used the NPEGL database, as it gives easy access to all forms through the query interface. The reason why I did not analyze *manig* for all the texts is that it soon became apparent that it is very consistent in usage throughout (see Table 4). The possible added value in analyzing all the instances of *manig* for all the texts would therefore be disproportional to the work involved.

I have only used one text from the early Middle English period, namely the first and second continuations of the *Peterborough Chronicle*.⁵ I searched for the word forms *fela*, *fele*, *feola*, *feole*, *feala*, *feale* and the forms *manig*, *mani*, *manie*, *monig*, *moni*, *monie*, *mænig*, *mæni*, *mænie*, *mane*, *manege* in the *Penn-Helsinki Parsed Corpus of Middle English* (PPCME2, Kroch et al. 2000). The aim was to

⁵The First Continuation covers the years 1122–1132, and the Second Continuation the years 1132–1154. See Section 4.3 for further information about the *Peterborough Chronicle*.

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trace the development of the use of *fela* within the chronicle. *The Peterborough Chronicle* will be discussed in Section 4.3.

3 Results

3.1 Results for *fela* in the individual texts

In Table 2, I distinguish between the following constructions: *fela* with agreement, *fela* with genitive, *fela* standing alone, *fela* in constructions with numerals, and a “miscellaneous” category for occurrences that could not be placed in the previous categories. For the sake of consistency in the table, I have given raw numbers and percentages for each text, but keep in mind that percentages do not say much if the total number of occurrences in a text is low.

Examples (7)–(9) show *fela* with a following noun that is not in the genitive case. For lack of a better term, I call this type “*fela* with agreement”, even though *fela* is indeclinable.

- (7) *fela untrume men*
many sick.NOM.PL man.NOM.PL
‘many sick men’ (OEng.663.860; *ÆLS*)
- (8) *fela wytegan & ryhtwise men*
many wiseman.NOM.PL and righteous man.NOM.PL
‘many wise men and righteous men’ (OEng.278.158; *ÆCH1*)
- (9) *fela wintrum*
many winter.DAT.PL
‘many winters’ (OEng.807.991; *OE Pet*)

Examples (10)–(12) show *fela* followed by a noun in the genitive case, a partitive genitive.

- (10) *fela wundra*
many wonder.GEN.PL
‘many wonders’ (OEng.254.309; *ÆCH2*)
- (11) *fela geara*
many year.GEN.PL
‘many years’ (NPEGL, OEng.275.716; *Bede*)

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- (12) *fela manna*
many man.GEN.PL
'many men' (OEng.677.479; Greg)

Table 2: The distribution of *fela*

Texts	<i>fela</i> total	Agreement		Genitive		Numeral		Alone		Misc.	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<i>ASC(A)</i>	12	1	8.3	8	66.7	2	16.7	1	8.3	0	0
<i>ASC(D)</i>	37	4	10.8	19	51.4	7	18.9	6	16.2	1	2.7
<i>Bede</i>	13	1	7.7	10	76.9	0	0	2	15.4	0	0
<i>Cura</i>	19	0	0	12	63.2	0	0	7	36.8	0	0
<i>Oros</i>	46	2	4.4	35	76.1	6	13.0	1	2.2	2	4.4
<i>Leech</i>	14	1	7.1	9	64.3	0	0	3	21.4	1	7.1
<i>Verc</i>	13	0	0	10	76.9	0	0	3	23.1	0	0
<i>Greg</i>	21	3	14.3	16	76.2	0	0	1	4.8	1	4.8
<i>Nich</i>	11	1	9.1	6	54.6	0	0	3	27.3	1	9.1
<i>Hept</i>	18	0	0	12	66.7	1	5.6	5	27.8	0	0
<i>WSG</i>	34	0	0	20	58.8	0	0	14	41.2	0	0
<i>Wulf</i>	70	3	4.3	53	75.7	1	1.4	12	17.1	1	1.4
<i>ÆLS</i>	110	42	38.2	44	40.0	2	1.8	15	13.6	7	6.4
<i>ÆCH1</i>	63	13	20.6	22	34.9	4	6.4	16	25.4	8	12.7
<i>ÆCH2</i>	81	32	39.5	26	32.1	3	3.7	13	16.1	7	8.6
<i>ÆHS</i>	47	10	21.3	24	51.1	1	2.1	9	19.1	3	6.4
<i>Sigew</i>	12	2	16.7	4	33.3	4	33.3	1	8.3	1	8.3
<i>OE Pet</i>	51	16	31.3	15	29.4	12	23.5	2	3.9	6	11.8
<i>ME Pet</i>	13	10	76.9	0	0	0	0	0	0	3	23.1

The genitive category also includes those instances in which the noun is definite and preceded by a demonstrative, as in (13)–(14), a few instances of possessives (15), and some examples of pronouns, in which case the pronoun often precedes *fela* (16). Roehrs & Sapp (2018: 386–388) call the quantified constituents in (7)–(12) “non-DP(-size) dependents”, and the ones in (13)–(16) “DP(-size) dependents” (see Section 4.1). DP dependents are always in the genitive case, and they will therefore be disregarded from Table 3 onward, since I want to focus on the possible variation here. There are 54 such instances in total, and many of them

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occur in *Orosius* and in Wulfstan’s homilies.⁶

- (13) *fela þære hæðenra*
many DEF.GEN.PL heathen.GEN.PL
‘many of the heathens’ (OEng.411.534; ÆLS)
- (14) *fela þara senatorum*
many DEF.GEN.PL senator.GEN.PL
‘many of the senators’ (OEng.394.441; Oros)
- (15) *feola his gersuma*
many his treasure.GEN.PL
‘many of his treasures’ (OEng.569.541; OE Pet)
- (16) *and heora feala þær adruncon*
and them.GEN.PL many there drowned
‘and many of them drowned there’ (OEng.490.467; OE Pet)

I kept the numerals in a separate category, although these are also partitive genitives. The reason for keeping them apart is that sometimes the numeral itself is in the genitive case, as in (17), while sometimes it is the complement of the numeral that is in the genitive (18). I did not want the numerals, which might also be idiomatic expressions, to interfere with the data, since I was interested in the possible choice between agreement constructions and genitives.

- (17) *fela þusenda*
many thousand.GEN.PL
‘many thousand’ (OEng.147.776; Sigew)
- (18) *fela hund wintra*
many hundred winter.GEN.PL
‘many hundred winters’ (OEng.533.562; Wulf)

Fela may occur alone, as in (19) and (20). As shown in (3), *fela* can also mean ‘much’, and this is especially the case when *fela* stands alone. In other words, *fela* can sometimes be singular in meaning.

⁶Note that the *-um* ending in *senatorum* in example (14) is the Latin genitive plural inflection. Latin words sometimes kept their Latin endings.

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- (19) *Fela sind gelaðode and feawa gecorene*
 many are invited and few chosen
 ‘Many are invited and few are chosen.’ (OEng.021.630; ÆCH2)
- (20) *and fela þær wurdon ofslægen*
 and many there became killed
 ‘and many were killed there’ (OEng.037.151; ASC(D))

A few occurrences of *fela* did not fit into the previous categories, so I collected them into a “miscellaneous” category, cf. Table 2. Some examples are given in (21)–(25). In (21), the case endings do not match, as we would expect either *oðra* if it is a genitive, or *tacn* if it is agreement. In (22), it is not possible to be certain about the case, since *ðrowung* is a feminine noun and thus can have an *a*-ending in the nominative, accusative and genitive plural.⁷ Example (23) is unusual in the sense that there is a demonstrative in front of *fela*. There are in addition two instances of *fela* in combination with the preposition *of*. In (24), from the *Homilies of Wulfstan*, there is clear case marking on the adjective and noun,⁸ while in (25), from the *Peterborough Chronicle* year 1070, the case marking is opaque.

- (21) *fela oðre tacna*
 many other tokens
 ‘many other signs’ (OEng.652.573; ÆCH2)
- (22) *hu fela ðrowunga*
 how many sufferings
 ‘how many sufferings’ (OEng.664.564; ÆCH1)
- (23) *þa fela rican*
 DEF many rich
 ‘the many rich (people)’ (OEng.094.050; ÆCH1)
- (24) *to fela [...] of godcundre heorde*
 too many of religious.GEN./DAT.SG flock.GEN./DAT.SG
 ‘too many [...] of the religious flock’ (OEng.965.861; Wulf)
- (25) *fela of þa oðre gærsume*
 many of DEF other treasures
 ‘many of the other treasures’ (OEng.771.849; OE Pet)

⁷The YCOE corpus has tagged it as a genitive.

⁸The case is either genitive or dative here; the YCOE corpus analyzes it as dative, governed by the preposition *of*.

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For the sake of illustration, the examples provided so far are quite straightforward, with *fela* followed by a noun phrase, except for a couple of examples of a preceding pronoun. However, language is seldom completely straightforward, so (26)–(28) serve to illustrate some variation in constructions with *fela*.

- (26) & se cyng ofsloh heora swa feala swa he offaran mihte
 and DEF king killed them.GEN.PL as many as he overtake could
 ‘and the king killed as many of them as he was able to reach and attack’
 (OEng.901.366; OE Pet)
- (27) & hi him þar foregislas sealdon swa feala swa he habban
 and they him there hostage.ACC.PL gave as many as he have
 wolde
 would
 ‘and there they gave him as many hostages as he wanted’
 (OEng.134.533; OE Pet)
- (28) wundra on þyssere worulde fela
 wonder.GEN.PL in DEM world many
 ‘many of the wonders in this world’ (OEng.571.901; ÆLS)

3.2 Agreement versus genitive with *fela*

Table 2 gives an overview of the entire distribution of *fela*, but I am particularly interested in the variation between agreement and genitive. Therefore, in Table 3, I disregard the instances of *fela* standing alone, the instances of *fela* with a numeral, and the “miscellaneous” instances. I also exclude the “DP dependents”, i.e. constructions with a pronoun (16), or with a demonstrative (13) or possessive (15) preceding the noun, since these are always in the genitive case, as well as the two instances of constructions with the preposition *of*.

Table 3 is thus meant to show the distribution when the writer in principle had a choice between agreement and genitive. With DP dependents, there is no choice, because the grammar dictates that they always occur in the genitive. But with non-DP dependents, there was apparently a choice for Ælfric and for the writers of the first part of the chronicle.

In Table 3 we can clearly see the difference between Ælfric’s texts and the *Peterborough Chronicle* on the one hand, and the rest of Old English on the other. Ælfric’s texts and the chronicle are quite similar, but the chronicle is even more “modern” than Ælfric, in the sense that agreement is used more than the genitive. The distribution seen in Table 3 will be further discussed in Section 4.

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Table 3: The distribution of *fela* used with agreement vs. genitive in Ælfric’s texts and the *Peterborough Chronicle* (Old English parts) vs. the rest of the Old English texts

Texts	<i>fela</i> total agr + gen	Agreement		Genitive	
		<i>n</i>	%	<i>n</i>	%
Ælfric’s texts	202	99	49.0	103	51.0
The OE <i>Peterb. Chron.</i>	26	16	61.5	10	38.5
All other OE texts	191	16	8.4	175	91.6

3.3 Results for *manig*

Table 4 shows the distribution of *manig* in the seven Old English texts studied here. I distinguish between *manig* with agreement, *manig* with genitive, *manig* standing alone, and miscellaneous cases. Examples are given below.

Table 4: The distribution of *manig* in the texts

Texts	<i>manig</i> total	Agreement		Genitive		Alone		Misc.	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<i>ASC(A)</i>	19	11	57.9	2	10.5	4	21.1	2	10.5
<i>Bede</i>	195	122	62.6	17	8.7	34	17.4	22	11.3
<i>Oros</i>	101	79	78.2	1	1.0	5	5.0	16	15.8
<i>ÆLS</i>	95	69	72.6	3	3.2	15	15.8	8	8.4
<i>ÆCH1</i>	57	36	63.2	0	0	14	24.6	7	12.3
<i>ÆCH2</i>	55	33	60.0	1	1.8	12	21.8	9	16.4
<i>OE Pet</i>	71	54	76.1	1	1.5	7	9.9	9	12.7

Examples (29)–(31) show *manig* with agreement, while (32)–(34) are examples with a genitive.

- (29) manegum ðeowracum
many.DAT.PL threat.DAT.PL
‘many threats’ (OEng.393.842; ÆLS)
- (30) swa manege gersumas
so many.ACC.PL treasure.ACC.PL
‘so many treasures’ (OEng.407.002; OE Pet)

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- (31) *hu monega gefeoht*
 how many.ACC.PL battle.ACC.PL
 ‘how many battles’ (OEng.777.881; Oros)
- (32) *monige [...] lifigendra manna*
 many.NOM.PL living.GEN.PL man.GEN.PL
 ‘many [...] living men’ (OEng.773.105; Bede)
- (33) *mænigo þara wergra gasta*
 many.ACC.PL DEF.GEN.PL evil.GEN.PL spirit.GEN.PL
 ‘many of the evil spirits’ (OEng.847.366; Bede)
- (34) *Manega tacna*
 many.NOM.PL sign.GEN.PL
 ‘many signs’ (OEng.941.407; ÆCH2)

Manig can also stand alone, as in (35)–(36).

- (35) *þæt manega cumað fram eastdæle*
 that many.NOM.PL come from eastpart
 ‘that many come from the east’ (OEng.086.173; ÆCH1)
- (36) & *mænige gewundedon þærinne*
 and many.ACC.PL wounded therein
 ‘and wounded many there’ (OEng.749.054; OE Pet)

As Table 4 shows, there were more instances of *manig* in the miscellaneous category than of *fela* in the same category. I show a few of them here. Quite commonly, the construction with *manig* is the complement of a noun, so that both *manig* and its noun are in the genitive case, cf. (37). Hence, this is not a relevant construction for my purposes.

- (37) *manegra ðeoda fæder*
 many.GEN.PL people.GEN.PL father.NOM.SG
 ‘the father of many peoples’ (OEng.270.759; ÆCH1)

Quite a few of the examples sorted into the miscellaneous category contained a feminine noun, so that it is strictly speaking not possible to determine case on the basis of the form alone. In (38), *leoda* could in principle be either accusative or genitive; the ending would be the same. The YCOE corpus annotates such cases as agreeing with *manig*, so that *leoda* in (38) would be an accusative plural. This is of course the most likely analysis, since *manig* is very consistent in occurring with agreement. I have, however, chosen to keep such instances apart.

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- (38) *manega leoda*
 many.ACC.PL peoples
 ‘many peoples’ (OEng.206.233; ÆCH1)

In (39), *huses* has an unexpected ending for a neuter, plural noun: it should be *hus*. But this example is from the *Peterborough Chronicle* year 1117, so clearly the generic plural form in *-(es)* is starting to develop. I could have analyzed this as agreement, but chose to place this example in the miscellaneous category.

- (39) *manige mynstras & turas & huses*
 many.NOM.PL minster.NOM.PL and tower.NOM.PL and houses
 ‘many minsters and towers and houses’ (OEng.042.102; OE Pet)

With *fela* there were two examples of an *of*-construction. With *manig*, there were eight in the texts under consideration here. Two of them are shown in (40) and (41).

- (40) *monige of his folce*
 many.NOM.PL of his people.DAT.SG
 ‘many of his people’ (OEng.608.943; Bede)
- (41) *swyðe manega of þæs cynges hired*
 very many.NOM.PL of DEF.GEN.SG king.GEN.SG court.ACC.SG
 ‘very many of the king’s court’ (OEng.908.344; OE Pet)

3.4 Agreement versus genitive with *manig*

In the same way as for *fela*, I also made a table for *manig* comparing the distribution of agreement and genitive constructions. I excluded the instances of *manig* standing alone and the “miscellaneous” instances, as well as constructions with a demonstrative or a pronoun, and the eight instances with the preposition *of*.

As Table 5 shows, *manig* overwhelmingly occurs with agreement. While Ælfric’s texts show variation between agreement and partitive as concerns *fela*, they are very consistent with respect to *manig*, like the other Old English texts.

4 Discussion

In this section I first give an outline of a study (Roehrs & Sapp 2018) that has been useful for this chapter, before I go on to a discussion of the findings of the

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Table 5: The distribution of *manig* used with agreement vs. genitive in the texts

Texts	<i>manig</i> total agr + gen	Agreement		Genitive	
		<i>n</i>	%	<i>n</i>	%
<i>ASC(A)</i>	11	11	100.0	0	0
<i>Bede</i>	126	122	96.8	4	3.2
<i>Oros</i>	72	72	100.0	0	0
<i>ÆLS</i>	70	68	97.1	2	2.8
<i>ÆCH1</i>	36	36	100.0	0	0
<i>ÆCH2</i>	34	33	97.1	1	3.0
<i>OE Pet</i>	54	53	98.1	1	1.9

texts under consideration here. The assumption is that *fela* originally occurred with the genitive, and that there was a development away from this, before *fela* eventually disappeared. Ælfric seems to have been ahead of the field in this respect, and the variation is also evident in the *Peterborough Chronicle*. I propose that the variation is not random, but is conditioned by the following factors:

- Cardinal vs. proportional reading. *Fela* + agreement, i.e. the newer construction, can only have a cardinal reading. *Fela* + genitive, i.e. the older construction, mostly has a proportional reading, but can have a cardinal reading in some cases. In earlier times, when *fela* + genitive presumably was the common construction, it was used to convey both cardinal and proportional meaning, hence we would expect to see remnants of this variation in the old construction, whereas the new construction with agreement would be consistent. Cf. Drinka (2017: 404): “Innovations virtually never completely occlude previous categories, but build on them.”
- Concrete and countable nouns vs. abstract nouns. *Fela* + agreement is mostly used with concrete, countable nouns, while *fela* + genitive is mostly used with abstract nouns.
- Constructions with *fela* + genitive are frequently objects and prepositional complements rather than subjects. If *fela* + genitive functions as subject, it is usually in existential/presentative constructions, or in passive constructions, which testifies to their non-agentive nature, as opposed to *fela* + agreement constructions, which are more likely to be agentive.

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4.1 Roehrs and Sapp 2018

Of particular relevance for this chapter is Roehrs and Sapp's (2018) study of complex quantifiers in Old English, with Old Icelandic and Old High German playing supporting roles. They propose a distinction between head-type quantifiers and phrase-type quantifiers. Head-type quantifiers are not inflected and are not modified by degree words (2018: 389). Examples are *awiht* 'some/any (thing)', *nanþing* 'no(thing)', *(ge)hwa* 'some/any (one)'. As regards Old English, the dependents of such quantifiers are, with a few exceptions, in the genitive (2018: 390). Phrase-type quantifiers, on the other hand, are adjective-like (2018: 398) and take dependents that are either genitives or in agreement (they call it concord) with the quantifier (2018: 399–401). Examples are *ælc* 'each', *(ge)hwæðer* 'either (of two)' and *nænig* 'no/none'. If the dependent of a phrase-type quantifier is what they call a "DP-size dependent", i.e. pronouns, and nominals with an overt determiner (2018: 388), it is in the genitive (2018: 399). If the dependent is a "non-DP dependent", i.e. dependent nouns and constructions with an adjective plus a noun (2018: 388), it is overwhelmingly in agreement with the quantifier (2018: 399–401). Of the three languages, Old English shows the most variation, as Old High German has genitive dependents regardless of the type of quantifier, while Old Icelandic mostly has agreement.

On the basis of the empirical findings, Roehrs and Sapp propose a syntactic analysis of the variation, couched within the generative framework. Head-type quantifiers are, as the name suggests, in a head position (in the syntactic structure), whereas phrase-type quantifiers are in a specifier position. Furthermore, DP-size dependents are always the complement of N, whereas non-DP genitive dependents are in a specifier position, and non-DP agreement dependents are in the nominal projection line (2018: 381, 396, 398, 404). I will not enter into a detailed discussion about this proposal, but merely point out that if this is meant to be valid for quantifiers in general, *fela* does not quite fit in, as we shall see.

A few more relevant points from Roehrs and Sapp's work is that they do not find that semantics plays a role in the choice between genitive and agreement (2018: 417). They also mention diachronic change (2018: 416), and propose that Old High German is the "oldest" language, since it may be assumed that genitive dependents represent the older stage, while Old Icelandic is the "youngest", since quantifiers occur in agreement constructions. As usual with Old English, it is somewhere in between. But Roehrs and Sapp (2018: 416) make the interesting point that a change is taking place with some Old English writers, since there are instances of head-type quantifiers that have non-DP dependents that are not in the genitive case.

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As mentioned, Roehrs & Sapp (2018) specifically study complex quantifiers, so *fela* is not included, apart from a mention in a footnote where they say that *fela* is probably a head-type quantifier (2018: 389), since according to Mitchell (1985: vol. I, 172), *fela* mostly occurs with the genitive. But now that we have seen the data for *fela* and the variation that exists, the questions that arise are: what caused the variation, and what type of quantifier is *fela* in this terminology – head-type or phrase-type? *Fela* is indeclinable, i.e. not adjective-like, so in that sense it is like a head-type quantifier.⁹ But it can be modified by a degree adverb, *swiðe* ‘very’, though admittedly this is rare. Furthermore, as we have seen, in Ælfric’s texts and the *Peterborough Chronicle*, *fela* commonly occurs with agreement, which we would not expect with head-type quantifiers.

4.2 Ælfric’s texts

If we assume that *fela* + genitive was the original construction, as indicated both by other Germanic languages (cf. Roehrs & Sapp 2016), and by the great majority of Old English texts, Ælfric’s usage was clearly unusual with respect to *fela*. His use anticipates what we see in the *Peterborough Chronicle*, and this change would be as expected in light of the general developments of English and the way in which noun phrases are structured in Present-day English, i.e. with quantifiers modifying a nominal head, rather than the noun being the complement of the quantifier. Note that Wulfstan, Ælfric’s contemporary, and even a little younger, is much more conservative in the use of *fela* (cf. Table 2).¹⁰ The question is: can we discern any patterns of usage when it comes to Ælfric’s use of *fela*? Roehrs and Sapp find that the choice between agreement and genitive is not semantically motivated for the complex quantifiers they study (2018: 417), but I will argue that it conditioned the use of *fela* in the texts that show variation. Language change has to start somewhere, and if an individual shows signs of it in his language, it would not be unlikely that the variation arises due to different shades of meaning in certain constructions. Furthermore, Ælfric was known as a great and conscious stylist (Gatch 1977; Godden 2004; Harris 2006), and my point

⁹Note also that Roehrs and Sapp (2016) demonstrate that the Old High German cognate *filu* is a head-type quantifier, being indeclinable and occurring exclusively with genitive nouns.

¹⁰Mitchell (1985: vol. I, 174) comments that in Ælfric’s texts the verb is usually plural after *fela* + genitive, whereas *fela* + genitive is followed by a singular verb in Wulfstan. In my data from Wulfstan’s homilies, there are only 12 cases of a *fela* construction that functions as the subject of a verb, and of those, nine have a singular verb, whereas plural verbs are the most common in Ælfric’s texts. This is an interesting difference between the contemporaries, because it supports the impression that for Ælfric, *fela* was becoming a quantifier, with the noun governing the verbal concord, while for Wulfstan, it was a partitive, with *fela* governing the verbal concord.

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of departure is therefore that the distribution with respect to the use of *fela* in Ælfric's texts is a result of linguistic choice.

Roehrs & Sapp (2018: 417) comment that for Present-day English, there is, for non-DP dependents (e.g. Old English *fela men*, *fela manna* 'many men', *fela gode men* 'many good men'), a distinction between a cardinal reading, denoting members of a set, and a proportional reading, denoting members of a pre-established set. For example, *many men fought the battle* can mean that the number of men that fought the battle was large (cardinal reading), or it can mean that a large proportion of the men fought the battle (proportional reading). DP dependents (e.g. Old English *fela þara manna*) only have a proportional reading (cf. Present-day English *many of the men fought the battle*). According to Roehrs & Sapp (2018: 417), this interpretative distinction likely held in the older languages as well, since if it did not, the question arises as to when and why that distinction arose later. I follow Roehrs and Sapp in this assumption, also because there are so few instances of *fela* + a noun preceded by a demonstrative. We would expect more constructions with a demonstrative if that was the only way of indicating proportionality.

As concerns the complex quantifiers that Roehrs and Sapp study, they find that DP dependents are always in the genitive, but that non-DP dependents are in agreement with phrase-type quantifiers in Old English and with all quantifiers in Old Icelandic. If non-DP dependents can also have a proportional reading in the older languages, we might expect to see more genitives for non-DP dependents, on a par with DP-dependents. Since DP-dependents are always in the genitive and always have a proportional reading, proportionality and the genitive case seem to be associated. But Roehrs and Sapp find that non-DP dependents agree with the quantifier. There are only a few cases of genitive, and they are mostly idiomatic expressions. Hence, they conclude that although the distinction between cardinal and proportional readings existed in earlier language stages, the distribution they see for the complex quantifiers is better explained structurally rather than semantically (2018: 417).

However, as we have seen in the present study, *fela* can occur with non-DP dependents either in agreement or with genitive case in Ælfric and the *Peterborough Chronicle*. This means that the status of *fela* was probably vacillating between head and specifier, and Ælfric and the chronicle thus represent both an older and a newer stage with respect to this construction. Considering semantic factors might therefore provide some insight, so in the following sections I have consequently studied some aspects of these texts in more detail, with the purpose of unearthing possible patterns.

4 The Old English quantifiers *fela* ‘many’ and *manig* ‘many’

4.2.1 The type of noun in agreement and genitive constructions in Ælfric’s texts

One question was whether the type of noun plays a role with respect to whether *fela* would occur with agreement or with genitive. In (42), the nouns found with *fela* + agreement in Ælfric’s texts are listed alphabetically (a total of 53), and in (43) those with *fela* + genitive (a total of 26).

- (42) *ælmyssan* ‘alms’, *ærendracan* ‘messengers’, *bec* ‘books’, *bedredan*¹¹ ‘bedridden (people)’, *bisceopas* ‘bishops’, *blinde* ‘blind (people)’, *cnapan* ‘knaves’, *cnottan* ‘knots’, *corn* ‘grains’, *cristene* ‘Christians’, *cynincgas* ‘kings’, *cyrchan* ‘churches’, *dæda* ‘deeds’, *deade* ‘dead (people)’, *earfopnyssum* ‘difficulties’, *englas* ‘angels’, *estmettum* ‘delicate meats’, *fugolcynn* ‘fowl-kind’, *gearum* ‘years’, *gerefan* ‘stewards’, *gereord* ‘languages’, *gesetnyssa* ‘decrees’, *geþoh-tas* ‘thoughts’, *gewinn* ‘battles’, *gewissungum* ‘instructions’, *gewitan* ‘witnesses’, *gleda* ‘coals’, *god* ‘good deeds/things’, *godspel* ‘gospels’, *goldhordas* ‘gold hoards’, *halgan* ‘saints’, *heahfæderas* ‘patriarchs’, *herereaf* ‘plunders’, *hundas* ‘dogs’, *lande* ‘lands’, *mædenu* ‘maidens’, *menn* ‘men’, *næddran* ‘adders’, *oðre* ‘others’, *reoflige* ‘leprous (people)’, *sceoccan* ‘demons’, *þearfan* ‘poor (people)’, *þing* ‘things’, *tunnan* ‘barrels’, *unlybban* ‘poisons’, *unþeawas* ‘vices’, *untrume* ‘sick (people)’, *werod* ‘bands (of angels)’, *witan* ‘wise men’, *wode* ‘mad (people)’, *wyrta* ‘plants’, *wytegan* ‘wise men’, *yfelu* ‘evils’.
- (43) *byrðena* ‘loads (of earth)’, *cnihta* ‘boys’, *daga* ‘days’, *engla* ‘angels’, *gasta* ‘spirits’, *gereorda* ‘languages’, *gewitnyssa* ‘testimonies’, *goda* ‘good deeds/things’, *laca* ‘offerings’, *læca* ‘physicians’, *leorningcnihta* ‘disciples’, *manna* ‘men’, *muneca* ‘monks’, *munuclifa* ‘monasteries’, *musa* ‘mice’, *searacræfta* ‘treacherous arts’, *þinga*¹² ‘things’, *tacna* ‘signs’, *templa* ‘temples’, *tida* ‘time periods’, *ungelimpa* ‘misfortunes’, *wildeora* ‘wild animals’, *winboga* ‘vine branches’, *wundra*¹³ ‘wonders’, *yfela* ‘evils’, *yrmda* ‘calamities’.

We may note several things here. First, the number of distinct nouns occurring with *fela* + agreement is double the number of nouns occurring with *fela* + genitive. Second, the majority of the nouns in (42) are animate nouns denoting people or groups of people, or human-like spirits of various kinds, or they are

¹¹Nominalized adjectives are always in agreement.

¹²There was only one example of the noun *þing* with genitive; this noun, which occurs quite frequently, is categorically in agreement.

¹³*Wundra* occurs frequently, and always in the genitive.

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tangible nouns denoting objects or substances. There are some such nouns in (43) as well, but here we see a larger proportion of abstract nouns, such as *gewitnyssa* ‘testimonies’, *searacræfta* ‘treacherous arts’, etc.

If we take Ælfric’s usage of *fela* + agreement to be of the new type, the fact that it occurs with so many different nouns indicates that his usage was perhaps even more advanced than the data in Table 3 indicate. The numbers there show an even distribution between agreement and genitive with *fela*, but here we see that the distribution is uneven with respect to noun types, which points towards the *fela* + agreement construction being the more productive pattern for Ælfric. Moreover, it might indicate that the change in the use of *fela* towards a construction with *fela* as specifier of a noun head started with concrete, countable nouns, which would not be unexpected with a word meaning ‘many’.

Furthermore, if we look into some of the animate nouns in (43), it becomes apparent that they mostly get a proportional reading. Compare (44) and (45). *Fela englas* (with agreement) in (44) has a cardinal reading and denotes angels arriving, armed for fight. It is many angels, not many angels out of a pre-established set. The context is that the Roman general (and later saint) Gallicanus relates how he was converted to God. He was besieged in a town, along with a small army, and tried sacrifices to the gods to get out of this predicament. This did not help, but he was told that if he would bow to the God of heaven, he would have victory. He did so, and immediately an angel came with a cross, and thereafter many splendidly armed angels. Only a cardinal reading is possible here.

In (45), *fela engla* (with genitive) are also arriving, but in the company of the Lord, so here they are a part of the entourage, and it is possible to give (45) a proportional reading, meaning not all the angels, but a sizable proportion of the heavenly host, a presupposed set of angels. Note that this is a possible reading. It is not impossible to give this example a cardinal reading. The point is that *fela* + agreement must get a cardinal reading, while *fela* + genitive can, and in most cases does, have a proportional reading. The newer construction, i.e. *fela* + agreement, is the marked alternative. It marks a certain nuance, and it is consistent. The older construction, i.e. *fela* with genitive, retains the possibility of both meanings. However, I argue that the proportional reading is the most likely one in most cases, and that the cardinal-proportional distinction was in fact a conditioning factor in Ælfric’s usage.

- (44) Ic him fyligde ða, and fela englas coman on manna
 I him followed then and many angel.NOM.PL came in man.GEN.PL

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gelicnyssum, mærlíce gewæpnode
likenesses splendidly armed

‘I followed him then, and many angels came in the likeness of men, splendidly armed.’ (OEng.837.589; ÆLS)

- (45) Þær com eac se hælend mid þam heofonlican leohte, and fela
there came also DEF Lord with DEF heavenly light and many
engla mid him
angel.GEN.PL with him
‘There the Lord also came with the heavenly light, and many angels with him.’ (OEng.938.505; ÆLS)

In (46), *fæla muneca* can also get a proportional reading. The context is that (saint) Julian established one monastery for himself and one for (saint) Basilissa; hence Julian became the spiritual father of many monks (*fæla muneca*), and Basilissa the spiritual mother of many nuns (*manega mynecena*, which is in fact a very rare example of the genitive after *manig*). A possible reading here is that these monks are members of a pre-established set of monks, since the existence of monasteries implies monks.¹⁴

- (46) He wearð þa fæder ofer fæla muneca
he became then father over many monk.GEN.PL
‘He then became the [spiritual] father of many monks.’
(OEng.939.611; ÆLS)

¹⁴A reviewer points out that Mitchell (1985: vol. I, 172–173) is sceptical with regard to a proportional reading of *fela* + non-DP dependent. Mitchell says that *fela oðerra muneca* ‘many other monks’ cannot be proportional because there is no demonstrative *para*, giving *fela para oðerra muneca*. But this reasoning is somewhat circular: a reading is proportional when a demonstrative is present, and a demonstrative is present because the reading is proportional. In addition, the example *fela oðerra muneca* does not exist. Mitchell refers to it, but he has it from another source, and he comments that he was not able to find it anywhere. I have not found it either. It is therefore not possible to check the context for it. If it is a real example, there are two possibilities: either it is from a non-Ælfrician text, in which case the genitive would be used in any case, or it is from a text by Ælfric, in which case it might have a proportional reading, but we cannot check it. In any case, I do not agree with Mitchell here, and the main reason is that demonstrative determiners are in fact rare in these constructions, except in *Orosius*. In Ælfric’s texts, the type with demonstrative only occurs 12 times, e.g. *fela þæra læca* ‘many DEF.GEN.PL physician.GEN.PL’, and of those 12, five are singulars with the noun *folc* ‘people’, e.g. *fela þæs folces* ‘many DEF.GEN.SG people.GEN.SG’. I therefore think it likely that the type without demonstrative could also express proportional meaning.

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In (47) we have *fela* + genitive as well, but here a proportional reading is not possible – it is not many mice out of a pre-established set of mice. It is rather a mass of mice, for which it is probably not possible to count individuals, that happens to pour out of the idol. The description continues by saying that the mice were *flocmælum yrnende geond þa widgillan flor* ‘flockwise running across the wide floor’ so men might know that this was the abode of mice, and certainly not of anything divine. It may be that the mass meaning of the noun pushes it towards genitive here, since *fela* + agreement is mostly used with concrete, countable, agentive nouns.

- (47) Þar wearð þa micel gamen þæt feala musa scutan of
there happened then much mirth that many mouse.GEN.PL shot from
þære anlicnysse
DEF idol
‘Then the amusing thing happened that many mice poured out of the
idol.’ (OEng.019.729; ÆHS)

4.2.2 *Fela men* (agreement) vs. *fela manna* (genitive) in Ælfric’s texts

As a final exercise in trying to disentangle Ælfric’s use of agreement vs. genitive with *fela*, I consider the use of *fela* with the noun *man*. This noun occurs with both agreement and genitive, even within the same text, but the variation is particularly apparent in the *Lives of Saints*. Table 6 shows the distribution, including whether there is also an adjective present, as in (48)–(50).¹⁵

Table 6: The distribution of *fela* with the noun *man* in Ælfric’s texts

Texts	Agreement		Genitive	
	+adjective	-adjective	+adjective	-adjective
<i>ÆLS</i>	7	2	1	5
<i>ÆCH1</i>	1	0	4	0
<i>ÆCH2</i>	0	0	2	5
<i>ÆHS</i>	1	0	2	1

With two exceptions, in all the instances of *fela* with *man* in agreement in Ælfric’s texts, there is also an adjective, as in (48)–(49). *Fela* with *man* in the genitive may contain an adjective, cf. (50).

¹⁵There were no instances in Ælfric’s letter to Sigeward.

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- (48) *fela* *adlige* *menn*
 many sick.NOM.PL man.NOM.PL
 ‘many sick men’ (OEng.530.902; ÆLS)
- (49) *fela* *cristene* *menn*
 many Christian.NOM.PL man.NOM.PL
 ‘many Christian men’ (OEng.553.207; ÆLS)
- (50) *fela* *ricra* *manna*
 many rich.GEN.PL man.GEN.PL
 ‘many rich men’ (OEng.524.280; ÆCH1)

The presence of adjectives lends weight to an analysis of *fela* in a specifier rather than a head position (see Roehrs & Sapp 2018: 403). Furthermore, it seems that this change – if it was indeed a change from head to specifier – was taking place in Ælfric’s grammar in particular, because in the other Old English texts, adjectives rarely occur with *fela*, though there are examples scattered here and there, often with the adjective *god* ‘good’ (see ex. (57)).¹⁶ As mentioned, Roehrs & Sapp (2018: 398) find that with complex phrase-type quantifiers and non-DP dependents, there is almost always agreement. *Fela* is not quite like that, since its non-DP dependents can also be in the genitive. But the fact that Ælfric in his late texts chooses agreement when the noun is modified by an adjective shows that *fela* is not in a head position. The one example in the *Lives of Saints* of *fela* with adjective + *man* in the genitive is a special case, because a participle intervenes between *fela* and the noun phrase complement (51). The participle *gehælde* has a nominative plural ending, so it agrees with the meaning of *fela* rather than its indeclinable form.¹⁷ The reading here is thus that many were healed, of both people and animals. The focus is on ‘many’ and ‘healed’, and it is then specified who the ‘many’ are.

- (51) *and wurdon fela gehælde untrumra manna and eac swilce*
 and became many healed.NOM.PL sick.GEN.PL man.GEN.PL and also too
nytena þurh ða ylcan rode
 animal.GEN.PL through DEF same cross
 ‘and many sick men and also animals were healed through the same cross’ (OEng.401.711; ÆLS)

¹⁶The adjective-like word *oðer* ‘other’ also often occurs with *fela*.

¹⁷A reviewer points out that *gehælde* could be a predicative adjective. It is possible, since it can be difficult to determine whether a participle is predicative or verbal (Mitchell 1985: vol. I, 649), but considering that there is an expressed “agent”, i.e. the cross, it seems that a verbal reading is more likely here.

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Let us now dig a little deeper and look at the constructions where *man* is not modified. In the *Lives of Saints*, Ælfric gives us two examples of *fela* with *man* in agreement (52)–(53) and five of *fela* with *man* in the genitive (see Table 6). Two of the latter are shown in (54)–(55).

- (52) Oft wurdon eac gehælede fela untrume men þurh his
often became also healed many sick.NOM.PL man.NOM.PL through his
reafes fnæda, þe fela men of atugon, and bundon on
garment.GEN hem that many man.NOM.PL out pulled and bound on
þa seocan, and him wæs bet sona
DEF sick and them was better immediately

‘Many sick men were also often healed through the hem of his garment, from which many men pulled out [threads] and bound on the sick, and they immediately recovered.’ (OEng.551.536; ÆLS)

- (53) Wurdon þa on fyrste fela men gebigde þurh heora
became then in time many man.NOM.PL turned through their
drohtnunge fram deofles biggengum to Cristes geleafan and to
conversation from devil.GEN worships to Christ.GEN faith and to
clænum life
clean life

‘In time, through their conversation, many men turned from worship of the devil to faith in Christ and to a clean life.’ (OEng.275.096; ÆLS)

- (54) and fela manna þa gehyrdon on his forðsiðe singendra
and many man.GEN.PL then heard on his death singing.GEN.PL
engla swiðe hlude stemna
angel.GEN.PL very loud.ACC.PL voice.ACC.PL

‘and upon his death many men heard very loud voices of singing angels’ (OEng.320.345; ÆLS)

The question is why Ælfric uses different constructions like this. It could of course be free variation; when you have access to parallel constructions in your grammar, you may want some variation for variation’s sake. But if we consider that Ælfric was a conscious language user, we want to look for clues that might explain the variation, and this is what I will briefly attempt here.

As mentioned, my proposal is that if the noun, in this case *man*, has a cardinal reading, is concrete, and refers to agentive individuals, Ælfric would use agreement, whereas if the noun is abstract, non-agentive, or the reading is proportional, Ælfric would use the genitive.

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In (52), the hem in question is St. Martin’s hem, and we can think of the *fela men* as individuals that one by one come and take threads from the hem in order to use them for healing. The reading is obligatorily cardinal, as there are many such men. In (53), the reference is to the saints Chrysantus and Daria, and the *fela men* who became Christians through conversing with them. Again the reference is to many individual men, and not a proportion of a pre-established set of men, so the only possibility is a cardinal reading. For (52) and (53), we would therefore expect agreement.

Example (54), on the other hand, is clearly proportional, since these are the men surrounding St. Martin when he dies. A possible, and likely, reading is thus ‘many of the men who were there’, and a genitive would be as expected. I also checked the remaining three examples of *fela manna* in the *Lives of Saints*, and in those as well, the (hypothesized) criteria for the genitive are fulfilled.

In (55), however, with genitive, we are faced with a counterexample. A proportional reading of *fela manna* is not possible, since it is a part of a presentative construction that introduces a new section of the story; hence the men are not members of any pre-established set. Recall that the genitive is the older construction, which would retain the possibility of both old and new readings in the event of a change. In other words, while we would expect the new, marked, construction to be consistent, the possibility for variation would be kept with the old construction. Hence it would be as expected to come across examples like (55).

- (55) Auitianus hatte sum hetol ealdorman, wælhreow on his
 Avitianus was.called a.certain evil alderman cruel in his
 weorcum, se gewrað fela manna, and on racenteagum gebrohte
 actions DEM tied many man.GEN.PL and in chains brought
 to þære byrig Turonia
 to DEF city Tours
 ‘There was a certain evil alderman called Avitianus, cruel in his actions,
 who put many men in chains and brought them to the city of Tours.’
 (OEng.890.917; ÆLS)

To sum up concerning Ælfric: When it comes to *fela*, Ælfric uses *fela* both with agreement and genitive, and it is not done randomly. If we assume that *fela* goes from being a head to being a specifier, we can, through studying Ælfric in some detail, see that this process follows an expected trajectory of change for a quantifier, with the agreement construction appearing with nouns that are concrete, countable, or get a cardinal reading. The genitive remains longer with nouns that are abstract and invite a proportional reading.

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As we have seen, Ælfric is a linguistic innovator when it comes to the variation in the use of *fela*. The other Old English texts do not show this, with the exception of the *Peterborough Chronicle*, to which we now turn.

4.3 The *Peterborough Chronicle*

The *Peterborough Chronicle* is a fascinating text, as it shows the transition from Old to Middle English. It is one of seven surviving manuscripts of the Anglo-Saxon Chronicle, i.e. the ‘E’ manuscript (Bodleian MS Laud Misc. 636). After the Norman invasion of 1066, English book production largely ceased, but at Peterborough, chronicle writing continued into the post-conquest era as well. However, there was a fire at Peterborough in 1116, which destroyed the original manuscript, so the first part of the chronicle, the annals up until 1121, is copied from other sources, and by the same hand. The *First Continuation* of the Peterborough Chronicle covers the years 1122 to 1131, and the *Second* or *Final Continuation* the years from 1132 to 1154, with the year 1154 marking the end of the English chronicle tradition. The continuations are regarded as Early Middle English, with the Second Continuation being even more solidly so than the First Continuation. We may also note that interpolations occur in the copied part of the chronicle; these are additions made by the copyist, and they contain information that would only be evident in retrospect. The language of the interpolations is quite different from regular Old English. (See Bergs & Skaffari 2007: 5–12 for further information about the chronicle.)

This information about the provenance of the *Peterborough Chronicle* is necessary in order to understand the distribution of *fela* in the text. Below I show that the copied part differs from the interpolations with respect to how *fela* is used, and that the continuations in their turn show further developments of *fela*. In other words, I propose that the change that we see the beginnings of in Ælfric’s texts continues in the chronicle. Table 7 shows the distribution of *fela* (with the spellings *fela*, *feola*, *feala*, *feale*, *feole*) in the different parts of the *Peterborough Chronicle*. Recall that we still, as in Table 3, disregard *fela* standing alone or with a numeral, genitives with demonstratives, genitive pronouns, instances of *of*, and cases where the construction is opaque.

In the copied part of the chronicle, i.e. the oldest part, the distribution of *fela* with agreement or with genitive is quite even; (56) and (57) are two examples of agreement and genitive, respectively.

- (56) *scipu & gislas swa fela swa hi woldon*
ship.ACC.PL and hostage.ACC.PL as many as they wanted
 ‘as many ships and hostages as they wanted’ (OEng.642.022, OE Pet)

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Text parts	Agreement	Genitive
Copied part	10	9
Interpolations	6	1
First continuation	10	0
Second continuation	0	0

- (57) *feala godra manna*
 many good.GEN.PL man.GEN.PL
 ‘many good men’ (OEng.481.782; OE Pet)

As was the case in Ælfric, the nouns occurring with agreement in the chronicle are largely concrete and countable nouns. They are: *Bryttas* ‘Britons’, *foregislas* ‘foremost hostages’, *hreowlice & hungerbitende* ‘miserable and hunger-bitten (people)’, *lande* ‘lands’, *sceattas* ‘treasures’, *scipe* ‘ships’, *scipu* ‘ships’, *scipu & gislas* ‘ships and hostages’, *peodan* ‘peoples’, *þingan* ‘things’, *wintrum* ‘winters’. They also have a cardinal reading. Out of the nine occurrences with *fela* and a genitive, five contain the noun *manna*. In all of those cases, *manna* has a proportional reading ‘many of the men’, as in (58), which is about King William fighting a battle in which his son William is wounded and many of his men (alternatively many of the men fighting the battle) were killed.

- (58) & eac his sunu Willelm wearð þær gewundod. & fela
 and also his son William became there wounded and many
manna ofslagene
 man.GEN.PL killed
 ‘and his son William was also wounded there, and many men were killed’
 (OEng.433.102; OE Pet)

The remaining four are: *þegna* ‘thanes’, *þinga* ‘things’, *þunra* ‘thunderstorms’, *tuna* ‘towns’. Except for *tuna*, these either have a proportional reading (*þegna* and *þinga*) or denote an uncountable mass (*þunra*). The exception is *feala tuna* ‘many towns’, which occurs in a description of a flood (*sæflod* ‘tide’) immersing many towns. Here we cannot justify a proportional reading, unless we construe it as ‘many of the towns that were near the sea’. However, as mentioned above, we would not expect the distribution to be completely consistent for the old variety,

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and we also have to remember that the copied part of the chronicle was originally written by several scribes over many years.

In the interpolations, which, recall, were inserted by the scribe that copied the chronicle after the fire, there is only instance of a genitive, namely (59), so here the scribe is presumably using his own grammar.¹⁸

- (59) *fela minstra*
 many minster.GEN.PL
 ‘many minsters’ (OEng.800.699; OE Pet (interpolation))

The rest are agreement constructions, as in e.g. (60). However, at this point the case system is becoming blurred, so it might be that what we see in (60) is levelling of inflections rather than true case inflections.

- (60) *feola oðre rice men*
 many other.NOM.PL rich.NOM.PL man.NOM.PL
 ‘many other rich men’ (OEng.869.650; OE Pet (interpolation))

When we arrive at the First Continuation, the genitive is gone, as Table 7 shows, and by the Second Continuation, *fela* itself has disappeared.¹⁹ In the First Continuation we see examples like (61) and (62). *Tunes* is the new *-(e)s* plural, which we have in Present-day English as well. Note that the scribe who copied the chronicle up until 1121 was probably also responsible for the First Continuation (Bergs & Skaffari 2007: 6–7), hence the similarity between the use of *fela* in the interpolations and in the First Continuation.

- (61) *feole shipmen*
 ‘many shipmen’ (PPCME2, CMPETERB,42.16; ME Pet)
- (62) *feola tunes*
 ‘many towns’ (PPCME2, CMPETERB,47.172; ME Pet)

¹⁸Odd Einar Haugen (p.c.) informs me that in scholarship on Old Norse, the relation between the scribe’s own linguistic norm and the manuscript being copied is often discussed (see e.g. Mårtensson 2013), and it would be as expected to see the scribe using his own norm in the interpolations. See also Benskin & Laing (1986: 15, Section 3.3.2) on how the scribe moves from copying visually to copying via “the mind’s ear”, and Thaisen (2014: 500–501) on how scribes introduced their own spelling when copying.

¹⁹Obviously, this does not mean that *fela* abruptly disappeared from the language altogether. The *Middle English Dictionary* (–2023) provides attestations of *fele*, but the word is now used in more restricted contexts and with more idiomatic meanings. There are no attestations in the *Oxford English Dictionary* (–2023) after 1598.

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The First Continuation also contains an example like (63), which was placed in the “miscellaneous” category, since it shows traces of genitive case, but with the wrong endings; in Old English it would have been *fela oðra godra cnihta* in the genitive, or *fela oðre gode cnihtas* in the nominative or accusative. So here there is clearly no steady case system in the scribe’s grammar.

- (63) *fela oðre godre cnihte*
 ‘many other good knights’ (PPCME2, CMPETERB,45.110; ME Pet)

In the Second Continuation there are no examples of *fela*, but some of *manig*, one of which is given in (64).

- (64) *manie munekes*
 ‘many monks’ (PPCME2, CMPETERB,57.494; ME Pet)

What we see with the development of *fela* in the *Peterborough Chronicle* is language change in progress, and it can be argued that *fela* shows the stages of the change that we would expect. In the copied part, there is variation in the use of agreement versus genitive with *fela*. In the interpolations to the Old English part, which were inserted by the scribe that copied the chronicle at the beginning of the 12th century, *fela* occurs with agreement, with one exception, so it probably reflects the scribe’s own grammar. The same scribe is at work in the First Continuation, where the genitive disappears with *fela*, and in the Second Continuation, *fela* itself disappears. There was no longer any good reason to keep *fela*, since the language already had the more frequent word *manig*, and the two were no longer used in structurally different constructions. *Fela* was changing from head to modifier, while *manig* had always been a modifier.

5 Conclusion

This chapter is a study of the quantifiers *fela* ‘many’ and *manig* ‘many’, with particular focus on *fela*. I have shown that *fela* quite consistently occurs with a partitive genitive in Old English rather than with a complement in agreement, and can thus be argued to be a head-type quantifier in Roehrs and Sapp’s (2018) terminology. The notable exceptions are Ælfric’s texts and the *Peterborough Chronicle*, and the question was what conditioned the variation in these texts. When Ælfric’s texts were studied in some detail, it emerged that the variation is not random, but rather a result of semantic factors, with *fela* occurring with agreement when the construction has a cardinal reading and the noun is concrete, countable and agentive (though not necessarily all of these factors at the same time).

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The tendency for *fela* with genitive is to occur when the noun is more abstract, non-agentive and has a proportional reading (or sometimes possibly a mass reading). There are some exceptions, which is not surprising, considering that it is the older construction. The newer construction, i.e. *fela* + agreement, behaves in a consistent manner, while the older construction to some extent retains the possibility of variation. In terms of general patterns of language change, the development of *fela* that we see in Ælfric’s texts and the *Peterborough Chronicle* is in line with the trajectory of change that we would expect. *Fela* changes from being a head to becoming a quantifier modifying a nominal head, and as such the expectation is that this change would happen first with concrete, countable, agentive nouns with a cardinal reading.

The only surprise is perhaps that this should be so evident in Ælfric’s texts in particular, and not in the other Old English texts apart from the chronicle. However, as mentioned in Section 4.1, Roehrs & Sapp (2018: 417) notice a change with some Old English writers from genitive to agreement with respect to the complements of certain complex quantifiers. It is thus not inconceivable that individual writers can be trailblazers in this respect.

Fela has, however, disappeared from English, while its semantic competitor *manig* survived. In the chronicle, *fela* disappears completely towards the middle of the 12th century. Attestations are found throughout the Middle English period, but with a much more limited use. If we assume that *fela* was changing from head to modifier, as Ælfric’s texts and the chronicle indicate, it was on its way to becoming structurally identical to *manig*, which has always been a modifier. As inflections levelled and the case system disappeared, there were no longer distinct genitive plural case inflections that could mark constructions with *fela* as structurally different from constructions with *manig*. Hence, the language had two words meaning the same thing and that were no longer in complementary distribution. One of them was destined to become superfluous, and that was *fela*, since *manig* was the more frequent word.

Abbreviations

ACC	accusative	GEN	genitive
DAT	dative	NOM	nominative
DEF	definite	PL	plural
DEM	demonstrative	SG	singular

4 The Old English quantifiers *fela* ‘many’ and *manig* ‘many’

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Chapter 5

A new perspective on parallel inflection with reference to Old High German and Alemannic

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Stacked adjectives in earlier as well as modern German varieties show so-called parallel inflection. This means that all adjectives must bear an inflectional ending. Inflecting only the left or rightmost adjective or varying the type of inflection (weak/strong) leads to ungrammaticality. Zero-inflected adjectives are also possible, i.e. zero-inflection is iterated with each adjective. Unlike zero-inflected adjectives, truly uninflected adjectives are not possible in stacking in German. This chapter investigates possible variation in the combination of zero- and overt inflection in Old High German and the possible combination of uninflected and inflected adjectives in modern Alemannic. The data reveal that Old High German, assumed to have zero-inflected adjectives, does not seem to allow them in stacking, unlike Old Saxon or modern Scandinavian languages. This reflects a possible difference in the assumed zero-elements in these varieties. Uninflected adjectives in Alemannic are shown to only be possible in DPs with one adjective, but not in stacking. The data are accounted for in an Obligatory Contour Principle-based approach that suggests a double function of adjectival inflection. Adjectival inflection marks certain features, but at the same time it functions as a linking element to prevent an Obligatory Contour Principle violation.

1 Introduction

Stacked adjectives in modern German (and beyond) as in (1a) have received quite some attention in the literature (Bildhauer et al. 2019; Eichinger 1991; Münzberg & Bildhauer 2020; Olsen 1991; Roehrs 2009; Scott 2002). The investigation of the



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ordering of stacked adjectives (Eichinger 1991; Scott 2002), variation in the inflectional paradigm¹ in German (cf. (2)) (Bildhauer et al. 2019; Roehrs 2009) and the requirement for all adjectives to inflect (e.g. Olsen 1991) are recurring topics. In addition, the phenomenon has also been investigated based on historical data e.g. for Old English and Old Norwegian in Bech (2017). In earlier stages of German, stacked adjectives are not very frequent but some examples from Old High German (OHG) can be found, e.g. (1b).

- (1) a. modern Standard German
 ein groß-er schön-er schwarz-er Hund
 INDEF big-M.NOM.SG beautiful-M.NOM.SG black-M.NOM.SG dog
 ‘a big beautiful black dog’
- b. Old High German
 Sāmo sô ételich-es níuu-es tínges
 like so some-GEN.SG new-GEN.SG thing
 ‘like of some new thing’ (N_DeCon_I_13–15, p. 15)

Thus, there is a vast amount of literature on adjectival inflection in German(ic) in general (Gallmann 1996; Kester 1996; Leu 2015; Olsen 1991; Pfaff 2015, 2017; Roehrs 2015; Roehrs & Julien 2014) and stacking in particular (Bildhauer et al. 2019; Münzberg & Bildhauer 2020; Olsen 1991; Roehrs 2009; Scott 2002), but most accounts dealing with stacked adjectives in German either focus on the ordering or the distribution of inflection. While the individual accounts deal with modern German or historical data, this chapter discusses both, aiming at a unified account of parallel inflection. Furthermore, accounts dealing with modern German, mainly (but not exclusively) focus on the standard variety, which may blur the picture, as dialects allow for more variation in adjectival inflection (Baechler 2017; Leu 2015; Rehn 2019). Specifically, German dialects allow for uninflected attributive adjectives (Birlinger 1868; Rehn 2017; Schirmunski 1962; Staedele 1927), unlike modern Standard German, as illustrated in (2) with an Alemannic example. While uninflected adjectives are possible, they are not obligatory, but in those contexts in which uninflected adjectives occur, inflection is also possible, as shown in (2) and (3).

¹Most Germanic languages have a strong and a weak adjectival paradigm. The strong paradigm marks phi features and case, so these features are glossed when a strong ending is realized, whereas the weak paradigm is glossed wk for weak.

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(2) Alemannic, Swabian variety

- a. a groß Hood
INDEF big dog
‘a big dog’
- b. dr groß Hood
DEF.M.NOM.SG big dog
‘the big dog’

(3) Alemannic, Swabian variety

- a. a groß-er Hood
INDEF big-M.NOM.SG dog
‘a big dog’
- b. dr groß-e Hood
DEF.M.NOM.SG big-WK dog
‘the big dog’

The productive use of uninflected adjectives adds a new perspective on stacking and the requirement on parallel inflection (i.e. the fact that all stacked adjectives must inflect and must bear the same ending, e.g. (4a)). Standard German allows for only one exception in parallel inflection, namely in dative masculine/neuter singular contexts illustrated in (4b). This type of variation is dealt with in several accounts, whereas the option of uninflected adjectives in stacking does not seem to be part of the debate on variation.

(4) modern Standard German

- a. mit gut-**em** neu-**em** Wein
with good-M.DAT.SG neu-M.DAT.SG wine
‘with good new wine’
- b. mit gute-**em** neu-**en** Wein
with good-M.DAT.SG new-WK wine
‘with good new wine’

This chapter centers on the inflectional properties of stacked adjectives, but the focus is shifted from the distribution and variation regarding strong and weak inflection to realization vs. non-realization of inflection. The issue of possible variation is dealt with from both a historical perspective based on Old High German data, and a synchronic perspective based on dialectal data from Alemannic.

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Such a comparison allows one to investigate a possible impact of the different types of distribution of strong and weak adjectives in OHG vs. modern German, as well as a possible impact of the type of declension. It is argued in this chapter that despite the differences in the distribution of adjectival inflection in earlier vs. modern German, as well as differences in the declensional paradigm, the underlying mechanism that drives the requirement for overt parallel inflection is independent of both. In both historical and modern varieties, adjectival inflection is obligatory in stacking even though the ending may be dropped when only one adjective is realized. Obligatory inflection in stacking is argued to serve the purpose of a linking element to prevent an Obligatory Contour Principle (OCP) violation in the sense of Richards (2010: 4). Richards observes that two identical syntactic objects cannot be adjacent when they are linearized. This idea is applied to APs in stacking contexts. Inflection is assumed to be associated with a functional projection that appears above every AP and makes it possible to merge another AP on to top of it.

2 Adjectival inflection across Germanic

As mentioned in the introduction, the distribution of adjectival inflection in Germanic languages has attracted a lot of interest in linguistic research from both a diachronic as well as synchronic perspective (e.g. Demske 2001; Gallmann 1996; Haberland & Heltoft 2008; Leu 2015; Olsen 1991; Pfaff 2017, 2020; Roehrs 2006, 2015). From a synchronic point of view, adjectival inflection is particularly interesting in German as it has retained two adjectival paradigms, traditionally referred to as *strong* and *weak* based on Grimm (1822: 597). Strong inflection marks number, case and in singular also gender, whereas the weak ending is realized as either *-e* or *-en* and does not make any clear feature distinctions in modern German. The distribution of the two paradigms depends on the inflectional properties of the preceding article. In (5a)–(5c), the article bears strong inflection and the adjective inflects weak. In (5d), the article is uninflected, and in (5e) no article is realized; in these cases the adjective bears the strong ending.

- (5) modern Standard German
- a. d-**er** frisch-**e** Kaffee
DEF-M.NOM.SG fresh-WK coffee
'the fresh coffee'
 - b. d-**em** frisch-**en** Kaffee
DEF-M.DAT.SG fresh-WK coffee
'the fresh coffee'

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- c. ein-**em** frisch-**en** Kaffee
 INDEF-M.DAT.SG fresh-WK coffee
 ‘a fresh coffee’
- d. ein frisch-**er** Kaffee
 INDEF fresh-M.NOM.SG coffee
 ‘a fresh coffee’
- e. frisch-**er** Kaffee
 fresh-M.NOM.SG coffee
 ‘fresh coffee’

The interaction of strong or weak adjectival inflection with the inflection of the article, known as *morphosyntactic* distribution, is a property of West Germanic. North Germanic shows the so-called *semantic* distribution of strong and weak inflection. This means that the weak adjectival paradigm is associated with definiteness and is realized in definite DPs, whereas the strong ending appears in indefinite contexts (Haberland & Heltoft 2008; Kester 1993; Lohrmann 2011; Pfaff 2017; Roehrs & Julien 2014). The examples in (6) illustrate the semantic distribution in Mainland Scandinavian. In (6a) an indefinite article is followed by a strong adjective. Strong inflection is realized as zero here but associated with certain features, which is why these adjectives are not considered uninflected. In (6b) a definite article is followed by a weak adjective. In (6c) an uninflected possessive determiner is also followed by a weak adjective, because a possessive determiner provides a definite context. This example illustrates the difference between the semantic and the morphosyntactic distribution. In German, a strong adjective is realized in the very same context due to the absence of inflection as shown in (7).

- (6) a. Swedish
 en grön bil
 INDEF green.N.SG.Ø car
 ‘a green car’ (Lohrmann 2011: 113)
- b. Swedish
 den grön-a bil-en
 DEF tall-WK car-DEF
 ‘the green car’ (Lohrmann 2011: 113)
- c. Norwegian
 (Per) sin stor-**e** bil
 (Per) his big-WK car
 ‘his big car’ (adapted from Roehrs 2019: 107)

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- (7) German
 sein groß-es Auto
 his big-N.NOM.SG car
 ‘his big car’

Dutch is generally grouped with West Germanic (Harbert 2007: 15–17); however, it neither shows the morphosyntactic nor the semantic pattern of adjectival inflection. Dutch adjectival inflection is either realized as *-e*, e.g. (8) and (9a), or as zero, e.g. (9b). Zero-inflection is realized in one specific context, namely in neuter indefinite DPs, whereas *-e* is realized elsewhere. Bennis (2015) therefore suggests that zero-inflection carries morphosyntactic information whereas the ending *-e* does not. In other words *-e* does not agree, whereas zero-inflected adjectives agree (but see Roehrs 2015 for an alternative view).

- (8) Dutch
 a. de aardig-e jongen
 DEF nice-INFL boy
 ‘the nice boy’
 b. een aardig-e jongen
 INDEF nice-INFL boy
 ‘a nice boy’

- (9) Dutch
 a. het aardig-e meisje
 DEF nice-INFL girl
 ‘the nice girl’
 b. een aardig meisje
 INDEF nice.N.SG.Ø girl
 ‘a nice girl’

Dutch and Norwegian zero-inflected adjectives differ from attributive adjectives that do not bear overt inflection in modern German dialects, as the latter are not paradigmatic. Paradigmatic means that zero-inflection is associated with certain morphosyntactic features, whereas non-paradigmatic uninflected adjectives are not associated with a certain set of features and are thus not restricted to specific contexts. This is relevant as it is expected that paradigmatic zero-inflection behaves like overt strong inflection with respect to the distribution and also realization in stacking contexts. Truly uninflected adjectives, however, differ in their distribution from inflected ones, as they can be realized in definite and indefinite contexts as well as with inflected and uninflected articles, as shown in (10).

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(10) Alemannic

- a. e guet Wii
 INDEF good wine
 ‘a good wine’
- b. de guet Wii
 DEF.M.NOM.SG good wine
 ‘the good wine’

In earlier stages of German, the semantic distribution found in North Germanic as illustrated in (6) above is also the common pattern. In OHG, the semantic distribution is the dominant pattern (11), whereas in Middle High German the morphosyntactic distribution is already widely attested with some regional differences (e.g. Demske 2001; Klein 2007; Kovari 1984; Osthoff 1876; Ratkus 2011). In the OHG example in (11a), the definite determiner *diu* is followed by a possessive element and a weakly inflected adjective. In (11b), the DP is interpreted as indefinite and the adjective bears strong inflection. There is no indefinite article realized in this example as the indefinite article is only frequently attested in late OHG texts whereas in earlier works it is often missing (cf. Demske 2020; Oubouzar 1992; Presslich 2000).

(11) Old High German

- a. diu sîn gotelich-a natura
 DEF his divine-WK nature
 ‘his divine nature’
(BamGB1_Bamberger_Glaube_und_Beichte, S136, line 35–36)
- b. in himile fest-er stein
 in heaven solid-M.NOM.SG rock
 ‘in heaven a solid rock’ (C_CarmenAdDeum, S290, line 4)

West and North Germanic are similar when more than one attributive adjective is realized in a DP, as they show parallel inflection. This means that the inflectional ending is “repeated” on each adjective (cf. Bildhauer et al. 2019; Peter 2013; Roehrs 2009; Sahel 2021). There is no variation regarding the type of inflection, i.e. weak or strong. All attributive adjectives within one DP show the same inflectional ending. In the examples in (12), a definite article bearing strong inflection precedes a sequence of two adjectives, which both bear weak inflection. In (13) an uninflected article precedes a sequence of two attributive adjectives, which both bear strong inflection. The Dutch examples in (14) and (15) are similar in the sense that the expected *e*-inflection or zero-inflection is repeated on

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each adjective. In (14a) and (15a) a definite article precedes a sequence of two adjectives, and both inflect. The two adjectives in the non-neuter indefinite DP in (14b) also bear the *e*-inflection. In the indefinite neuter example in (15b), both adjectives occur without overt inflection, as expected.

(12) modern Standard German

- a. d-**er** nett-**e** ruhig-**e** Junge
DEF-M.NOM.SG nice-WK quiet-WK boy
'the nice quiet boy'
- b. d-as nett-**e** ruhig-**e** Mädchen
DEF-N.NOM.SG nice-WK quiet-WK girl
'the nice quiet girl'

(13) modern Standard German

- a. ein nett-**er** ruhig-**er** Junge
INDEF nice-M.NOM.SG quiet-M.NOM.SG boy
'a nice quiet boy'
- b. ein nett-**es** ruhig-**es** Mädchen
INDEF nice-N.NOM.SG quiet-N.NOM.SG girl
'a nice quiet girl'

(14) Dutch

- a. de aardig-**e** rustig-**e** jongen
DEF nice-INFL quiet-INFL boy
'the nice quiet boy'
- b. een aardig-**e** rustig-**e** jongen
INDEF nice-INFL quiet-INFL boy
'a nice quiet boy'

(15) Dutch

- a. het aardig-**e** rustig-**e** meisje
DEF nice-INFL quiet-INFL girl
'the nice quiet girl'
- b. een aardig rustig meisje
INDEF nice-N.SG.Ø quiet-N.SG.Ø girl
'a nice quiet girl'

5 *Parallel inflection in Old High German and Alemannic*

One prominent characteristic of adjectival inflection in German is the so-called monoinflection, i.e. strong inflection can only be realized once per category (cf. Helbig & Buscha 2013; Roehrs 2006: 35). Strong inflection either appears on a determiner (16a) or on the adjective (16b) but never on both (16c). However, there is no restriction on having several instances of strong inflection in one DP. When several adjectives are realized all of them must bear the same ending, as already noted. Variation between strong and weak inflection in sequences of attributive adjectives is ungrammatical as shown in (16d)–(16e).

(16) modern Standard German

- a. d-er groß-e schwarz-e Hund
DEF-M.NOM.SG. big-WK black-WK dog
'the big black dog'
- b. ein groß-er schwarz-er Hund
INDEF big-M.NOM.SG black-M.NOM.SG. dog
'a big black dog'
- c. *d-er groß-er schwarz-er Hund
DEF-M.NOM.SG big-M.NOM.SG black-M.NOM.SG dog
'the big black dog'
- d. *ein groß-er schwarz-e Hund
INDEF big-M.NOM.SG black-WK dog
'a big black dog'
- e. *d-er groß-e schwarz-er Hund
DEF-M.NOM.SG big-WK black-M.NOM.SG dog
'the big black dog'

There is one exception to the restriction on combining strong and weak inflection in stacking. The combination of strong and weak inflection is possible in examples like (4), repeated here as (17) (cf. Bildhauer et al. 2019; Peter 2013; Sahel 2021). However, this type of variation is restricted to one specific context, namely dative masculine/neuter, which is the only context in which the alternation between strong and weak inflection involves two nasals. It may therefore be a phonological phenomenon, as suggested in the literature (Roehrs 2009; Sahel 2021).

(17) modern Standard German

- a. mit gut-em neu-em Wein
with good-M.DAT.SG new-M.DAT.SG wine
'with good new wine'

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- b. mit gut-**em** neu-**en** Wein
 with good-M.DAT.SG new-WK wine
 ‘with good new wine’

When adjectives are stacked, they do not only require parallel inflection, but they also show restrictions regarding their ordering, as has been investigated in detail e.g. in Scott (2002) and Eichinger (1991). However, Eichinger (1991: 313), and also Münzberg & Bildhauer (2020: 134), note that it is rather difficult to investigate the actual hierarchy of adjectives, as in natural language there are hardly ever more than two attributive adjectives realized in one DP. The identification of the observed ordering restrictions are also complicated by the fact that it is not ungrammatical if adjectives are not realized in their canonical ordering e.g. when one of them is focused (18).

(18) modern Standard German

- a. d-er groß-e rot-e Ball
 DEF-M.NOM.SG big-WK red-WK ball
 ‘the big red ball’
- b. d-er ROT-E groß-e Ball
 DEF-M.NOM.SG red-WK big-WK ball
 ‘the RED big ball’

So far, stacking has simply referred to sequences of more than one attributive adjective. However, it is important to distinguish sequences of stacked adjectives, from attributive adjectives realized with comma intonation. Stacking means that the higher adjective modifies the entire complex of the lower A and N as illustrated with the bracketing in (19a), whereas adjectives that are “separated” by comma intonation modify the noun individually as illustrated in (19b). Zifonun et al. (1997: 1992–1994) discuss such examples in more detail, and note that comma intonation is equivalent to coordination, which is why the structure of stacked adjectives differs from those with comma intonation. In this chapter, the term stacking thus always refers to the type of modification in (19a).

- (19) a. a big dog → a [big [black dog]]
 b. a big dog → a [big], [black] dog

3 Adjectival inflection from a diachronic and dialectal perspective

It has been shown that across Germanic there are two different distributions of the weak and strong inflection (semantic and morphosyntactic) and that some languages have a paradigmatic zero-morpheme. As already noted, paradigmatic means that zero-inflection is part of the paradigm and marks certain morphosyntactic features (e.g. number and/or gender), whereas uninflected adjectives that are not considered to be paradigmatic are assumed to lack a zero-morpheme. Only the latter group is thus truly uninflected.

Dialectal data from German show that on the one hand dialects pattern with standard German in the distribution of strong and weak inflection when adjectival inflection is realized (20), but that on the other hand uninflected attributive adjectives are attested (21) which are ungrammatical in the standard variety.² Uninflected adjectives are a well known property of Alemannic (Birlinger 1868: 158; Staedele 1927: 19–20), but uninflected adjectives are also attested in other dialects, e.g. Franconian (Rowley 1991) or Low German varieties (Schirmunski 1962). Uninflected and inflected adjectives can occur in one and the same context in Alemannic, reflecting their non-paradigmatic nature. Such non-paradigmatic uninflected adjectives are also attested for Middle High German (Klein 2007) and Early New High German (Solms & Wegera 1991).

(20) Alemannic

- a. e neu-er Wage
 INDEF new-M.NOM.SG car
 ‘a new car’
- b. de neu-e Wage
 DEF.M.NOM.SG new-WK car
 ‘the new car’
- c. mit d-em neu-e Wage
 with DEF-M.DAT.SG new-WK car
 ‘with the new car’ (SynAlm)³

²There are some exceptional cases in which uninflected adjectives also occur in standard German. The adjectives *rosa* (‘pink’) and *lila* (‘purple’) generally occur uninflected, and there are some fixed expressions which also contain uninflected adjectives.

³SynAlm = Syntax of Alemannic project (cf. Brandner 2015).

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(21) Alemannic

- a. e neu Wage
 INDEF new car
 ‘a new car’
- b. de neu Wage
 DEF new car
 ‘the new car’
- c. mit d-em neu Wage
 with DEF-M.DAT.SG new car
 ‘with the new car’ (SynAlm)

(22) Low German

- a. grōt
 ‘big’
- b. grōt-əs
 big-N.SG
 ‘big’ (Schirmunski 1962: 464)

(23) Middle High German⁴

- a. der vbel tivel
 DEF vicious devil
 ‘the vicious devil’ (3_2-bair-V-X > M012-N0 (tok_dipl 7818–7832))
- b. ein ehrlich maget
 INDEF honest girl
 ‘an honest girl’ (13_1-bair-P-X > M160R-N1 (tok_dipl 10543–10557))

Despite the differences between non-standard and standard German regarding the realization of inflection, non-standard varieties seem to pattern with modern Standard German with respect to stacking. Stacked adjectives in Alemannic show parallel inflection (24).

(24) Alemannic

- a. e groß-er schwarz-er Hund
 INDEF big-M.NOM.SG black-M.NOM.SG dog
 ‘a big black dog’

⁴Examples from the *Referenzkorpus Mittelhochdeutsch* (Klein et al. 2016).

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- b. de groß-e schwarz-e Hund
 DEF.M.NOM.SG big-WK black-WK dog
 ‘the big black dog’

However, Adelung (1781: 213), in his discussion of Upper German adjectival inflection, provides the example in (25), in which three uninflected adjectives precede a noun. This again raises the question whether dialects maybe allow uninflected adjectives in stacking. This point is discussed in Section 3.2 in some detail, which reveals that despite the option of realizing uninflected adjectives, it is not possible to combine inflected and uninflected forms.

- (25) ein gut brav ehrlich Mann
 ‘a good upright honest man’ (Adelung 1781: 213)

Before discussing the OHG and Alemannic data, Section 3.1 provides a brief background to OHG, followed by a discussion of the OHG and Old Saxon (OS) data source in Section 3.2. Section 3.3 gives some background on Alemannic, which is then followed by a discussion of the Alemannic data source in Section 3.4 in more detail.

3.1 Old High German

OHG differs in a range of lexical, phonological and syntactic properties from modern German varieties. Regarding the DP structure and adjectival agreement, OHG shares with modern German the feature that adjectives show either weak or strong inflection. However, as already noted in the introduction, OHG shows the semantic distribution of the strong and weak paradigm, which means that the weak ending generally appears in definite DPs preceded by a definite determiner, and the strong ending appears elsewhere (cf. the examples in (11) in Section 1, repeated here as (26a)–(26b)). Furthermore, the strong ending has two variants, namely the pronominal and the nominal⁵ form, which is zero, cf. (26c) below (Braune 2018: 298). Another important aspect in relation to the distribution of adjectival inflection in OHG compared to modern German is the fact that the article system is not yet fully in place. While the definite article is already rather frequent, the indefinite article is generally absent in early OHG

⁵I use the term nominal inflection for zero-inflected adjectives in OHG following Braune (2018), as the zero-inflected variants are assumed to reflect the old nominal inflection that was realized on adjectives before the pronominal strong form replaced the nominal endings on adjectives. The weak forms are also nominal in nature, so in order to distinguish the different paradigms, nominal refers to zero-inflection, weak to the *n*-declension and strong to the pronominal forms.

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texts. In the late OHG texts from Notker, it is regularly attested (cf. Oubouzar 1992; Presslich 2000).

(26) Old High German

- a. diu sîn gotelich-a natura
DEF his divine-WK nature
'his divine nature'
(BamGB1_Bamberger_Glaube_und_Beichte, S136, line 35–36)
- b. in himile fest-er stein
in heaven solid-M.NOM.SG rock
'in heaven a solid rock' (C_CarmenAdDeum, S290, line 4)
- c. so listic man
such cunning.M.NOM.SG.Ø man
'such a cunning man' (Muspilli, 88,94 (Presslich 2000: 86))

As OHG has a paradigmatic zero-morpheme just like Dutch or Norwegian, the question remains whether OHG shares with modern Germanic languages the feature that stacked adjectives show parallel inflection, or whether OHG allows for variation in stacking, either in combining strong and weak inflection or in allowing a combination of nominal and pronominal inflection, which are both strong.

3.2 Old High German and Old Saxon data source

The data stem from the *Referenzkorpus Altddeutsch* 1.2 (Zeige et al. 2022), which is available online and can be searched via ANNIS (Krause & Zeldes 2016). The corpus comprises texts from different OHG periods and various dialects, as well as Old Saxon texts. A summary of the texts that are part of the corpus is given in Table 1 (OHG) and Table 2 (OS). The genre and dialect are given as provided in the corpus. The time period specification is based on the summary provided in Mittmann & Plate (2019: 177–178). As stacking is not very frequent (cf. the discussion in Bech 2017; Eichinger 1991), all texts were included in the corpus search, which means that the examples stem from different dialects and different periods of OHG.

The strategy used to filter out stacked adjectives was similar to the one used in Bech (2017), as I searched for the linear order of two or more adjectives. This rather broad search of course includes a number of false positives. After extracting all sentences containing two adjacent adjectives, the examples were checked

5 Parallel inflection in Old High German and Alemannic

Table 1: Old High German texts in the *Referenzkorpus Altdeutsch*

Text	Dialect	Genre	Date
Benediktinerregel	Alemannic	Religion	ca 800
Isidor	Franconian	Religion	ca 770–810
Tatian	–	–	–
kleinere AHD Denkmäler ^a	–	–	ca 750–1100
Monseer Fragmente	Bavarian	Religion	ca 810
Murbacher Hymnen	Alemannic	Religion	ca 800–825
Otfrid	Franconian	Religion	863–871
Physiologus	Alemannic	Science	11th cent.
Notker	Alemannic	Science	10th/11th cent.

^aThe Bamberger Glaube und Beichte, and Carmen ad Deum belong here.

Table 2: Old Saxon texts in the *Referenzkorpus Altdeutsch*

Text	Genre	Date
Genesis	Religion	ca 840
Heliand	Religion	ca 830
kleinere AS Denkmäler	–	ca 750–1100

manually and those were discarded in which the adjectives did not clearly modify the noun, i.e. if e.g. one of the adjectives is interpreted adverbially as in (27a)⁶ or (27b). In these examples, the first adjective can be interpreted as modifying the second adjective rather than the noun. Examples in which one of the adjectives was given in Latin and the other one in OHG were also excluded (27c).

(27) Old High German

- a. álde ételih úngeuuândiu geskiht
or some unexpected event
'or some unexpected event' (N_DeCon_II_54–59, p. 59)
- b. duruhnoht drisca ruaua
perfect triple number
'perfect triple number' (MH_Murb.H.XIII, ch. 1, verse 1)

⁶The irregularity of *ételih* may also be a reason for the non-parallel behavior, as a reviewer points out.

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- c. ewiga sancta Maria
eternal holy Mary
'eternal holy Mary'
(BamGB1_Bamberger_Glaube_und_Beichte, S137, line 4)

Of the remaining examples, there were 31 noun phrases with two attributive adjectives modifying the same noun. All of them precede the noun they modify despite the option of postnominal attributive adjectives in OHG. However, among these 31 noun phrases, four contained the exact same sequence of adjectives in the same text. Counting these examples only once reduced the total number of examples to 28. The number of examples was further reduced to 26, for the following reasons: The example in (28a) was not included, as the sequence of adjectives repeats the word 'holy'. The example in (28b) was included, but as the same sequence of the identical adjective and noun combination occurred twice in the same text, it was only counted once.

- (28) a. uuiho uuiho uuiho truhtin
holy holy holy Lord
'holy holy holy Lord' (MH_Murb.H.VII, ch. 8, verse 1)
- b. mâri mahtig Crist
famous mighty Christ
'the famous mighty Christ' (Hel_31, ch. XXXI verse 2581)

The number of examples may be further reduced by semantic factors, as in several cases the modified noun is 'God' or 'Christ', often preceded by adjectives like 'powerful' or 'mighty'. Whether or not the examples with two (or more) modifying adjectives are further reduced by such semantic factors does not have an impact on the overall picture: OHG shows parallel inflection. This means that both adjectives inflect either weak or strong, and when they bear strong inflection they either bear nominal or pronominal inflection. There seems to be little variation regarding the paradigm chosen⁷ (cf. the overview in Table 4). The examples in (29a) and (29b) illustrate parallel inflection in OHG with weak inflection (29a) and pronominal inflection (29b). Example (29c) shows a sequence of zero-inflected adjectives; however, this example stems from the *Heliand* and is thus Old Saxon and not OHG, as I could not find more than one nominally inflected attributive adjective modifying the same noun in the OHG texts.

⁷It must be noted, however, that the low absolute number of stacked adjectives does not really allow one to draw any conclusions regarding the possibility of variation, as there are simply not enough data available. The one non-canonical example could be an exception but it may also reflect the possibility of variation.

5 Parallel inflection in Old High German and Alemannic

- (29) a. an der éin-un gotelich-un ebenselbewig-un
in DEF.DAT one-WK divine-WK eternal-WK
éinselbwesendi glóub ich
self.establishing.entity believe I
'I believe in the one divine eternal self-establishing entity.'
(BamGB1_Bamberger_Glaube_und_Beichte, S135, line 21–22)
- b. Sámo sô ételich-es níuu-es tíng-es
like so some-GEN.SG new-GEN.SG thing
'like of some new things' (N_DeCon_I_13–15, p. 15)
- c. hêlag himilisc uuord
holy.N.ACC.SG.Ø heavenly.N.ACC.SG.Ø word
'holy heavenly word' (Hel_01, ch. I, verse 14)

The numbers in Tables 3 and 4 are based on the 25 examples as explained above, i.e., identical sequences of adjectives with identical inflection were excluded, but identical sequences when appearing with different types of inflection (weak or strong) were counted. Table 3 lists the number of examples found in the individual texts of the corpus, including the Old Saxon *Heliand*, and Table 4 lists the number of examples based on the type of inflection. All sequences of two nominally inflected adjectives stem from the Old Saxon *Heliand*, cf. Table 4. In all other texts, the inflection is either weak or pronominal. Hence, almost all examples follow the principle of parallel inflection.

Table 3: The number of examples with adjectival stacking in the different OHG and OS texts

Source	Examples
Benediktinnerregel	1
kleinere AHD Denkmäler	8
Isidor	1
Murbacher Hymnen	3
Notker	4
Otfrid	1
Heliand (OS)	7

Table 4: The number of examples showing weak, strong (pronominal, nominal) or varying inflection

Type of inflection	Examples
pronominal	12
weak	8
varying	1
nominal (=zero)	4

There is one Old Saxon example that is an exception to this pattern, given in (30). In this example, the first adjective bears the weak ending as expected after

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a definite determiner. The second adjective, on the other hand, bears the strong ending, which is unexpected in a definite DP. However, phrases with God and Christ are very frequent, and it might thus be the case that they are fixed expressions in some sense, which could be a possible explanation for the exception to parallel inflection in (30).⁸ In the OHG examples, all adjectives do indeed show parallel inflection.

- (30) *thene mâre-on mahtig-ne god*
 DEF famous-WK powerful-M.ACC.SG god
 ‘the famous powerful god’ (OS, Hel_58, ch. LVIII, verse 4886)

As noted above, in OHG, all dialects were included in the search. Three of the texts in which examples with stacked adjectives were found, are Alemannic sources: the *Benediktinerregel*, the *Murbacher Hymnen* and the two texts from Notker. This means that eight of the examples from the search are Alemannic examples, hence Alemannic follows the pattern that is generally identified for OHG. Based on the examples found, there does not seem to be any influence of either dialect, genre or the OHG period on the realization of parallel inflection in stacking. However, as the number of examples found is rather small, it cannot be excluded that possible variation is simply not detected. While there is no variation in stacking within the OHG data, it is interesting that OHG and OS differ with respect to zero-inflection in stacking. The fact that OS allows for stacked zero-inflected adjectives while OHG does not may point to a difference in the status of zero-inflected adjectives in these two varieties.

3.3 Properties of Alemannic

Alemannic is an Upper German dialect that covers areas in four countries: Germany, Switzerland, France (Alsace) and Austria (Vorarlberg). The dialect is subdivided into five Alemannic varieties: Highest, High, Middle, Low Alemannic and Swabian. In the following, I will not distinguish between the different Alemannic varieties, since for the topic of this chapter, there are no considerable differences with respect to the data. Alemannic covers a rather large area and thus provides an ideal basis for investigating (morpho)syntactic variation. In addition, Alemannic is well documented, and Alemannic texts from OHG to Early New High German are available allowing an investigation of language change. There are also a number of dialect grammars that provide detailed descriptions of Alemannic or certain Alemannic varieties (e.g. Birlinger 1868; Fischer 1960;

⁸I thank a reviewer for this point.

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Staedele 1927). The area in which Alemannic is spoken is displayed in Figure 1, which shows a snippet of the classical dialect map from Wiesinger (1983), created with the REDE SprachGIS (Bock et al. 2008). The black dots mark the places that were part of the empirical study that will be introduced in more detail below.

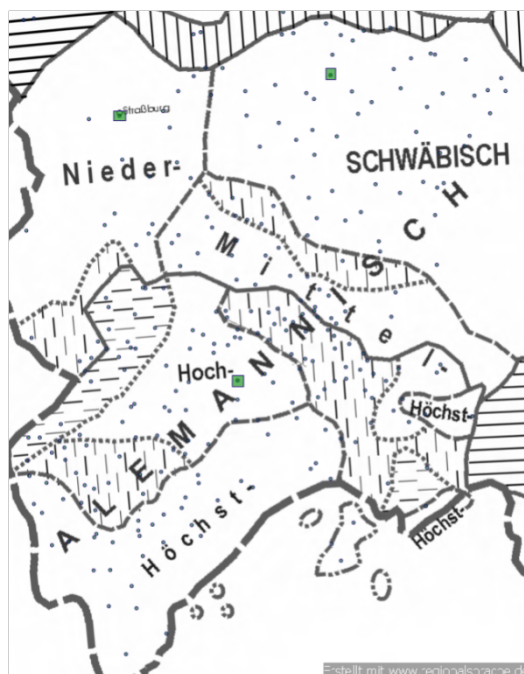


Figure 1: The Alemannic area

Alemannic has a number of characteristic lexical, phonetic and morphosyntactic properties (see Rehn 2021 for a short discussion), including variation in adjectival inflection, as already noted in Birlinger (1868: 158). He points out that the realization of uninflected attributive adjectives is one of the core characteristics of the Alemannic dialect (cf. also Staedele 1927; Rehn 2019; Leu 2015 for a Swiss Alemannic variety).

In the literature, several morphosyntactic restrictions are noted regarding the distribution of uninflected adjectives. Staedele (1927: 19) points out that uninflected adjectives are generally possible with neuter DPs and in nominative and accusative definite DPs with all genders. Solms & Wegera (1991: 55, 110) note that in Early New High German, uninflected adjectives are realized in several contexts, but are very frequent with neuter singular nouns so they may even be regarded as marking neuter. Rehn (2019) investigates the impact of different

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morphosyntactic variables on the realization of uninflected attributive adjectives in modern Alemannic in detail and shows that they can appear in all contexts that were tested: definite, indefinite, singular, plural and oblique (cf. (21) above). There is only one restriction: uninflected adjectives must be preceded by an article, otherwise they are ungrammatical (31). The inflectional properties of the article are not relevant, i.e., uninflected adjectives are also possible after uninflected determiners (cf. (21a)) and their distribution cannot be explained within the morphosyntactic or the semantic distribution.

- (31) Alemannic
- a. * *gued Wii*
 good wine
 ‘good wine’
 - b. *gued-r Wii*
 good-M.NOM.SG wine
 ‘good wine’

The restriction of uninflected adjectives in DPs with an overt determiner is connected to requirements on overt feature marking in German DPs in Rehn (2019: 122–123). The main idea is that the data reflect that two features require overt marking: number and oblique case. The Alemannic and modern Standard German article paradigms (Tables 5–7) show that nominative and accusative are syncretic in both varieties in the indefinite and the definite paradigm. The only exception is M.ACC in the standard variety. Furthermore, gender is not consistently marked either, neither in the definite nor in the indefinite paradigm. In the definite plural paradigm, gender specification is entirely absent. As only number and oblique case seem to receive consistent marking across the indefinite and the definite paradigm, Rehn (2019) argues that once these features are realized via an article, the adjective can remain uninflected. In the absence of an article, the requirement on morphological marking of number and oblique case is responsible for obligatory adjectival inflection in these cases.

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Table 5: The definite singular and plural paradigm (modern Standard German)

	M.SG	N.SG	F.SG	M.PL	N.PL	F.PL
NOM	<i>der</i>	<i>das</i>	<i>die</i>	<i>die</i>	<i>die</i>	<i>die</i>
ACC	<i>den</i>	<i>das</i>	<i>die</i>	<i>die</i>	<i>die</i>	<i>die</i>
DAT	<i>dem</i>	<i>dem</i>	<i>der</i>	<i>den</i>	<i>den</i>	<i>den</i>
GEN	<i>des</i>	<i>des</i>	<i>der</i>	<i>der</i>	<i>der</i>	<i>der</i>

Table 6: The definite singular and plural paradigm (Alemannic)

	M.SG	N.SG	F.SG	M.PL	N.PL	F.PL
NOM	<i>dr</i>	<i>(d)s</i>	<i>d'</i>	<i>d'</i>	<i>d'</i>	<i>d'</i>
ACC	<i>de</i>	<i>(d)s</i>	<i>d'</i>	<i>d'</i>	<i>d'</i>	<i>d'</i>
DAT	<i>em</i>	<i>em</i>	<i>dr</i>	<i>de</i>	<i>de</i>	<i>de</i>

Table 7: The indefinite paradigm of modern Standard German (left) and Alemannic (right)

	MSG			Alemannic		
	M	N	F	M	N	F
NOM	<i>ein</i>	<i>ein</i>	<i>eine</i>	<i>a</i>	<i>a</i>	<i>a</i>
ACC	<i>einen</i>	<i>ein</i>	<i>eine</i>	<i>a(n)</i>	<i>a</i>	<i>a</i>
DAT	<i>einem</i>	<i>einem</i>	<i>einer</i>	<i>am/ma</i>	<i>am/ma</i>	<i>ra</i>
GEN	<i>eines</i>	<i>eines</i>	<i>einer</i>	–	–	–

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3.4 Alemannic data source

All Alemannic data were collected as part of the Syntax of Alemannic (SynAlm) project (cf. Brandner 2015). SynAlm investigated morphosyntactic properties and morphosyntactic variation in Alemannic by sending out detailed questionnaires that contained different task types. The area and places to which questionnaires were sent is shown in Figure 1 above. In total, seven questionnaires were sent out over a period of four years. As expected, the number of participants declined over time. In the first round, around 1000 participants sent back the questionnaire, whereas about 500 sent the questionnaire back in the last round. This means that despite the decline in participants, the overall number remained rather, high allowing the investigations of areal patterns across the SynAlm area.

In the questionnaires, all sentences were given in the local Alemannic variety in judgement or choice tasks. These tasks included the following variants:

- rating sentences on a scale from 1 (natural) to 5 (not possible)
- stating whether:
 - a. one knows the construction and uses it
 - b. one knows the construction but does not use it
 - c. one does not know the construction
- stating whether the construction exists in the variety (yes or no)

Translation tasks were also part of the questionnaire. In this case, a standard German sentence was given and the participants were asked to translate the sentence into their dialect. The data on stacked adjectives only include judgement data, however. 591 participants took part in the questionnaire and rated sentences with the DP in (32) on a scale from 1 (natural) to 5 (not possible). The DP contains two monosyllabic adjectives preceding a masculine noun. The reason for this restriction is twofold: i) avoiding a clash of an adjective ending in *-s* and the strong neuter ending also ending in *-s* which may lead to a phonological reduction (*ein leis-es Geräusch* – ‘a soft sound’) and ii) the impact of gender on the acceptance of uninflected adjectives. The latter is particularly important as it is noted in Staedele (1927) that uninflected adjectives are generally possible with neuter, whereas masculine and feminine nouns show restrictions. In Rehn (2019) it was shown that masculine and feminine nouns also allow uninflected adjectives; nevertheless, a preference for neuter was also reflected in the data, because neuter received a higher acceptance compared to masculine or feminine nouns

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with uninflected adjectives. In order to reduce the effect of gender, a masculine head noun was therefore chosen. Furthermore, the DP was provided without a comma between the two adjectives and the context did not involve a contrast in order to avoid a possible comma intonation.

- (32) a. d-er groß-e schwarz-e Hund
 DEF-M.NOM.SG big-WK black-WK dog
 ‘the big black dog’
- b. ein groß-er schwarz-er Hund
 INDEF big-M.NOM.SG black-M.NOM.SG dog
 ‘a big black dog’

In the questionnaire, the DP in (32) was tested for several combinations of inflection and non- inflection as given in (33) to (37). As the examples show, for each combination a definite and an indefinite nominative DP was tested. All combinations were also tested in a dative DP (37). Testing nominative as well as dative examples allows one to investigate a possible impact of case as well as possible differences between strong and weak inflection. In the definite DPs in general, and also in indefinite dative DPs, the article bears the strong ending and the adjective shows weak inflection. In indefinite nominative DPs the article is uninflected and the adjectives bear strong inflection, whereas in indefinite dative DPs the article bears the strong ending and the adjective inflects weakly just like in the definite DPs. There is an inflectional difference between nominative and dative in the weak ending, however. In the nominative case, the weak inflection is realized as *-e* (33b), whereas in dative it is realized as *-en* (37b).

- (33) a. Both adjectives are inflected (nominative):
 ein groß-er schwarz-er Hund
 INDEF big-M.NOM.SG black-M.NOM.SG dog
 ‘a big black dog’
- b. d-er groß-e schwarz-e Hund
 DEF-M.NOM.SG big-WK black-WK dog
 ‘the big black dog’
- (34) a. Both adjectives are uninflected:
 ein groß schwarz Hund
 INDEF big black dog
 ‘a big black dog’

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- b. d-er groß schwarz Hund
DEF-M.NOM.SG big black dog
'the big black dog'
- (35) a. The first adjective is inflected, the second is uninflected:
ein groß-er schwarz Hund
INDEF big-M.NOM.SG black dog
'a big black dog'
- b. d-er groß-e schwarz Hund
DEF-M.NOM.SG big-WK black dog
'the big black dog'
- (36) a. The first adjective is uninflected, the second is inflected:
ein groß schwarz-er Hund
INDEF big black-M.NOM.SG dog
'a big black dog'
- b. d-er groß schwarz-e Hund
DEF-M.NOM.SG big black-WK dog
'the big black dog'
- (37) a. Both adjectives are inflected (dative):
ein-em groß-en schwarz-en Hund
INDEF-M.DAT.SG big-WK black-WK dog
'a big black dog'
- b. d-em groß-en schwarz-e Hund
DEF-M.DAT.SG big-WK black-WK dog
'the big black dog'

The results of the judgement tasks provide a rather clear pattern: there is a very strong preference for parallel inflection in almost all contexts with only one exception, namely the definite nominative DP. The results of the questionnaire task are summarized in the diagrams in Figures 2–5 in which the colours show the different combinations of inflected and uninflected adjectives:

- *blue*: parallel inflection (Standard German pattern) as in (33)
- *orange*: inflected A uninflected A as in (35)
- *grey*: uninflected A inflected A as in (36)
- *yellow*: both adjectives are uninflected as in (34)

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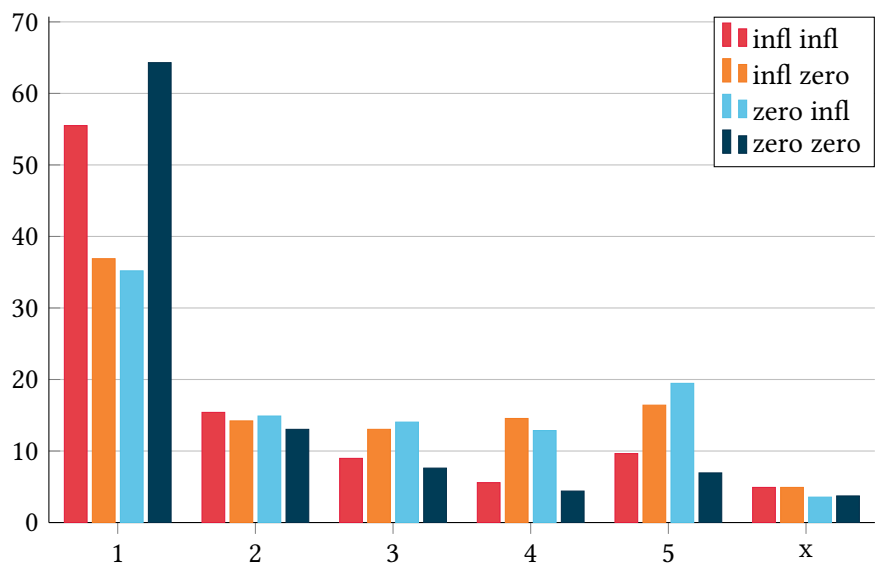


Figure 2: Results of the judgement task on realization of inflection in stacking: Definite nominative

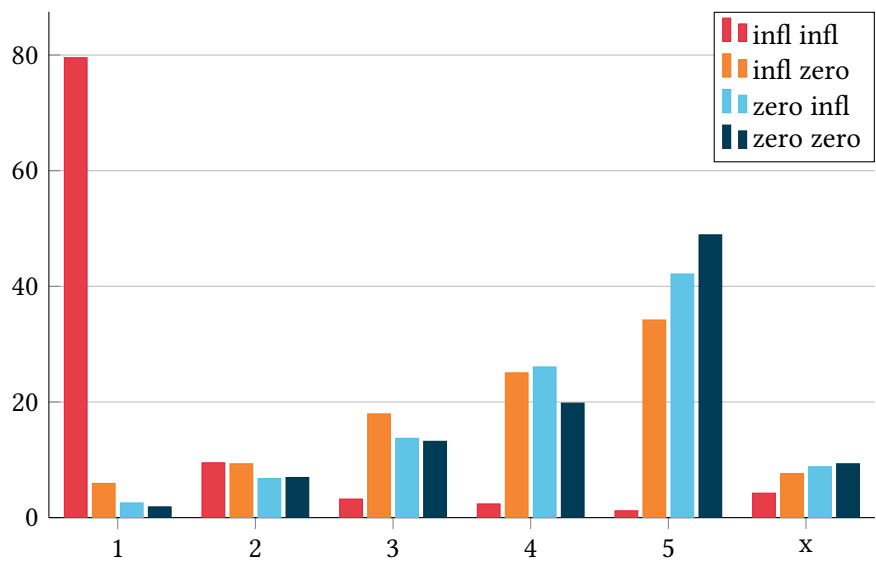


Figure 3: Results of the judgement task on realization of inflection in stacking: Definite dative

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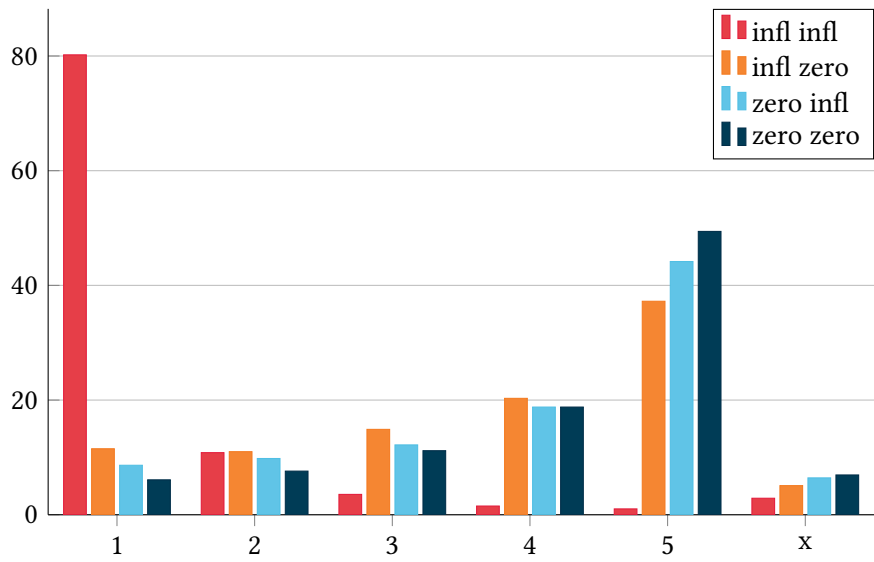


Figure 4: Results of the judgement task on realization of inflection in stacking: Indefinite nominative

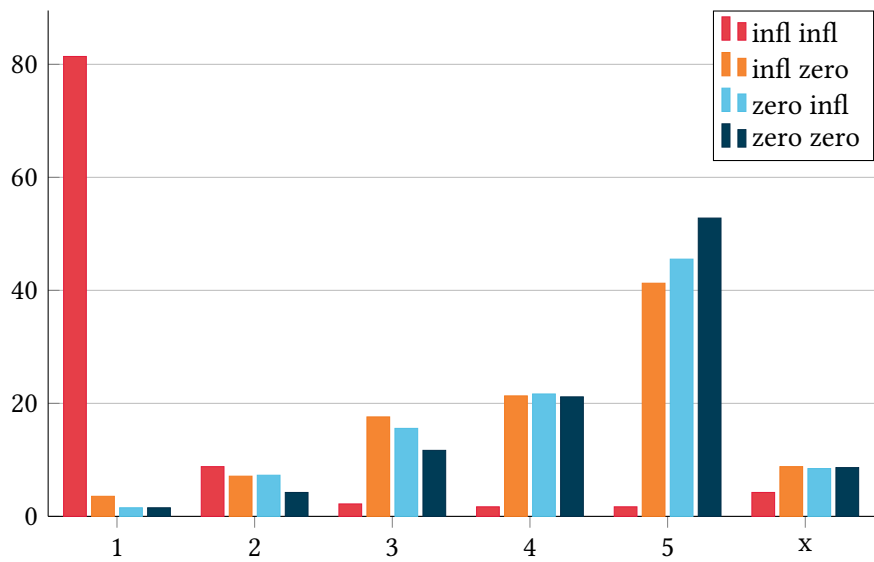


Figure 5: Results of the judgement task on realization of inflection in stacking: Indefinite dative

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As the results given in Figure 2–5 show, the rating with 1 (natural) of parallel inflection is very similar for the dative DPs and the indefinite nominative context. In these cases, between 79.5% and 81.3% rate the sentences with 1 and about 10% rate the same sentences with 2. This means that about 90% accept the standard version with parallel inflection. At the same time, the acceptance for the dative DPs is quite low for any version of non-parallel inflection. The highest number of ratings with 1 is 5.9% for the sequence inflection-zero in the definite dative DP. The ratings with 2 are chosen a bit more often and are 9.3% for the same context. The nominative indefinite context seems to allow a bit more variation, as the ratings with 1 for any combination of inflection and non-inflection range from 6% (zero zero) to 11.5% for the sequence inflection-zero. The most striking result, however, comes from the definite nominative DP: acceptance of any combination is rather high compared to all other tested contexts. Zero zero is rated with 1 by 64.3% of the participants and the other combinations still receive a rather high rating with 1 (35% to 36%). The fact that in the definite nominative the inflectional ending is realized as schwa may have an impact here, as the weak ending in dative is *-en* as noted above.

The overall picture thus shows that Alemannic patterns with standard German in most contexts, with parallel inflection being highly preferred, and any deviance from this pattern receives considerably low acceptance rates compared to parallel inflection, and at the same time rather high rejection rates. The only exception, as pointed out above, is the definite nominative DP.

4 Discussion

The OHG and the Alemannic data show that irrespective of the declensional paradigm (strong or weak) or the type of distribution (semantic or morphosyntactic) OHG, Alemannic and standard German require overt parallel inflection in stacking. This is interesting, because OHG nominal inflection, which is realized as zero, is not attested in stacking contexts whereas paradigmatic zero inflection in modern North Germanic behaves like overt inflection and is possible in stacking. The data are also interesting because Alemannic requires overt inflection but only in DPs with more than one adjective. As discussed in Section 3.1, in DPs with only one adjective, the inflection can be dropped when an article is realized. Just like OHG nominally (i.e. zero-inflected) adjectives, truly uninflected adjectives in modern dialects are excluded from stacking contexts. As the data show, this is different in Old Saxon, as sequences of nominally inflected adjectives are attested, so Old Saxon differs from OHG in this respect, which may point to differences in the properties of zero-inflection in OHG vs. OS.

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In this section, I will suggest a tentative analysis of parallel inflection, which is based on two assumptions: i) certain features (i.e. number and oblique case) require overt marking on a determiner, an adjective or the noun and ii) identical adjacent phrases require a linking element to prevent an OCP violation. The first claim rests on observations from Alemannic, which does not require adjectives to bear strong inflection even when preceded by an uninflected article. The second claim refers to crosslinguistic observations in relation to adjacent identical syntactic objects, which often trigger an OCP violation (cf. Neeleman & Van de Koot 2017; Nevins 2012; Richards 2010).

In Alemannic, uninflected adjectives are possible when only one adjective is realized. This is illustrated with the example in (38).

- (38) Alemannic
- a. e guet Wii
‘a good wine’
 - b. de guet Wii
‘the good wine’
 - c. * guet Wii
‘good wine’

According to Rehn (2019), the optionality of adjectival inflection in DPs with one attributive adjective is related to the requirements of overt feature specification in the German DP. Number and oblique case must always be overtly marked. When an article is realized, this requirement is always met. The indefinite article is generally associated with a singular interpretation, hence the requirement on number marking is met. Number is also overtly marked when a definite article is realized, as the definite article always bears strong inflection (cf. the article paradigms in Table 5 to Table 7 in Section 3.3). Oblique case is inflectionally realized in both definite and indefinite DPs with strong inflection, e.g. (39).

- (39) d-**em** / ein-**em**
DEF-M.DAT.SG INDEF-M.DAT.SG

Following Borer (2005), I assume that the requirement on overt number specification is tied to the mass–count distinction, which is manifested in the syntax by the presence or absence of a CIP (Classifier Phrase) above the NP. When CIP is absent, the interpretation is mass (40a); when CIP is projected, the interpretation is count (40b) and number must be specified. Number specification can be realized with an article (40c) or in the absence of an article with number morphology in the head of CIP (40b) or on an adjective above CIP that inflects (40d) as argued in Rehn (2019).

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- (40) a. wine: [DP [NP Wein]]
 b. wines: [DP [CIP -e [NP Wein]]]
 c. a wine: [DP ein [CIP [NP Wein]]]
 d. good wine: [DP [AP guter_{sg} [CIP [NP Wein]]]]

Let us now turn to DPs with more than one adjective. The requirements for overt feature specification are the same as in DPs with only one adjective: number and oblique case must receive overt marking. However, it no longer seems to be sufficient when these features are marked on the article – in addition, overt inflection on each adjective is obligatory. When comparing DPs with only one adjective and DPs with more than one adjective, one difference is that in the former all phrases between N and D are distinct (41a). In DPs with several identical phrases, i.e. the APs, these APs are generally adjacent as in (41b).⁹

- (41) a. [DP [AP [CIP [NP]]]]
 b. [DP [AP [AP [AP [CIP [NP]]]]]]

This does not seem to pose a problem at first sight. However, Richards (2010: 5) argues that two identical syntactic objects that must be linearized need to be distinct, otherwise the construction is ungrammatical. This explains the ungrammatical vs. the grammatical phrase in (42). In (42a) two DPs are adjacent to each other and the construction is ruled out; in (42b) a DP and a PP are adjacent and the construction is grammatical.

- (42) a. * the book John
 b. the book of John

The problematic phrase in (42a) shows an Obligatory Contour Principle (OCP) violation. The OCP was originally a phonological constraint and first discussed in Leben (1973), who shows that two adjacent identical tones are not possible. When two identical tones happen to be adjacent, one of them is deleted as in (43).

- (43) a. * HH
 b. H

⁹In most accounts of adjectival modification, adjectives are realized in the specifier of a designated functional projection, but this assumption does not affect the idea put forth in this chapter. The only difference in this case is, that it is not the APs that are adjacent but the FPs in which Spec they are realized.

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Since then, the OCP has been applied to various morphosyntactic phenomena (see Neeleman & Van de Koot 2017; Nevins 2012 for an overview). There are two main strategies to circumvent an OCP violation: it can be repaired (e.g. via movement or suppletion) or avoided (“preemption strategy” in Nevins 2012). The example in (42b) is a preemption strategy as the projection of an additional PP above the DP avoids an OCP violation (*DP DP vs. DP PP). With this brief background on the OCP, we can now return to adjective stacking. As said before, the realization of several APs should be problematic in light of the OCP. The order of adjectives is not arbitrary and therefore APs must be linearized, hence they should cause an OCP violation. The question thus is, why are sequences of adjectives even possible? The assumption I want to put forth here is that the answer to this question is connected to the obligatory inflection in stacking. As shown in Section 3, in both OHG and Alemannic adjectival inflection must be overt when more than one adjective is realized. When only one adjective modifies a noun, overt inflection is not obligatory (cf. (38) above). In the latter case, no OCP violation arises.

As noted before, both the definite and the indefinite article always provide some sort of number specification. Consequently, a CIP is always projected when an article is merged (cf. (40c) above). In DPs with stacked adjectives preceded by an article a CIP is also always projected. In addition, the higher adjective(s) always modify(ies) the entire sequence of A and N below (or the combination of several As and N). This is illustrated again with (19a) repeated here as (44). In this example *black* modifies *dog* and *big* modifies *black dog*.

(44) a big dog → a [big [black dog]]

This means that the lower A and the N form some sort of unit. This has been suggested in Sproat & Shih (1987: 10–11) based on English and Mandarin data. Sproat & Shih (1987) argue that A and N form a nominal unit that can then be modified with another adjective that again forms a nominal unit with the already existing sequence of A and N. This process is iterated with each adjective that is merged. Let us assume that this is on the right track. Two questions then need to be answered: i) what makes a sequence of A and N a nominal unit and ii) in what way is this connected to parallel inflection?

Recall that in Borer’s (2005) system, N enters the derivation as mass and CIP must be projected to make it count. This sequence of CIP-NP can be modified by an adjective, which optionally inflects and is preceded by an article. Merging another adjective that modifies the sequence below it requires this sequence to form some sort of nominal unit. At the same time the next phrase should be distinct from the one it is merged with in order to avoid an OCP violation

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(45) [AP [? [AP NP]]]

I therefore suggest that creating a unit of A and N and avoiding an identity violation is achieved by projecting a second CIP on top of the first A-N sequence. The projection of a CIP is on the one hand associated with a nominal interpretation of the lexical element below it. This is because nouns can receive an interpretation as mass or count but not verbs or adjectives. Secondly, CIP is related to the (overt) marking of number. The iteration of CIP between sequences of attributive adjectives can thus explain: i) the interpretation of A-N as a (nominal) unit and ii) the avoidance of an OCP violation reflected in the iteration of inflection.

- (46) a. * [AP [AP]]
 b. [CIP [AP [CIP [AP]]]]

To summarize the above claim: the CIP between the two As makes the two phrases distinct. In other words obligatory adjectival inflection in stacking fulfills a double function: on the one hand it reflects the required number specification; on the other hand it functions as a linking element. As briefly discussed above, an OCP violation can be avoided when additional structure is projected, cf. (42). I suggest that in sequences with several adjectives, this strategy is reflected via obligatory inflection, as an additional functional projection is required between the adjectives. Connecting inflectional material and linking is not a new idea, but has also been discussed in Franco et al. (2015). In their paper, agreeing linkers are discussed and the parallel between linkers and agreement is illustrated with different languages including German. In many Persian languages, an element must be inserted between a head and its modifier(s). This element is known as *ezafe* and is generally assumed to be a linking element. However, while there is an invariant *ezafe*-element, there are also linkers that agree in certain features, which makes their status as a mere linker questionable, as illustrated in (47).

- (47) Kurmanji Kurdish, Bahdîni dialect
 a. kurk-(ak)-e: mazən jet het
 boy-(one)-EZ.M big M.SG come.3SG
 ‘a/the big boy is coming’
 b. ketjk-(ak)-a: mazən jat het
 girl-(one)-EZ.F big F.SG come.3SG
 ‘a/the big girl is coming’ (Franco et al. 2015: 279)

I suggest that it is not either one or the other, but that inflection can serve as a linking element, just like determiners in determiner spreading or *of* in English

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possessive constructions. In this light, obligatory overt adjectival inflection in stacking is based on an OCP effect.

- (48) [DP ein [CIP SG [AP groß-er_{SG} [CIP SG [AP schwarz-er_{SG} [CIP SG [NP Hund]]]]]]]]]

As the data have shown, in German, both modern and earlier German, an overt inflectional element on adjectives is required in stacking. However, in North Germanic and also in Old Saxon, zero-morphemes are possible as agreeing elements that also serve the purpose of a linker. In these languages, the element is not required to be overt; rather the relevant aspect seems to be that the zero-element is associated with a certain feature specification. In the literature, zero-inflected adjectives in OHG are assumed to be nominally inflected, which is a version of the strong inflection (Braune 2018: 298). Zero-inflected adjectives in OHG should thus also be associated with certain features, and it is therefore surprising that in OHG, zero-inflection is not attested in stacking while in OS it is. It may thus be the case that zero-inflection in OHG is not associated with agreeing features even though zero-inflected adjectives have their origin in nominally inflected ones. This aspect requires a more thorough investigation, however, as the data set is too small to allow any conclusions in this direction. Another unexplained fact is the observed variation in realization and non-realization of inflection in Alemannic in definite nominative DPs. One possible reason for the observed variation may lie in the fact that the definite nominative context was the only one in which inflection is realized as schwa. However, in order to confirm a possible impact of schwa vs. non-schwa, other contexts must be tested, e.g. strong feminine inflection, which is also realized as schwa. Besides the element itself, the type of inflection may also have an impact here. The ending on the adjective in the definite nominative context is weak, and weak adjectives are identical in their inflectional paradigm to weak masculine nouns. There is only one difference: weak masculine nouns do not have an overt ending in the nominative, whereas the inflectional ending is *-en* in all other cases. The weak adjectival paradigm has an overt schwa-ending in nominative and *-en* in all other cases. The weak paradigm itself, with an option of non-inflection in nominative, may thus have an impact, but again, in order to confirm this, a more thorough investigation in this direction is needed.

5 Open questions and outlook

There are of course some remaining questions to be answered. First of all, the suggested OCP-based account may provide an answer to obligatory stacking

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of inflection. However, it does not explain the observed variation in the nominative in Alemannic. Another open question is how languages like English are dealt with, in which adjectival inflection is entirely absent. In addition to these questions, the account must be worked out in more detail, as agreement and the distribution of weak and strong inflection must also be accounted for. Further room for future research regarding the diachronic data lies in the difference between Old High German and Old Saxon. As Old High German does not allow zero-inflected adjectives in stacking, whereas Old Saxon does, this may point towards a difference in the status of zero-inflected adjectives in the two languages.

Abbreviations

ACC	accusative	N	neuter
DAT	dative	NOM	nominative
DEF	definite	OCP	Obligatory Contour Principle
EZ	ezafe	OHG	Old High German
F	feminine	OS	Old Saxon
GEN	genitive	PL	plural
INDEF	indefinite	SG	singular
INFL	inflection	WK	weak
M	masculine		

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Chapter 6

On the distribution of the strong and weak adjectival inflection in Old High German: A corpus investigation

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Analyzing the evidence in the *Referenzkorpus Altdeutsch*, the present chapter investigates the distribution of strong (incl. zero) and weak inflectional patterns of attributive adjectives in Old High German. Two types of datasets are considered, namely DPs containing a determiner-like marker of definiteness and indefiniteness, and bare DPs. The study revises previous accounts according to which the choice of the inflectional pattern of the adjective is driven by the interpretation of the DP in terms of (in)definiteness, and shows that in both datasets, the strong inflection occurs with any semantic type of DP, while the weak one correlates with some grammatical and constructional factors, such as gradation and the adverbial use of nominalized adjectives derived from proper names by means of the morpheme *-isk*. In addition, the analysis shows that the choice of strong patterns in definite DPs increases if the adjective is postnominal, supporting previous observations reported by Demske (2001). Finally, it is shown that the modern German standard distribution according to which the choice of inflectional pattern depends on the presence or absence of overt inflection on the determiner begins to be established already in Old High German, especially in the domain of DPs headed by a possessive determiner.

1 Introduction

Adjectives in Old High German (OHG, c. 750–1050) display two inflectional paradigms traditionally termed strong and weak, with the zero inflection considered a subtype of the strong inflectional pattern (Behaghel 1923: 170–171; Braune



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2018: 298–299). This formal distinction is also known as dual adjective inflection, a phenomenon shared by all early Germanic varieties, with the strong inflectional pattern being inherited from Indo-European (IE) and the weak one representing a common Germanic innovation.

The emergence of two inflectional paradigms of adjectives in Germanic and the understanding of the principles underlying their distribution in the individual varieties are some of the most intriguing questions in Germanic philology and historical linguistics (Bammesberger 1990: 230, see also the overview in Rehn 2019: 60–66). Researchers investigating the rise of the weak paradigm have established a relation between the origins of this pattern and a class of nominal expressions conveying a special meaning, namely that they denote a referent identifiable by virtue of some characteristic property (Osthoff 1876: 119–121; Delbrück 1909: 191–192; Behaghel 1923: 171; Braune 2018: 297). This observation gave rise to the assumption that the weak variant is associated with the identifiability of the referent and therefore with the definiteness of the DP used to denote it. By contrast, the strong inflectional pattern was considered to be irrelevant regarding the semantic interpretation of the DP in early Germanic, being found both in indefinite as well as definite environments. Delbrück (1909: 189–190), who presents and discusses comparative evidence for modified bare nouns in Old English and Old Norse, states:

[E]in Substantivum, welches mit einem nach indogerm[anischer] Weise flektierten (starken) Adjektivum verbunden ist, kann unbestimmt und bestimmt gebraucht werden = “A noun which is combined with an adjective inflecting in the IE (strong) pattern can be used both as definite and indefinite”. (Delbrück 1909: 189)

Klein (2007: 196), providing additional references and summarizing the state of the art in the literature, concludes:

Das starke Adjektiv war [...] in der älteren Zeit hinsichtlich der Definitheit offenbar noch nicht festgelegt. Das ergibt sich aus seiner resthaften Verwendung auch in definiten NPs in den altgerm. Sprachen = “Obviously, in the earliest period, the strong adjective was not restricted regarding definiteness. This follows from its residual use in definite NPs as well, in the early Germanic languages”.

Evidence supporting the original semantic underspecification of the strong inflectional pattern is also found in Gothic (Ratkus 2011: 143–144, 167) and continues to exist as late as in the system of Old Swedish (Stroh-Wollin & Simke 2014).

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Against the original situation found in Germanic, OHG is assumed to have established a kind of complementary distribution of the two paradigms, depending on the interpretation of the DP in terms of (in)definiteness (see Demske 2001; Braune 2018: 297). According to this view, the weak paradigm was associated with the definiteness of the DP, while the strong one was restricted to indefinite contexts. Hotzenköcherle (1968) shapes the term *Sinnregel* ('sense rule') to account for this situation in OHG, as opposed to the so-called *Formregel* ('formal rule') applying to Present-day German (PDG), in which the type of inflection of the adjective depends on the morphological form of the determiner. On the basis of these considerations, it is commonly assumed that German underwent a change from a semantically driven distribution of adjectival inflection in the earliest attestation to a morphologically driven one in the present-day stage of the language, although the precise time span during which this change must have taken place remains unclear.¹

However, there is data contradicting the strict applicability of the semantic principle of distribution of adjectival inflection in the earliest vernacular attestation. The literature cites examples of strong adjectives found in definite environments in OHG (Wilmanns 1909: 750; Behaghel 1923: 185; Heinrichs 1954: 68–69; Dal 2014: 68–70; Braune 2018: 298), suggesting that the original semantic underspecification of the strong pattern in Germanic continues to exist in this variety as well. In addition, Demske (2001: 70) observes that adjectives preceding their head noun are more consistent with the semantic principle of distribution of adjectival inflection than those following their head noun. Finally, Klein (2007) considers an additional factor leading to cases of strong adjectives in definite DPs. He accounts for differences in the organization and spread of adjectival paradigms in Central and Upper German in the Middle High German period, showing that a levelling of the original paradigms in Central German leads to a preference for the strong forms and a partial loss of the weak ones. According to him, the resulting presence of strong adjectives in definite environments in Central German texts can already be found in late OHG documents of the respective dialectal area, see Klein (2007: 200).

These observations suggest that there is a degree of variability in the spread of inflectional patterns of adjectives in OHG, which has not been addressed on a

¹Demske (2001) suggests that this process must have taken place during the Early New High German period (c. 1350–1650). On analyzing newly retrieved corpus data, Klein (2007) convincingly shows that the PDG standard distribution in indefinite contexts is in place much earlier, already in Middle High German (c. 1050–1350) documents of the Upper German area. Finally, Sahel (2022) shows that some additional principles underlying the present-day standard distribution (see Section 2.1) are established much later, during the New High German period (after 1650).

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large scale by using the functionalities of corpus search. The aim of this study is to uncover the degree of variability in the distribution of inflectional patterns of adjectives in OHG by evaluating the evidence retrievable from the *Referenzkorpus Altdeutsch* (ReA 1.1, Donhauser et al. 2018).

The chapter is structured as follows. Section 2.1 discusses the principles of the morphologically driven distribution of adjectival inflection in PDG, focusing on the situation in the standard variety, but also accounting for some deviations attested in non-standard, colloquial style. Section 2.2 describes the basic facts underlying the notion of a semantically driven alternation of adjectival inflectional in Germanic and the respective situation in OHG, summarizing the statements of the previous literature. Section 3 presents the methods and results of the corpus study. Two basic types of datasets are distinguished: one involving demonstratives, possessive and indefinite pronouns used as determiners, and one involving bare DPs, allowing to investigate the distribution of the inflectional patterns of adjectives independently of the semantic type and the morphological properties of a determiner. Section 3.1 provides details on the various datasets, which are analyzed in Sections 3.2 and 3.3. Section 4 summarizes the results of the corpus study.

2 The principles of distribution of adjective paradigms in Present-day German and in early Germanic

2.1 The morphologically driven system of adjectival inflection in Present-day German

With some well-known exceptions,² adnominal adjectives in PDG obligatorily inflect, agreeing in case, number and grammatical gender with the respective head noun. The distribution of the strong and the weak paradigm is considered morphologically driven because the choice of the respective variant is determined by the morphological form of the accompanying determiner, more precisely by the presence or absence of overtly realized case, number and gender features on it. This is illustrated in (1)–(3) adapted from Rehn (2019), see also *Duden. Die*

²The inflection is missing on adjectives in some idiomatic expressions of the type *auf gut-Ø Glück* ‘randomly’, but also on some loan adjectives like *prima* ‘great’, *extra* ‘additional’, and those denoting colours, such as *lila* ‘purple’, *rosa* ‘rose’, *pink* ‘pink’ etc. (see *rosa-Ø Brille* ‘pink spectacles’). Also, so-called toponymic formations ending in *-er* such as *Kieler-Ø Bucht* ‘Bay of Kiel’ are considered as a special class of adjectives which remain uninflected (see *Duden. Die Grammatik* 2016: 347–349; Fuhrhop 2001). On the lack of inflection in the Alemannic variety of German, see Rehn (2019, 2023 [this volume]).

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Grammatik (2016: 369–370). The strong adjective variant appears whenever no distinct morphological features are realized on the determiner, either because the determiner is missing (1)³ or because it carries no such features itself (2).⁴ In the presence of an overtly inflected determiner of any type, the adjective appears in its weak and morphologically indistinctive variant, ending in *-e* in the nominative singular of all genders as well as in the accusative singular feminine and neuter, and in *-en* in all remaining cases, see (3).

- (1) gut-er Wein
 good-M.NOM.SG.STR wine.M.NOM.SG
 ‘good wine’
- (2) ein gut-er Wein
 INDEF good-M.NOM.SG.STR wine.M.NOM.SG
 ‘a good wine’
- (3) ein-es/d-es/dies-es gut-en Wein-s
 INDEF/DEF/DEM–M.GEN.SG good-M.GEN.SG.WK wine-M.GEN.SG
 ‘of a/the/this good wine’

In contexts involving some kind of determiner, a relevant property concerning the spread of distinct morphological features in the DP in PDG is observable, namely that such features are coded only once, either on the determiner, or on the adjective, in case the determiner is uninflected as in (2).⁵ The notion underlying this kind of division of labour between the determiner and the adnominal adjective is termed *single inflection* or *monoinflection* (*Monoflexion*) (see also *Duden. Die Grammatik* 2016: 954). At the same time, in the absence of a determiner,

³Forms of the genitive singular masculine and neuter are exceptional in that they display weak inflection although the determiner is missing, as in *gut-en Mut-es* instead of *gut-es Mut-es* ‘in a good temper’. Note that until the beginning of the New High German period, the strong inflection was present here as well, see Sahel (2022: 27–32) and the references therein.

⁴This pertains to the forms of the indefinite article *ein* ‘a(n)’, its negative variant *kein* and the possessive determiner series *mein* ‘my’, etc., in the nominative singular masculine and the nominative/accusative singular feminine and neuter (*Duden. Die Grammatik* 2016: 369). Some grammars consider the paradigm of adjectives following these determiners a mixed paradigm because it combines both weak and strong patterns. This is in contrast to the inflection of adjectives in determinerless (bare) environments in which the adjectives consistently display strong inflection, as well as to adjectives in overtly definite environments where only the weak pattern (ending in *-e* and *-en*) appears.

⁵Again, exceptions to this pattern are cases such as the genitive singular masculine and neuter presented in footnote 3, where the adjective has weak inflection although there is no determiner.

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the features of the strong inflectional pattern are equally spread on each of the adjectives included in the DP, a phenomenon traditionally termed *parallel inflection* (*Parallelflexion*) and illustrated in (4) (see also Bildhauer et al. 2019).

- (4) mit gut-**em** spanisch-**em** Wein
 with good-M.DAT.SG.STR Spanish-M.DAT.SG.STR wine.M.DAT.SG
 ‘with good Spanish wine’

However, there are well-known violations of both principles in informal varieties of PDG. For example, the principle of monoinflection is violated in the way exemplified in (5), in that an inflected determiner is followed by an adjective displaying an ending of the strong paradigm, thereby instantiating a case of *double inflection* (*Doppelflexion*).⁶ In addition, the principle of parallel inflection exemplified in (4) is suspended in favour of so-called *variable inflection* (*Wechselflexion*) (see Bildhauer et al. 2019; Münzberg & Hansen 2020) in the way illustrated in (6), whereby the strong inflectional ending required on all modifiers in determinerless contexts is realized only once, on the left most one of several coordinated adjectives, while the subsequent ones bear weak inflection.⁷

- (5) mit ein-**em** sachkundig-**em** Referenten
 with INDEF-M.DAT.SG professional-M.DAT.SG.STR guide.M.DAT.SG
 ‘with a professional guide’
 Metallsenioren besuchen Museum, Wochenspiegel online, September 28th, 2021, <https://www.wochenspiegelonline.de/news/detail/metallsenioren-besuchen-museum> [visited November 19th, 2021].
- (6) trotz fehlend-**em** direkt-**en** Beweis
 despite lacking-M.DAT.SG.STR direct-M.DAT.SG.WK proof.M.DAT.SG
 ‘despite the lack of direct proof’ (Bildhauer et al. 2019: 296, ex. (2))

As the examples suggest, the most common cases in which the principles of monoinflection and parallel inflection are violated in PDG are cases involving the dative singular of masculine and neuter nouns, i.e. those cases in which the strong ending *-em* alternates with the weak one *-en*. But other cases are not excluded, although they are less frequent in corpora (see Niebuhr 2021). However, all these instances concern language use and not the underlying system determining the distribution of adjectival inflection in PDG.

⁶See Niebuhr 2021 for a corpus-based investigation of double inflection in overtly indefinite DPs from the end of the 15th century to PDG.

⁷The preposition *trotz*, originally selecting the dative case, is nowadays used both with the genitive and the dative. The latter, as in the example at issue, is considered more colloquial (see Vieregge 2019).

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2.2 The distribution in early Germanic and in Old High German: the state of the art

As pointed out in the introduction, OHG displays two paradigms of adnominal adjectives: the strong one, including a subtype of uninflected (zero) forms, and the weak one. The endings of the strong paradigm were originally identical to those of the masculine and neuter nouns of the *a*-stems and of the feminine nouns of the *ô*-stems, including their *ja-/jô*- and *wa-/wô*- variants, with some exceptions in which adjectives inflected like nouns of the *i*- and *u*-stems (Braune 2018: 289). However, novel endings stemming from the pronominal paradigm entered the system and replaced the nominal ones, a process which was especially resilient in OHG in contrast to the remaining Germanic varieties (Klein 2007: 194–195). The nominal paradigm only survived in the nominative singular of all genders, the accusative singular, as well as the nominative and accusative plural of the neuter gender (Behaghel 1923: 170), where the original endings were lost due to phonological reduction, giving rise to uninflected (zero-inflected) forms, co-occurring with the new, pronominal ones (see also Wilmanns 1909: 441, 733).

The weak paradigm of adjectives, in turn, shares the inflectional behaviour of the nouns of the *n*-stems of all genders, a fact that plays a crucial role in explaining the emergence and the status of the weak pattern in Germanic. Already in Indo-European, the *n*-suffix was used to derive nouns with a special function, namely to refer to persons by assigning to these persons a characteristic property expressed by the respective base word. Standard textbook examples are formations using the *n*-suffix in Greek *strábôn* ‘squinter’ derived from *strábós* ‘squinting’ or Latin *catonis*, the genitive singular of *cato* ‘the shrewd one’, derived from *catus* ‘shrewd’ (Braune 2018: 298). Osthoff (1876: 46–47), Delbrück (1909: 196) and Behaghel (1923: 171) provide many more examples of this type from Latin and Greek (see also the extended discussion in Trutmann 1972: 6–12). Crucially, it is assumed that the same word formation pattern was also used in Germanic, i.e., Germanic also employed the *n*-suffix to derive nouns referring to individuals, making these individuals distinguishable by virtue of some characteristic property. A significant part of these formations were nominalized adjectives, often used as by-names of persons or as parts of proper names referring to places, and attested in all early Germanic varieties (Wilmanns 1909: 746; Kögel 1889). This distributional observation gave rise to the following way of reasoning: Because individuation was a core function of appositive nouns derived by way of *n*-suffigation, and because the identifiability of the referent is linked to the definiteness of the DP used to denote it, adjectives sharing the inflectional behaviour of the nouns of the *n*-stems became associated with definiteness as their

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inherent property. Notably, this process is assumed to have taken place prior to the emergence of a system of determiners and independently of the presence of demonstratives as overt markers of definiteness. The association of appositional adjectives with individuation and definiteness, and the subsequent spread of their inflectional behaviour to adjectives in definite environments is taken to represent the turning point in the process of the emergence of the weak inflectional pattern of adjectives in Germanic, and of dual adjectival inflection as a whole.⁸

According to standard textbooks, the use of the weak paradigm of adjectives is already strongly associated with the presence of some overt marker of definiteness in OHG (see Behaghel 1923: 183–184; Dal 2014: 68; Braune 2018: 297, 309). Some sporadic instances of weak adjectives in determinerless DPs are still found in formulaic expressions involving proper names, e.g. *druhtin nerrend-o Christ* ‘Lord, the saving Christ’ (Is. 17, 15. 11, cit. in Wilmanns 1909: 748), being considered as remnants of the original use of weak adjectives in bare definite contexts in Germanic.⁹ The literature on OHG also suggests that, once the weak inflection was associated with definiteness, it was extended to adjectives in DPs introduced by demonstrative (or possessive) pronouns as markers of definiteness, while the strong pattern became restricted to indefinite contexts. In the course of this process, the use of the strong and weak pattern established a complementary distribution, depending on the semantic class of the accompanying determiner, irrespective of its morphological form.

Studying the diachronic development of the DP in the history of German, Demske (2001) also adopts this view. She describes the distribution of adjectival inflection in OHG as a semantically driven one, as according to her, the type of inflection depends on the semantic interpretation of the DP in terms of (in)definiteness, rather than on the morphological form of the accompanying determiner (see Demske 2001: 68). A basic consideration is that, in an example like (7), where the possessive determiner is considered a marker of definiteness but carries no morphological features on its own, the adjective nevertheless displays weak inflection, contrary to the distribution in PDG.¹⁰

⁸But see Trutmann (1972) and Ratkus (2011) on alternative scenarios regarding the rise of dual inflection in Germanic. The more recent literature on the rise of the weak adjectival inflection is given and summarized in Ratkus (2011: footnote 1). See also Ratkus (2018) who argues in favour of a more general semantics of weak adjectives in bare DPs in Gothic and in early Germanic. According to him, only weak adjectives in determined DPs are firmly associated with definiteness.

⁹This use of the weak paradigm of adjectives is preserved, e.g. in modern Danish (Haberland & Heltoft 2008).

¹⁰All examples are cited according to ReA 1.1, including those taken from the previous literature.

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- (7) mîn liob-o sun
 my.M.NOM.SG dear-M.NOM.SG.WK son.M.NOM.SG
 ‘my dear son’ (T 14.5, cit. in Demske 2001: 67, ex. (39a))

To illustrate that the distribution of adjectival inflection in OHG is semantically driven, Demske (2001) first provides data from contexts involving overt adnominal pronouns used as determiners. She demonstrates that weak adjectives appear in overtly definite environments like those headed by possessive or demonstrative determiners, see (7) above and (8a)–(8b), whereas the strong inflectional pattern, including its zero variant, occurs in overtly indefinite environments such as those shown in (9a)–(9b). Demske (2001) also refers to the fact that in inflected indefinite contexts as in (10), adjectives in OHG display strong inflectional endings, violating the principle of monoinflection typical of the system of standard PDG.¹¹

- (8) a. thes-er firntatig-o mán
 DEM-M.NOM.SG sinful-M.NOM.SG.WK man.M.NOM.SG
 ‘this sinful man’ (T 118.2, cit. in Demske 2001: 67, ex. (38b))
- b. [in] thi-z írthisg-a dál
 [in] DEM-N.ACC.SG earthy-N.ACC.SG.WK valley.N.ACC.SG
 ‘into this valley on Earth’
 (O V.23.102, cit. in Demske 2001: 67, ex. (38c))
- (9) a. ein arm-az wíb
 INDEF.N.ACC.SG poor-N.ACC.SG.STR woman.N.ACC.SG
 ‘a poor woman’ (O II.14.84, cit. in Demske 2001: 67, ex. (42a))
- b. sum árm betalari
 a.certain.M.NOM.SG poor.M.NOM.SG.Ø beggar.M.NOM.SG
 ‘a certain poor beggar’ (T 107.1, cit. in Demske 2001: 67, ex. (42c))
- (10) mít éin-emo rôr-emo tùoch-e
 with INDEF-N.DAT.SG red-N.DAT.SG.STR scarf-N.DAT.SG
 ‘with a red scarf’ (N MC 56.15, cit. in Demske 2001: 67, ex. (67b))

In addition, Demske (2001) demonstrates that the above shown correlation between the semantic interpretation of the DP and the inflectional type of the adjective also applies in determinerless contexts. Especially important for her

¹¹Sahel (2022) shows that the principle of monoinflection becomes the dominant pattern as late as in the 18th century.

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analysis is the use of the weak inflectional pattern in vocatives (11), superlatives (12) and nouns with unique reference (13). In the seminal typology of definite expressions proposed by Löbner (1985), these classes of DPs represent the type of semantic definiteness, i.e. of expressions denoting referents which are identifiable on the basis of uniqueness and world knowledge. The opposite category is that of pragmatic definiteness, i.e. of DPs which acquire definite interpretation on the basis of previous mention. According to Demske (2001), pragmatic and semantic definiteness behave differently in the process of grammaticalization of the definite determiner in German. While anaphoric DPs systematically appear with a determiner already in OHG, representatives of the semantic type of definiteness reject the determiner until the end of this period. Therefore, Demske (2001) concludes that the weak adjectival inflection in bare DPs expressing the semantic type of definiteness acts as a substitute of the definite determiner during the OHG period:

- (11) *liob-o* *man*
 dear-M.NOM.SG.WK man.M.NOM.SG
 ‘dear man’ (O II.7.27, cit. in Demske 2001: 67, ex. (40a))
- (12) *in ira bárm si sazta barn-o* *bézist-a*
 in her lap she set child-N.GEN.PL best-N.ACC.SG.WK
 ‘onto her lap, she put the loveliest one of all children’
 (O I.13.10, cit. in Demske 2001: 67, ex. (44))
- (13) *fon hímilisg-en* *liaht-e*
 from heavenly-N.DAT.SG.WK light-N.DAT.SG
 ‘by heavenly light’ (O I.12.4, cit. in Demske 2001: 67, ex. (45a))

But at the same time, there is variability in the data, which challenges the strict applicability of the semantic principle in OHG. Demske (2001: 70) accounts for some inconsistencies by taking into account differences in the positional realization of adjectives relative to their head nouns. She observes that the correlation between the semantic interpretation of the DP and the type of inflection on the adjective is more systematically established in DPs displaying prenominal modifiers than in those displaying postnominal ones. This is illustrated by the minimal pair in (14)=(7) and (15). In both cases, the DP is headed by the same type of determiner, namely the possessive one. However, the inflection of the adjectives differs. Only the prenominal one displays the weak inflectional pattern, whereas the corresponding postnominal one bears strong inflection, therefore violating the semantic principles of distribution of adjectival inflection:

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- (14) *mîn* *liob-o* *sun* = (7)
 my.M.NOM.SG dear-M.NOM.SG.WK son.M.NOM.SG
 ‘my dear son’ (T 14.5, cit. in Demske 2001: 67, ex. (39a))
- (15) *min* *sun* *leob-ar*
 my.M.NOM.SG son.M.NOM.SG dear-M.NOM.SG.STR
 ‘my dear son’ (T 91.3, cit. in Demske 2001: 67, ex. (46a))

This explanation, however, fails to account for examples involving prenominal strong adjectives in definite environments, as those cited in the philological literature (see Wilmanns 1909: 750; Behaghel 1923: 185; Heinrichs 1954: 68–69; Dal 2014: 68–70; Braune 2018: 298). A representative example is given in (16). Note that the adjective modifies a noun with unique reference (*sunna* ‘the sun’), a representative of the semantic type of definiteness.

- (16) *thiu* *éwinig-u* *súnna*
 DEF.F.NOM.SG eternal-F.NOM.SG.STR sun.F.NOM.SG
 ‘the eternal sun’ (O IV.35.43, cit. in Heinrichs 1954: 69)

Additional evidence challenging the semantic principle of distribution of adjectival inflection comes from variation in multiple modification. The examples cited in (17)–(19) and found by way of corpus search show that adjectives varying regarding their inflectional features may alternate within one and the same DP, i.e. following the same semantic type of determiner. Note that this alternation equally applies to adjectives appearing both before (17) and after (18) the head noun. The variation increases if we take into account cases of possessive adjectives following a definite determiner, see (19).^{12 13}

- (17) *thin-an* *uuar-an* *einag-un* *sun*
 your-M.ACC.SG true-M.ACC.SG.STR only-M.ACC.SG.WK son.M.ACC.SG
 ‘your true and single son’ (MH_Murb.H.XXVI (edition 66–76))

¹²One might assume that the weak inflection of *einag* ‘single’ in (17) results from analogy with the numeral *ein*, which displays the weak pattern exclusively if used in the meaning ‘single, alone’ (Braune 2018: 322). But note that this does not apply to the derivational forms *einag*, *einig* or *einig* (see Braune 2018: 347).

¹³I follow ReA 1.1 in interpreting the forms *libhafte* and *redohafte* in (18) as inflected, displaying the weak ending of adjectives sharing the paradigm of *jung* ‘young’ (see Braune 2018: 305 on adjectives derived by the suffix-like element *-haft(ig)* in OHG), contra Klein (2007), who lists this example as one involving zero inflected adjectives, see the appendix sec. A 3.1.1. in Klein (2007: 217).

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- (18) Ter mennisco ist ein ding libhaft-e,
 DEF human is INDEF.N.NOM.SG thing.N.NOM.SG vivid-N.NOM.SG.WK
 redohaft-e, totig lachenn-es
 reasonable-N.NOM.SG.WK mortal.N.NOM.SG.Ø laughing-N.GEN.SG
 mahtig
 capable.N.NOM.SG.Ø
 ‘The human being is something vivid, reasonable, mortal, capable of
 laughing.’ (DD_DeDefinitione (edition 168–180))
- (19) th-az mín-az heil-a múat
 DEM-N.NOM.SG my-N.NOM.SG joyful-N.NOM.SG.WK temper.N.NOM.SG
 ‘this joyful temper of mine’ (O_Otfr.Ev.2.13 (edition 189–191))

Examples of this kind suggest that there are violations of the semantic principle of distribution of adjectival inflection in OHG which go beyond the ones accounted for in the previous literature. The present corpus study aims to re-examine the validity of the semantic principle of distribution of strong and weak adjectives in OHG, searching the OHG data in the *Referenzkorpus Altdeutsch* and using the functionalities of the searching platform ANNIS.

3 Corpus study

3.1 The datasets

The present study distinguishes two types of datasets, differing regarding the presence or absence of an overt determiner.¹⁴ The first one involves DPs displaying some kind of determiner, thus allowing an investigation of how the use of the various inflectional patterns depends on the semantic class of the determiner on the one hand, and on the presence of inflection on it on the other. The second

¹⁴It is controversial whether OHG displayed a system of definite and indefinite determiners comparable to the PDG one (see the most recent investigation by Flick 2020 on the rise of the definite determiner, and Petrova 2015, who argues that *ein* was determiner-like and clearly distinguishable from the numeral ‘one’), but it is well-known that different types of demonstrative and indefinite pronouns were used as markers of the semantic properties of the respective DP. In the face of the latter observation, the question is how the semantic class and the morphological properties of the accompanying adnominal pronoun influenced the type of inflection realized on the adjective. This means that, for the time being, the structural interpretation of the pronoun in terms of a representative of some class of functional element (e.g. D) heading the DP and taking an NP as its complement, will be ignored.

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dataset involves bare DPs in which the morphological features on the modifier are not influenced by any property of the determiner.

Both datasets include prenominal and postnominal modifiers as well as instances of nominalized adjectives. In addition, not only canonical adjectives are tested but also past and present participles used as modifiers of nominal heads, or in nominalization constructions. For each dataset, the frequency of inflectional patterns of modifiers is determined and related to the semantic interpretation of the DP. The results of the corpus search and the semantic analysis are presented and discussed in the subsections below. For the sake of consistency, the database is restricted to DPs involving single modification. Modification by way of two or more coordinated categories, as exemplified in (17)–(19), is left aside for further research.

3.2 DPs containing a determiner

The following semantic classes of determiners distinguished in ReA 1.1 and tagged at the level of part of speech (pos) have been considered in the present analysis: i) the indefinite determiner *ein* ‘a(n)’ tagged as DIA (indefinite determiner), as well as its negative counterpart *nihein*, *nohein*, *niheinig* etc. ‘no one’ tagged as DINEG (negative indefinite determiner); ii) the definite determiner of the series of the simple demonstrative pronoun *der* ‘the’ tagged as DDA (demonstrative determiner), and iii) the possessive pronouns of the series *min* ‘my’, etc., interpreted as possessive determiners and tagged as DPOS (possessive determiner). In addition, the class of indefinite DPs was extended to the adnominal indefinite pronouns *sum/sumalih* ‘a certain one’ used as markers of indefiniteness of the DP.

Table 1 gives an overview of the occurrences of the inflectional patterns of strong, zero and weak adjectives in DPs headed by the three types of determiners distinguished above. The figures in Table 1 show that the strong pattern, both in its zero and pronominal variant, is widely preferred in indefinite DPs (94.2%), whereas the weak pattern predominates in the remaining types of DPs, amounting to 87.7% in definite DPs and 69.4% in possessive DPs. This distribution confirms the standard opinion according to which in OHG, the type of inflection of adjectives depends on the semantic type of the determiner.

But at the same time, the figures in Table 1 suggest that there are examples violating the semantic principle of adjectival distribution. On the one hand, there is evidence for weak adjectives in indefinite contexts, which is surprising, given the previous knowledge about the distribution of this inflectional pattern in early Germanic. On the other hand, there is evidence for strong adjectives in definite

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Table 1: Strong (zero and pronominal) and weak adjectival inflection in DPs headed by an indefinite, definite, or possessive determiner in ReA 1.1 ($n = 2,196$)

Inflection type		Indefinite DPs n=120		Definite DPs n=1,834		Possessive DPs n=242	
strong	zero	59 49.2%	113 94.2%	16 0.9%	226 12.3%	13 5.4%	74 30.6%
	prono- minal	54 45.0%		210 11.4%		61 25.2%	
weak		7 5.8%		1,608 87.7%		168 69.4%	

contexts, which is as expected in the face of the previous literature, but which demands an explanation, given that the rates of the individual patterns in definite and possessive DPs differ considerably. At first glance, it seems that definite DPs are more consistent with the semantic principle of distribution of adjectival inflection in OHG than possessive DPs because the former correlate with the weak inflection more strictly than the latter ones. This observation, however, must be corroborated by looking into the effect of the presence of inflection on the possessive determiner and the linear order in the DP in both datasets, see Sections 3.2.3 and 3.2.4 below.

The following subsections will take a closer look at the patterns attested in the individual classes of DPs, focusing on those cases which contradict the semantic rule of distribution of adjectival inflection in OHG. In addition, some factors potentially explaining these inconsistencies will be addressed, such as the presence of inflection on the determiner and the positional realization of the modifier relative to the respective head noun.

3.2.1 The indefinite contexts

According to the numbers in Table 1, modifiers in DPs introduced by an indefinite determiner most often display a type of the strong inflectional pattern. But in addition, the corpus search reveals that there are cases of weak adjectives in indefinite contexts as well. Let us examine the properties of these examples in more detail.

There are seven instances of weak adjectives in indefinite DPs in the data. All share the property that they occur in DPs in the masculine or neuter singular.

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Two of the examples, given in (20a–20b), involve DPs in the masculine nominative singular, i.e., the weak adjective follows an uninflected determiner.

- (20) a. Sum iung-o folgeta imo
 a.certain.M.NOM.SG young-M.NOM.SG.WK followed him
 ‘A certain young one followed him.’ (T_Tat185 (edition 251–262))
- b. da saz ein plint-e
 there sat INDEF.N.NOM.SG blind-M.NOM.SG.WK
 ‘A blind man was sitting there.’
 (APB_PredigtsammlungB (edition 1883–1894))

The example in (20a) is ambiguous because *iungo* can be interpreted both as a noun of the masculine *n*-stems meaning ‘young man, boy’, also accounted for in standard dictionaries of OHG (e.g. Schützeichel 2012: 170)¹⁵ and a nominalized variant of the adjective *jung* ‘young’. In ReA, *iungo* is tagged three times as a noun and once as an adjective, namely in the example in (20a), but it is very likely that (20a) involves the noun *iungo*. In (20b), however, the form is unambiguous because the lemma *blind* is attested only as an adjective in the dictionaries, and never as a noun as well, differently from *iungo*. The nominalization of this adjective results in a pattern that is exceptional not only because it contradicts the semantic principle of distribution of adjectival inflection, but also because it is also incompatible within the morphologically driven one in PDG. Note that in PDG, weak adjectives following an uninflected indefinite determiner are ungrammatical.¹⁶ At the same time, the figures represented in Klein (2007: 202) suggest that this pattern is not exceptional in the historical stages of German, as some additional instances of weak adjectives following uninflected *ein* can be found in Upper and Central German texts of the Middle High German period.

Consider that the property unifying the examples in (20a)–(20b) is the individualizing function of the DPs involved, i.e., both cases involve secondary formations which describe an individual as distinguishable by virtue of the property expressed by the base word. Recall that word formations of this type share the inflectional behaviour of the nouns of the *n*-stems, and that it is assumed that the weak adjectival paradigm evolved out of nominalizations of this type, displaying definiteness as its inherent property. Note, however, that while the two examples fit perfectly well into the nominalization pattern, they are overtly indefinite,

¹⁵See also the entry for *jungo* in the online version of the OHG dictionary: http://awb.saw-leipzig.de/cgi/WBNetz/wbgui_py?sige=AWB&lemma=jungo, visited on May 7th, 2022.

¹⁶The respective form would be *ein *Blind-e* ‘a blind man’ instead of *ein Blind-er*, requiring the strong inflection on the nominalized adjective.

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suggesting that the respective word formation pattern was not restricted to DPs which were inherently definite.

In the remaining five instances, the weak adjective follows an inflected indefinite determiner. In four of these, the DP is in the masculine accusative singular, as shown in (21a), and in one it is in the neuter dative singular, see (21b).

- (21) a. *Án dero uuínsterun trûog er éin-en rôð-en*
 on DEF right wore he INDEF-M.ACC.SG red-M.ACC.SG.WK
 skílt
 buckler.M.ACC.SG
 ‘He wore a red buckler on his right arm.’
 (N_Mart_Cap.I.64-72 (edition 1805–1816))
- b. *ûfen éin-emo blánc-en rôss-e*
 on INDEF-N.DAT.SG white-N.DAT.SG.WK horse-N.DAT.SG
 ‘on a white horse’ (N_DeCon_II_63–66 (edition 508–519))

All examples are found in texts of the late OHG writer Notker. The corpus search reveals that in Notker’s writings, *-en* is the default inflectional ending of adjectives in the accusative singular masculine, appearing in 202 of the total of 207 instances of this form.¹⁷ Very probably, this ending results from formal overlapping of the original strong ending *-an* and the weak one *-un/-in*¹⁸ in the course of phonological reduction of vowels in unaccented syllables to *schwa*, taking place toward the end of the OHG period and leading to the loss of formal distinctions in large parts of the inflectional system of the language. Consequently, the forms of the masculine accusative singular ending in *-en* are ambiguous, and we cannot tell whether the adjectival inflection is strong or weak in the respective examples. But in the case of the neuter dative singular in (21b), we observe a weak form ending in *-en* that is sufficiently distinguishable from the strong one ending in *-em(o)*, still present in texts by Notker. This means that by virtue of this example, we find conclusive evidence suggesting that the weak paradigm of adjectives starts to spread after inflected indefinite determiners in the late OHG

¹⁷See also Klein’s (2007: 291) remark on forms of the accusative singular masculine in Notker’s work: “Bei Notker sind starke und schwache Flexion nicht mehr unterscheidbar” (= ‘Strong and weak inflection is undistinguishable in work by Notker’). Unfortunately, the annotation in the corpus is inconclusive, tagging 57 of these cases as weak and 145 cases as strong. Needless to say, all hit lists that the corpus produced were checked manually while compiling the data and statistics of this chapter.

¹⁸In the texts written by Notker and included in ReA, the adjectival ending *-un* in the masculine accusative singular occurs once, annotated as weak, and the ending *-in* is found four times, all annotated as strong.

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period. However, strong and weak forms after inflected indefinite determiners continue to compete for centuries. Demske (2001) shows that this variation is present as late as during the Early New High German period. According to Sahel (2022), multiple inflection is still present until the 18th century.

3.2.2 The definite and possessive environments

The numbers in Table 1 show that weak adjectives represent the most common category in DPs headed by a definite and a possessive determiner. However, at the same time, strong adjectives, both pronominal and zero ones, are also possible in these two classes of DPs. In addition, the figures reveal significant differences regarding the frequency of strong and weak adjectives in definite and possessive DPs. This raises the question of whether the semantic class of the determiner is the single factor determining the distribution of inflectional patterns in these domains.

Let us start with the interpretation of zero-inflected adjectives in definite and possessive DPs. In both types of DPs, zero inflected adjectives constitute the most infrequent option. But there are quantitative and qualitative differences regarding the presence of zero-inflected adjectives in definite and possessive contexts. First, with a frequency of 0.9%, zero-inflected adjectives are practically non-existent in definite DPs, while their frequency in possessive DPs is higher, amounting to 5.4%. Second, there is a difference regarding the lexical inventory of adjectives displaying zero-inflection in these two groups of DPs. In definite DPs, seven of the total of 16 occurrences are cases of the adjective *frono* ‘divine, kingly’, which is indeclinable (see Braune 2018: 285 with references). An example is provided in (22a). In the remaining cases, the adjectives are declinable. But they display uninflected forms in poetic texts, probably due to metrical considerations or where they are used in rhyme position, as the examples in (22b)–(22c) suggest.¹⁹

¹⁹The adjective *sconi* ‘beautiful, good’ in (22b), and also the majority of declinable zero-inflected adjectives in definite DPs, is a representative of the class of adjectives of the *ja-/jo*-stem. The uninflected form ends in *-i*, see Braune (2018: 289). The respective weak form ends in *-o* in the masculine nominative singular as well as *-a* in the feminine nominative singular and the neuter nominative and accusative. An example is given in (i).

- (i) *th-az* *scon-a* *séltsani*
 DEF-N.ACC.SG good-N.ACC.SG.WK wonder.N.ACC.SG
 ‘the good wonder’ (O_Otr.Ev.1.9 (edition 350–361))

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- (22) a. d-es fraono capet-es
 DEF-N.GEN.SG divine.N.GEN.SG.Ø prayer-N.GEN.SG
 ‘of the Lord’s prayer’ (E_Exhortatio (edition 129–139))
- b. ni was imo ánwani th-az árunti
 NEG was him believable DEF-N.NOM.SG message.N.NOM.SG
 sconi
 good.N.NOM.SG.Ø
 ‘he did not trust the good news’ (O_Otfr.Ev.1.4 (edition 404–416))
- c. Zéinot ouh thio dáti th-az púrpurin
 denotes also DEM acts DEF-N.NOM.SG crimson.N.NOM.SG.Ø
 giwáti
 cloak.N.NOM.SG
 ‘The crimson cloak also denotes these acts.’
 (O_Otfr.Ev.4.25 (edition 89–100))

In possessive DPs, in contrast, none of the zero-inflected adjectives are indeclinable, and the pattern is well-attested in prose as well, see (23a)–(23b). This suggests that there must be independent reasons responsible for the higher percentage of zero-inflected adjectives in possessive DPs, rooted in the morphological form of the determiner, or in the fact that possessive determiners do not assign the same kind of definite interpretation to the DP as definite determiners do.

- (23) a. únsēr héilig sáng ze_lóbenn-e
 our.N.ACC.SG holy.N.ACC.SG.Ø song.N.ACC.SG to-praise-INF.DAT.SG
 ‘to praise our holy song’ (N_Mart_Cap.II.106-110_J (edition 932–943))
- b. Dîn guôt uuillo . ist uns skérm
 your.M.NOM.SG good-M.NOM.SG.Ø will.M.NOM.SG is us shelter
 ‘Your good will is our shelter.’ (N_Ps_5_16–19 (edition 789–800))

Let us turn to the instances of the pronominal variant of strong adjectives in definite contexts. In the introduction, it was outlined that such examples are cited in the literature (see Behaghel 1923: 185–188) and that they occur in Germanic as a whole. Note that the explanations put forward in the literature fail to explain the presence of these patterns in the data. First, recall Klein’s (2007: 200) observation that the replacement of the weak inflection by the strong one in some parts of the paradigm, taking place in Central German dialects, is already present in the late phase of OHG. But this consideration cannot account for the presence

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of strong adjectives in definite contexts in the cases under investigation, because the examples are found outside the Central German dialectal area. Second, the previous literature has ascribed the use of strong adjectives in definite environments to Otfrid's *Gospel Book* (see Braune 2018: 298). But this argument must be rejected as well, because the corpus search reveals that the respective instances are attested in virtually all texts included in ReA. This suggests that the strong inflectional pattern is compatible with definite determiners throughout the OHG attestation.²⁰ Third, according to Wilmanns (1909: 750), strong adjectives in definite environments are due to phonological resemblance of the respective endings of the weak paradigm, most obvious in the accusative singular of the masculine gender as in (24a) and (25a), where the strong ending *-an* is phonologically similar to the weak ending *-on*. But in the corpus, strong forms of adjectives are well-represented in virtually all paradigm positions. The examples in (24b) and (25b) illustrate strong forms in definite and possessive contexts in the genitive plural and the dative singular, respectively.

- (24) a. *th-en* *líob-an* *man*
 DEF-M.ACC.SG beloved-M.ACC.SG.STR man.M.ACC.SG
 'the beloved man' (O_Otfr.Ev.1.22 (edition 413–423))
- b. *thie heroston* *the-ro* *heithafte-ro* *mann-o*
 DEF first.ones DEF-M.GEN.PL serving-M.GEN.PL.STR man-M.GEN.PL
 'the first ones among the priests' (T_Tat124 (edition 253–264))
- (25) a. *thuruh* *sin-an* *éineg-an* *sun*
 through his-M.ACC.SG single-M.ACC.SG.STR son.M.ACC.SG
 'through his only son' (O_Otfr.Ev.2.1 (edition 385–396))

²⁰It might be assumed that a factor favouring the occurrence of strong adjectives in definite DPs in Otfrid's *Gospel Book* is the rhyming structure of this poem, as shown in the example in (i). Here, the strong adjective *guater* at the end of the first half-line rhymes with the noun *múater* in the end of the second half-line:

- (i) *Tho fuar ther* *sún* *guat-er* // *thar* *ínan* *zoh sin*
 then went DEF-M.NOM.SG son-M.NOM.SG good-M.NOM.SG.STR where him led his
múater
 mother
 'Then the good son followed his mother everywhere.' (O_Otfr.Ev.2.11 (edition 5–17))

However, note that the frequency of prenominal and postnominal strong adjectives in definite DPs in Otfrid's *Gospel Book* is 31 and 17, respectively; i.e., the pattern is not strictly attributed to postnominal occurrences of adjectives in rhyming positions.

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- b. fona sine-**mu** uuihe-**mu** liham-in
 from his-N.DAT.SG holy-N.DAT.SG.STR body-N.DAT.SG
 ‘from his holy body’ (MH_Murb.H.XVII (edition 12–22))

Finally, Braune (2018: 289, Anm. 1) suggests that there is a difference in the interpretation of strong and weak forms of adjectives in definite contexts, in that the strong ones refer to a temporary property of the object or individual denoted by the DP, whereas the weak ones apply to a permanent property. This opinion cannot be maintained in the face of examples like (24a) referring to Mary’s persistent love of her son Jesus, or (25a) referring to a permanent property (namely that Jesus is the only son of God, see also the argumentation in Wilmanns 1909: 750–751).

Importantly, the strong inflection of adjectives occurs in overtly definite environments representing various subtypes of semantic definiteness. It is attested in DPs expressing uniqueness such as (26a) referring to doomsday (see also (16) referring to the sun), or in DPs referring to common knowledge, e.g. the old laws in (26b) or the names of customs and feasts in (26c).

- (26) a. an de-**mo** giunstie-**mo** tag-a
 on DEF-M.DAT.SG youngest-SUPL.M.DAT.SG.STR day-M.DAT.SG
 ‘at doomsday’ (KB_KlosterneuburgerGebet (edition 48–58))
 b. in th-**en** ált-**en** éw-on
 in DEF-F.DAT.PL old-F.DAT.PL.STR law-F.DAT.PL
 ‘in the old laws’ (O_Otfr.Ev.1.20 (edition 238–249))
 c. zi th-**en** óstrig-**en** gizít-in
 to DEF-F.DAT.PL Easter-F.DAT.PL.STR holiday-F.DAT.PL
 ‘to the Easter holidays’ (O_Otfr.Ev.2.11 (edition 611–621))

This is similar in the possessive environments. Strong adjectives may occur in DPs denoting entities which are inferable in the context, as the dead body of Jesus in (27a), or the uniqueness of the son of God, see (27b). Note that zero-inflected adjectives may also denote unique referents, see (27c).

- (27) a. fona sine-**mu** uuihe-**mu** liham-in
 from his-N.DAT.SG holy-N.DAT.SG.STR body-N.DAT.SG
 ‘from his holy body’ (MH_Murb.H.XVII (edition 12–22))
 b. thuruh sin-**an** éineg-**an** sun
 through his-M.ACC.SG single-M.ACC.SG.STR son-M.ACC.SG
 ‘through his only son’ (O_Otfr.Ev.2.1 (edition 385–396))

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- c. Ich geloube an sin-**in** aininborn sun
 I believe in his-M.ACC.SG only-begotten.M.ACC.SG.Ø son.M.ACC.SG
 ‘I believe in his only-begotten son.’
 (GGB3_SangallerGlaubenBeichteIII (edition 29–40))

This data suggests that the definite interpretation of the DP does not categorically trigger weak inflection on the adjective.

In addition, the question regarding the differences in the frequencies of strong, zero and weak adjectives in definite and possessive DPs remains unresolved. In Sections 3.2.3 and 3.2.4, two potential factors explaining this difference will be addressed, namely the morphological form of the determiner on the one hand, and the positional realization of the modifier relative to the head noun on the other.

3.2.3 The role of determiner inflection

Demske (2001) treats possessive determiners on a par with definite ones, arguing that they trigger weak inflection on adjectives included in such DPs. Table 1 reveals a frequency of 69.4% weak adjectives in DPs headed by a possessive determiner, which is the most frequent pattern in this class of DPs, but nevertheless lower than the frequency of weak adjectives in definite DPs, which is 87.7%.

Recall that in PDG, uninflected determiners require strong adjectival inflection, while inflected ones require weak inflection (Section 2.1). In OHG, the paradigm of the possessive determiner also displays uninflected forms, as does the paradigm of the indefinite determiner. By contrast, the definite determiner displays morphologically distinctive forms in its entire paradigm. Therefore, it might be suggested that the higher rate of pronominal and zero-inflected adjectives in possessive DPs is due to the lack of inflection on the determiner, similarly to the situation in PDG. If this is true, the conclusion would be that at least within the class of possessive DPs, the morphological principle holding for PDG must have applied in OHG as well.

In order to investigate the relation between the lack of inflection on the determiner and the choice of the strong inflection on the adjective, possessive DPs will be compared with indefinite DPs, as they also display uninflected determiner forms.

Let us look at the distribution of adjectival inflection in indefinite contexts first. In OHG, bare forms of the indefinite determiner *ein*, its negative variant *nihein* and the markers of indefiniteness *sum* and *sumalih* are present in the nominative

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singular of all genders, including the feminine, and the accusative singular of the neuter gender.

Table 2 summarizes the occurrences of the strong (both zero and pronominal) and weak inflection in indefinite DPs, depending on the presence of inflection on the determiner.

Table 2: Strong (zero and pronominal) and weak adjectives in DPs headed by an uninflected or inflected indefinite determiner in ReA 1.1

	<i>n</i>	strong			weak
		zero	pronominal		
Uninflected indef. determiner	71	56 (94.9%)	13 (24.1%)	2 (28.6%)	
Inflected indef. determiner	49	3 (5.1%)	41 (76.9%)	5 (71.4%)	
Total	120	59 (100.0%)	54 (100.0%)	7 (100.0%)	

We will abstract away from the figures gained for weak adjectives in indefinite DPs because of the low number of instances and the special conditions under which they apply (see Section 3.2). If we look at the distribution of the remaining inflectional patterns, the figures in Table 2 suggest that there is a strong tendency for zero-inflected adjectives to occur with DPs headed by a bare indefinite determiner (94.9%), a fact that has also been noticed in the previous literature (see Klein 2007: 205). An example is presented in (28a). The exceptional pattern involving a zero-adjective after an inflected determiner is given in (28b) and only involves forms of the inflected indefinite marker *sum* ‘a certain’. In contrast, the pronominal variant of the strong adjectival declension is not as strictly linked to any form of the determiner. It is more frequently attested after an inflected indefinite determiner (76.9%), as in (29a), but it is also common in indefinite DPs displaying a bare determiner (24.1%), see (29b), especially in work by Notker, as also observed by Klein (2007: 205).

- (28) a. Chám óuh éin hálz smíd
 came also INDEF.M.NOM.SG lame.M.NOM.SG.Ø blacksmith.M.NOM.SG
 ‘Also, a lame blacksmith arrived.’
 (N_Mart_Cap.I.75–79_J (edition 408–419))
- b. Súm-ez réht zímilîh
 a.certain-N.NOM.SG proper.thing.N.NOM.SG approved
 ‘A certain proper thing is approved.’ (N_Syl_8 (edition 238–249))
 (Lat. Quoddam iustum honestum)

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- (29) a. in éin-ero chûrz-ero uuîl-o
 in INDEF-F.DAT.SG short-F.DAT.SG.STR while-F.DAT.SG
 ‘within a short period of time’
 (N_DeCon_II_45–48 (edition 1042–1053))
- b. éin fâleuu-er stéin
 INDEF.M.NOM.SG yellow-M.NOM.SG.STR stone.M.NOM.SG
 ‘a yellow stone’ (N_Mart_Cap.I.64–72 (edition 290–301))

Let us compare this picture to the one gained for DPs headed by a possessive determiner. In OHG, the paradigm of the possessive determiner displays bare forms in the nominative singular and plural of the first and second person of all genders (*min* ‘my’, *din* ‘your’, *unser* ‘our’ and *iuwer* ‘your’), as well as in the nominative singular masculine and the nominative and accusative singular neuter of the third person (*sin* ‘his’). In the previous literature, it has been argued that the uninflected forms of the possessive determiners trigger weak inflection on the adjective, just like definite determiners. But the corpus data shows that next to weak forms as in (30a), both variants of the strong pattern may occur after an uninflected possessive determiner, see (30b)–(30c). The same applies to DPs involving an inflected possessive determiner. Next to the weak form as shown in (30a), we find both zero and pronominal forms of the strong inflection, see (31b)–(31c).

- (30) a. únser liob-o drúhtin
 our.M.NOM.SG beloved-M.NOM.SG.WK God.M.NOM.SG
 ‘our beloved Lord’ (O_Otfr.Ev.3.21 (edition 7–18))
- b. hábe in geuuónehéite . únser héilig sâng
 have.IMP.2SG in custom our holy-N.ACC.SG.Ø song.N.ACC.SG
 ze_lóbenn-e
 to-praise-INF.DAT.SG
 ‘be accustomed to praising our holy song’
 (N_Mart_Cap.II.106–110_J (edition 932–943))
 (Lat. *suesce probaresacros cantus*)
- c. químit uns thiz gúat in unser ármilich-az
 comes us DEM goodness in our.N.ACC.SG poor-N.ACC.SG.STR
 múat
 mind.N.ACC.SG
 ‘This goodness will enter our poor mind.’
 (O_Otfr.Ev.3.3 (edition 18–29))

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Table 3: Strong (zero and pronominal) and weak adjectives in DPs headed by an uninflected or inflected possessive determiner in ReA 1.1

	<i>n</i>	strong		weak
		zero	pronominal	
Uninflected possessive determiner	41	12 (92.3%)	10 (16.4%)	19 (11.3%)
Inflected possessive determiner	201	1 (7.7%)	51 (83.6%)	149 (88.7%)
Total	242	13 (100.0%)	61 (100.0%)	168 (100.0%)

- (31) a. mít sîne-**mo** scôn-**en** suért-e
with his-M.DAT.SG beautiful-M.DAT.SG.WK sword-M.DAT.SG
‘with his beautiful sword’ (N_Mart_Cap.I.85–89_J (edition 314–326))
- b. Ich geloube an sin-**in** aininborn sun
I believe in his-M.ACC.SG only-begotten.M.ACC.SG.Ø son.M.ACC.SG
‘I believe in his only-begotten son.’
(GGB3_SangallerGlaubenBeichteIII (edition 29–40))
- c. fona sine-**mu** uuihe-**mu** liham-in
from his-N.DAT.SG holy-N.DAT.SG.STR body-N.DAT.SG
‘by his holy body’ (MH_Murb.H.XVII (edition 9–21))

The quantitative distribution of the various inflectional patterns of adjectives in DPs introduced by uninflected and inflected possessive determiners is shown in Table 3.

The numbers in Table 3 show that, similarly to the indefinite contexts, zero-inflected adjectives display a strong preference for DPs headed by an uninflected possessive determiner, applying in 12 out of 13 attested cases (92.3%). In contrast, the pronominal variant is less restricted with respect to the morphological form of the determiner. It is more common after an inflected determiner (83.6%) but is also present after an uninflected one (16.4%). Surprisingly, a similar frequency applies for weak adjectives in possessive DPs. The weak variant is much more common after an inflected possessive determiner (88.7%) than after a bare one (11.3%). Taking the two variants of the strong pattern together and performing a standard chi-square test reveals a statistically significant relation between the presence of inflection on the possessive determiner and the selection of the inflectional pattern on the adjective, see Table 4.

Given these figures, it can be concluded that in the domain of possessive DPs, the choice of the weak inflection is favoured by the presence of overt morphological features on the determiner. This, in turn, suggests that in the domain of

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Table 4: The presence of inflection on the possessive determiner as a factor influencing strong or weak adjective inflection. $\chi^2(1, n = 242) = 12.387$, $p = 0.000432$, significant at $p < 0.01$.

	strong ^a	weak	n
Uninflected possessive determiner	22	19	41
Inflected possessive determiner	52	149	201
Total	74	168	242

^aZero and pronominal

possessive DPs, the association of the weak declensional pattern with the overt realization of morphological features on the determiner that is constitutive of the morphological principle of distribution of adjectival inflection in PDG already starts to evolve.

3.2.4 The role of the linear order in the DP

Recall that Demske (2001) observes that prenominal adjectives are more faithful to the semantic principle of distribution of adjectival inflection than postnominal ones are (see (14) vs. (15) in Section 2.2). Therefore, the positional realization of the modifier relative to the head noun will be examined as a potential factor determining the variability in the frequency of inflectional patterns in various types of DPs in the data.

Table 5 provides the absolute number of prenominal and postnominal modifiers of the various inflectional types in indefinite, definite and possessive DPs in ReA.²¹ In addition, it provides the frequency of postnominal modifiers (as opposed to prenominal ones) of the respective inflectional class of the adjective for each class of DPs included in the dataset.

The figures for indefinite DPs are not very reliable because after leaving aside the cases of nominalization, the number of weak adjectives is very low, amounting to only five examples in total in adnominal use. None of the weak adjectives in indefinite contexts appear in postnominal position.

With the remaining types of DPs, the figures are more telling. In definite and possessive DPs, the frequency of weak adjectives in postnominal position is almost equally low, amounting to 2.9% and 4.3%, respectively. At the same time,

²¹The numbers for nominalized adjectives in each type of DP are excluded because the property of the linear order relative to a head noun does not apply in these cases.

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Table 5: Frequency of strong (zero and pronominal) and weak adjectives in postnominal position in indefinite, definite and possessive DPs in ReA 1.1

Inflection type		Indefinite DPs		Definite DPs		Possessive DPs	
		A-N	N-A	A-N	N-A	A-N	N-A
strong	zero	26	2 (7.1%)	9	7 (43.7%)	10	3 (23.1%)
	pron.	35	15 (30.0%)	85	35 (28.9%)	30	21 (41.2%)
weak		5	0 (0.0%)	1.000	30 (2.9%)	112	5 (4.3%)

in definite and possessive DPs, the frequency of strong adjectives, both zero-inflected and pronominal ones, increases whenever the adjective is postnominal. In other words, as already observed by Demske (2001), the strong pattern of adjectives is more likely to occur in postnominal position in definite and possessive DPs if it follows the head noun.

3.2.5 Interim conclusion

The corpus search revealed that the previously assumed correlation between the type of adjectival inflection and the semantic class of the determiner is only partly confirmed by the data. Crucially, there is variability in the distribution of the various inflectional patterns in each type of DP, suggesting that the semantic principle of distribution is subject to violations.

On the one hand, there are sporadic instances of weak adjectives in indefinite contexts. In the nominalization construction, these adjectives are used to introduce novel referents to the discourse; i.e., the semantics of the weak declension cannot be regarded as inherently definite. In addition, we find early instances of weak adjectives following inflected indefinite determiners, suggesting that the modern German pattern of monoinflection starts to spread already in this period.

On the other hand, strong adjectives, both zero-inflected and pronominal ones, are attested in definite and possessive DPs alike. This result is explainable as a continuation of the original Germanic situation in which the strong pattern is neutral with respect to the semantic interpretation of the DP. At the same time, there are differences in the rates of the various inflectional patterns of adjectives in definite and possessive DPs, although they are both considered as definite.

Two factors explaining these differences were tested. The first one was the morphological distinctiveness of the determiner. Definite DPs displaying determiners that are sufficiently distinguishable regarding case, number and gender

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in the entire paradigm also display the highest rate of weak adjectives. Also, in possessive DPs, which display both bare and inflected determiners, the lack of inflection on the determiner results in higher rates of strong adjectives in the dataset, while the presence of inflection on the possessive determiner correlates with the choice of the weak inflection in a statistically significant way. This suggests that properties constitutive of the morphological principle of distribution of adjectival inflection governing the situation in PDG start to emerge already in the system of OHG.

The second factor was the positional realization of the adjective relative to the head noun. Weak adjectives are not attested in postnominal position in indefinite contexts, and appear in definite and possessive DPs in very low rates. At the same time, the frequency of strong adjectives in definite and possessive DPs increases when the adjective follows the head noun. This suggests that the weak inflection is strongly associated with the prenominal position of the modifier in these types of DPs, while the strong one is present on adjectives in both positions.

3.3 Distribution of adjectival inflection in bare DPs

This section investigates the principles underlying the distribution of adjectival inflection in bare DPs containing modifying or nominalized adjectives (the latter referred to by A_{NOM} in the tables). Both attributive adjectives and participles are considered, as well as the same categories used as heads of NPs in nominalizations.

Table 6 represents the quantitative distribution of inflectional patterns of adjectives in bare DPs found in ReA 1.1. The figures in Table 6 show that in the absence of a determiner, the strong pattern represents the predominant option, found at an average frequency of 87.0% in the entire sample, ranging between 77.5% and 93.8% in the individual types of DPs. This is in sharp contrast to the distribution of the strong pattern in DPs involving some class of determiner and analyzed in Section 3.2 (see Table 1 in Section 3.2), where the strong pattern was infrequent as a whole (18.8%) but highly frequent in one class of DPs, namely those introduced by an indefinite determiner (94.2%). Consider also that the high percentage of strong adjectives clearly goes back to the pronominal inflection which dominates in all types of bare DPs, while the zero one is underrepresented, obtaining its highest score in those cases in which the adjective is postnominal.

At the same time, weak adjectives in bare DPs are infrequent as a whole (13.0%) as well as across the individual types of DPs (between 6.2% and 22.4%). This is in contrast to their distribution in DPs containing a determiner (see Table 1 in Section 3.2), where they were found in 81.2% in the entire sample, with a strong

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Table 6: Strong (zero and pronominal) and weak adjectival inflection in bare DPs in ReA 1.1

Infl. pattern		A–N n=1,934		N–A n=437		A _{NOM} n=1,136		All n=3,507	
str.	zero	232 12.0%	1,814	64 14.6%	356	21 1.8%	881	317 9.0%	3,051
	pron.	1,582 81.8%	93.8%	292 66.8%	81.5%	860 75.7%	77.5%	2,734 78.0%	87.0%
weak		120 6.2%		81 18.5%		255 22.4%		456 13.0%	

preference for DPs introduced by a definite or possessive determiner (87.7% and 69.4% respectively).

These quantitative aspects of the distribution of adjectival inflection in bare DPs suggest that in the absence of a determiner, the adjective hosts the information specifying the morphosyntactic features of the entire DP. Note that the most frequently attested pattern, the pronominal type of the strong inflection, is the most distinctive one on formal grounds. This is compatible with the morphologically driven system of distribution of adjectival inflection as it applies to PDG.

Let us consider the qualitative distribution of the inflectional patterns of adjectives in bare DPs attested in the corpus. According to the previous literature, the weak pattern is associated with the definiteness of the DP already prior to the establishment of the definite determiner, as exemplified by weak adjectives as part of proper names in Germanic (Delbrück 1909: 191–196), e.g. in compound formations with an initial adjectival element like *Lutzilindorf*, etc. (Braune 2018: 310²², see also Kögel 1889), or formulaic expressions referring to God, e.g. *druhtîn nerrend-o Christ* ‘Lord, the saving Christ’ (Is. 17, 15, 11, cit. in Wilmanns 1909: 748). In addition, the domain of weak adjectives in bare DPs is associated with vocatives and DPs denoting situationally inferable or unique referents, including superlatives (Demske 2001, see also Section 2.2).

The results of the corpus search reveal, however, that the distribution of inflectional patterns of adjectives in bare DPs in OHG cannot be explained on the basis of the semantic principle only. Examples explainable along the lines of the

²²But see also compound names of places like *Altheim*, etc., referred to in Braune (2018: 299), in which the adjectival component bears zero inflection.

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semantic principle are found sporadically in the corpus, as e.g. the minimal pair in (32). Here, the adjective *tôter* ‘a dead one’ introducing a novel entity bears strong inflection, while on its second mentioning, when it resumes a notion already activated in the context, the same adjective bears weak inflection, namely *tôto*.

- (32) ámoso *tôt-er* [...] . daz chit . also *tôt-o*
 like dead-M.NOM.SG.STR DEM says like dead-M.NOM.SG.WK
bestôzener . unde ioh uzer hêrzen
 banished and also without heart
 ‘like some dead one, this means, like the dead one [who is] banished and
 heartless’ (N_Ps_30_93 (edition 107–117))

However, as a whole, we discover variation between strong and weak adjectives in various domains considered inherently definite in previous research.

Consider adjectives in DPs used as appositions to proper names. As the examples in (33)–(34) suggest, both weak and strong adjectives may occur in these domains:

- (33) umbi *christ-an* himilisch-*un* druhtin
 about Christ-M.ACC.SG heavenly-M.ACC.SG.WK God-M.ACC.SG
 ‘about Christ, the heavenly Lord’ (I_DeFide_7 (edition 38–50))
 (Lat. *christum deum celi*)
- (34) fona Mari-*un* macad-*i* euuik-*eru*
 from Mary-F.DAT.SG virgin-F.DAT.SG eternal-F.DAT.SG.STR
 ‘by Mary, the eternal virgin’ (GC_SangalerCredo (edition 32–44))

The same alternation applies in DPs acting as proper names; i.e., in those displaying the property of monoreferentiality or direct referentiality characteristic of proper names as rigid designators in the sense of Kripke (1980), see Nübling et al. (2015: 29). In DPs referring to God, Jesus or the Holy Spirit, both weak and strong adjectives appear, see (35) versus (36a)–(36b). Note that in (36b), the nominalized strong adjective in the prepositional phrase *in uuihêmu* refers to Christ, translating the proper name contained in the prepositional phrase *in Christo* in the Latin original.

- (35) suueri bi himilisch-*in* got-*e*
 swear.IMP.2SG by heavenly-M.DAT.SG.WK God-M.DAT.SG
 ‘Swear by the heavenly God.’ (I_DeFide_7 (edition 27–39))

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- (36) a. Ther infanganer ist fona heileg-**emo** geist-e
 who created is from holy-M.DAT.SG.STR ghost-M.DAT.SG
 ‘who is created by the Holy Ghost’
 (WK_Weissenburger_Katechismus (edition 546–558))
- b. alle in uuihe-**mu** ein piru-mes
 all in holy-M/N.DAT.SG.STR one be-1PRES.IND.PL
 ‘we are all united in the name of Christ’ (B_2 (edition 414–424))
 (Lat. omnes in Christo unum sumus)

Furthermore, weak and strong adjectives alternate in DPs denoting situationally inferable entities or generally accessible notions. In (37), a weak adjective appears in a DP referring to a situationally accessible entity, the lectures of the holy text during church mass. In (38), a strong and a weak adjective alternate in the same semantic context. In (39a)–(39d), strong adjectives appear in DPs referring to well-known entities of Christian life and belief, such as the Scriptures, eternal life, the Jewish people, Passover, or the protagonists of the parable of the ten virgins going to meet their bridegrooms (Matthew 25:1–5), which are familiar to the assumed audience.

- (37) danna uurdun gilesan heileg-**o** lection in dero
 when were read holy-F.NOM.PL.STR lecture.F.NOM.PL in DEF
 chiriun
 church
 ‘when the holy texts were read aloud in church’
 (WB_Wzb.Beichte (edition 134–146))
- (38) heilag-**a** messa enti heilag-**on** uuizzod
 holy-F.ACC.SG.STR mass.F.ACC.SG and holy-M.ACC.SG.WK supper.M.ACC.SG
 nierita
 NEG.respected
 ‘[I confess that I] failed to respect the holy mass and the holy supper.’
 (FB_Fuldaer_Beichte (edition 137–149))
- (39) a. minneont eouuesant-**an** lip
 love.3PL.PRES.SBJV eternal-M.ACC.SG.STR life.M.ACC.SG
 ‘[They should] love the eternal life.’ (MF_5_FH.XLI (edition 163–175))
- b. ist kúning er githiuto júdisg-**ero** líut-**o**
 is king he obviously Jewish-M.GEN.PL.STR people-M.GEN.PL
 ‘he is obviously the king of the Jewish people’
 (O_Otfr.Ev.4.27 (edition 273–285))

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Table 7: Distribution of strong (zero and pronominal) and weak inflection of adjectives in vocative DPs in ReA 1.1

Inflectional pattern		A–N n=59		N–A n=34		A _{NOM} n=20		All n=113	
str.	zero pronominal	22 9	31	7 9	16	0 11	11	27 29	58
weak		28 (47.4%)		18 (52.9%)		9 (45.0%)		55 (48.7%)	

- c. fuorun sine eldiron giïaro in Hierusalem in itmal-**emo**
went his parents every.year to Jerusalem in festive-M.DAT.SG.STR
tag-e ôstr-ono
day-M.DAT.SG Passover-F.GEN.PL
‘His parents went every year to Jerusalem to spend the festive period
of Passover.’ (T_Tat12 (edition 19–31))
- d. louffant uuih-**o** magadi [...] tragante heitariu
go holy-F.NOM.PL.STR virgin.F.NOM.PL carrying bright
liotfaz tulisc-**o** auur pilibant
lamps foolish-F.NOM.PL.STR however stay.back
‘The holy virgins go forth [to meet their bridegrooms], while the
foolish ones stay behind.’ (MH_Murb.H.I (edition 112–123))

Finally, strong adjectives can also be found in vocatives, see (40):

- (40) du hoh-**er** truhtin
you supreme-M.NOM.SG.STR God.M.NOM.SG
‘you, supreme Lord’ (MH_Murb.H.XIV (edition 34–44))

To illustrate the variation of strong and weak adjectives in one and the same semantic domain, I provide the respective figures for bare DPs in vocatives. Table 7 gives the absolute numbers of pronominal, zero and weak patterns of adjectives in vocative bare DPs, including the frequency of the weak pattern. The numbers are provided individually for pronominal and postnominal modifiers as well as for nominalized adjectives.

The figures in table 7 show that the proportion of weak adjectives in vocative DPs is around half of the instances per dataset, with a slightly higher frequency of weak adjectives than strong ones in postnominal position. However, the stan-

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dard statistical test shows no significant correlation between the position of the adjective and its inflectional behaviour in vocative DPs.²³

Analyzing the results of the corpus search, two domains can be identified in which the adjectives invariantly display weak inflection, without alternating with strong ones. The first one is the adverbial use of nominalized adjectives as shown in (41a)–(41b); the second one is gradation, see (42).

- (41) a. uuas giscriban in ebraisg-**on** inti in criehisg-**on**
 was written in Hebrew-N.DAT.SG.WK and in Greek-N.DAT.SG.WK
 inti in latinisg-**on**
 and in Latin-N.DAT.SG.WK
 ‘was written in Hebrew and in Greek and in Latin’
 (T_Tat204 (edition 43–54))
- b. táz in únruò-chesk-**un** únbédénchit stat
 which in disregardful-F.ACC.SG.WK neglected stays
 ‘which is neglected in a disregardful way’
 (N_Syl_14 (edition 289–299))
- (42) Sie minnont furist-a sedal [...] inti
 they love front-SUPL.N.ACC.SG.WK seat.N.ACC.SG and
 furist-**on** stoola
 first-SUPL.M.ACC.PL.WK chair.M.ACC.PL
 ‘They love the uppermost place [at feasts] and the chief seats [in the
 synagogues].’ (Matthew 23,6) (T_Tat141 (edition 89–99))

The pattern exemplified in (41a)–(41b) involves adverbial uses of nominalized adjectives displaying the derivational morpheme *-isk*, attested 23 times in the corpus. It is well-known that the suffix *-isk* is used to derive adjectives expressing provenience or affiliation to a well-established group (Braune 2018: 304). The respective base words refer to ethnic groups, names of places, geographic regions or theological spheres (e.g. *Heaven*). The example in (41b) is exceptional, but it is found in late OHG, probably suggesting that the suffix *-isk* starts to attach to base words outside the original domain of words denoting provenience. The invariant use of the weak pattern in this sample can be taken to suggest that there is indeed a relation between the weak inflectional pattern and the familiarity with the notion denoted by the DP.

²³Considering the occurrences of the strong (both pronominal and zero) and the weak inflection in prenominal (A–N) and postnominal (N–A) use, the chi-square result is as follows: χ^2 (2, N=94) = 0.1843, p=.667692. The result is not significant at $p < .05$.

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Gradation is the second domain in which adjectives consistently display weak inflection in bare DPs.²⁴ This is expected because it is well-known that comparatives inflect weak in Germanic as a whole and in OHG specifically (see Behaghel 1923: 172, *inter alia*), and because with some exceptions, superlatives in OHG also share this property (see Braune 2018: 315).²⁵

The use of the weak inflection in comparatives and superlatives in OHG is explained on semantic grounds, see the argumentation put forward in Braune (2018: 314):

Die schwache Flexion der Steigerungsgrade (Komparativ und Superlativ) erklärt sich aus ihrer individualisierenden Bedeutung = ‘The weak inflection of the degrees of comparison (comparative and superlative) is explainable on the basis of their individualizing meaning’.

Recall that Demske (2001: 69–70) also explains the use of the weak inflection in superlatives on semantic grounds, arguing that DPs involving an adjective in the superlative grade display unique reference, i.e. one of the subtypes of semantic definiteness. In addition, the invariant weak inflection of adjectives in gradation occurs independently of the presence or absence of an article.

Another observation regarding the inflection of graded adjectives is important, however. Note that we find examples like (43) showing that comparatives bearing the weak inflection may display indefinite interpretation as well. Note that the DP containing the adjective in the comparative grade is in the scope of negative operators.

²⁴DPs with graded adjectives may also involve determiners, contra Demske (2001: 69–70); see (i) for a comparative and (ii) for a superlative:

- (i) **th-er** **iung-oro** **sun** **elilentes fuor**
 DEF-M.NOM.SG young-CMPR.M.NOM.SG.WK son.M.NOM.SG abroad went
 ‘the younger son went into foreign countries’ (T_Tat97 (edition 37–48))
- (ii) **scouuuonti uuio sie thiū** **furist-un** **sedal** **gicurun**
 seeing how they DEF.M.ACC.PL high-SUPL.M.ACC.PL.WK seat.M.ACC.PL chose
 ‘observing how they chose the uppermost seats’ (T_Tat110 (edition 111–121))

The frequency of bare DPs including graded adjectives in ReA is 52.9% (99 out of 187) for comparatives and 32.4% (107 out of 330) for superlatives; i.e., bare DPs with adjectives in the superlative are even lower in frequency than those with comparatives. See also the discussion on the inflectional properties of the superlative in Germanic in Behaghel (1923: 173–175).

²⁵See (26a) for an example of a strong adjective in the superlative, preceded by an inflected determiner.

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- (43) Ni wárd io [...] giwíssar-a thing
 NEG became ever certain-CMPR.N.NOM.SG.WK thing.N.NOM.SG
 ‘Never has there been a more certain issue.’
 (O_Otfr.Ev.2.3 (edition 444–456))

This data suggests that the use of the weak inflection in comparison is not strictly linked to the semantic interpretation of the DP, but rather appears as a formal property specifying the inflectional behaviour of this class of adjectives.

4 Conclusion

The present chapter addressed the distribution of inflectional patterns of adnominal adjectives in OHG by examining the evidence provided in the reference corpus ReA 1.1. Two datasets were considered, namely DPs displaying some kind of determiner, as well as determinerless DPs. The results challenge previous generalizations according to which the spread of the various inflectional patterns of adnominal adjectives in OHG is determined by the interpretation of the respective DP in terms of (in)definiteness. This so-called semantically driven distribution of adjectival inflection can be detected in a part of the data, most importantly in DPs displaying a definite or indefinite determiner, although there is variation in this domain as well. However, weak adjectives are not excluded in indefinite contexts, while strong ones are found in all kinds of definite contexts, suggesting that the strong pattern represents the unmarked, or default variant, as also described for early Germanic as a whole.

At the same time, properties of the PDG morphologically driven distribution were detected in OHG as well, most importantly in the domain of bare and possessive DPs, the latter displaying determiners which can be both inflected and non-inflected. It was shown that the lack of a determiner of any kind strongly correlates with explicit morphosyntactic marking on the adjective, which also holds for PDG. In addition, in possessive DPs, the distribution of adjectival inflection depends on the presence of inflection on the determiner. The lack of morphosyntactic features on the determiner favours the strong inflection on the adjective, while the presence of inflection on the determiner triggers the weak, and less distinctive variant.

In the face of this observation, a scenario regarding the later development of adjectival inflection in the history of German can be sketched. In the process of reduction of vowels in inflectional syllables, the distinction between strong and weak adjectives is blurred, leading to formal overlapping of the two

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paradigms. At the same time, the morphological distinctiveness of the determiners is strengthened, in that the inventory of indistinctive forms of indefinite and possessive determiners is reduced, e.g. in the nominative and accusative singular of the feminine gender. In this way, the determiner system provides a transparent system of expressing the formal properties of the DP. As a consequence, the double realization of features in the DPs is suspended in favour of the more economical principle of monoinflection, exploiting the invariant version of the weak pattern in all cases in which the morphological properties of the DP are transparently assigned by the accompanying determiner. Basically, the main properties of this principle are already present in the system of OHG, although its full establishment lasted for centuries.

Abbreviations

ACC	accusative	N	noun
A	adjective	M	masculine
A _{NOM}	nominalized adjective	N	neuter
CMPR	comparative	NEG	negative particle
DAT	dative	NOM	nominative
DEF	definite	NP	noun phrase
DEM	definite	OHG	Old High German
DP	determiner phrase	PDG	Present-day German
F	feminine	PL	plural
GEN	genitive	PRES	present
IE	Indo-European	SBJV	subjunctive
IND	indicative	SG	singular
INDEF	indefinite	STR	strong
INF	infinitive	SUPL	superlative
IMP	imperative	WK	weak
Lat.	Latin		

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Chapter 7

Beyond given versus new: The proprial article in Old Icelandic

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The proprial article (*hann Jón* ‘he John’) is attested across North Germanic and has attracted recent interest for Icelandic in particular (Sigurðsson 2006; Wood 2009; Sigurðsson & Wood 2020). Previous considerations of its pragmatics have focused on the given/new dimension, with the claim that it marks familiarity/givenness (Sigurðsson 2006; Johnsen 2016). Yet a large and growing body of work shows the need to go beyond given versus new for a full understanding of the morphosyntax–information structure interface (e.g. Frascarelli & Hinterhölzl 2007; Cook & Bildhauer 2013). I examine the proprial article in Old Icelandic in a wider information-structural context which recognises different types of topic transition. I show that the proprial article at this early stage is a topic management device which signals various types of topic-shift. Additionally, I confirm an early claim (Heusler 1921) that a special variant of the proprial article (*þeir Jón* ‘they John’) serves two functions in Old Icelandic as (i) an associative plural and (ii) a strategy for coordinating referents which are asymmetrically topical, discussing this in the context of recent theoretical research on associativity, coordination and information structure.

1 Introduction

A number of present-day Germanic languages have a functional element which can combine with proper nouns, in particular personal names, commonly referred to as a “proprial article” (PA) (see e.g. Delsing 1993; van Langendonck & van de Velde 2009; Dahl 2015; Kokkelmans 2018; Muñoz 2019).¹ In West Germanic,

¹An alternative label for the proprial article is “onymic article”, as commonly used in the literature on German (e.g. Nübling 2017; Schmuck 2020b,c; Ackermann 2021).



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the PA is formally identical to the definite article, e.g. (1); in North Germanic, it is formally identical to the personal pronoun, e.g. (2).²

- (1) a. (non-standard) High German
[**der** Peter] hat dem Kind einen Ball geschenkt
PA.M.NOM.SG Peter has DEF.DAT child INDEF.ACC ball gifted
‘Peter gave the child a ball as a present.’ (Altmann 1993: 33)
- b. Dutch, Brabantisch
Wette gelle nog da we [**de** Jan] op de met emme
know you still COMP we PA.COMM Jan on the market once
gezien?
seen
‘Do you know that we saw Jan at the market?’ (Schmuck 2020b: 164)
- (2) a. (modern) Icelandic
[**Hún** Þuríður] gat ekki tekið þessum tíðindum
PA.F.NOM.3SG Þuríður.NOM could NEG take DEM.DAT news.DAT
‘Þuríður could not take this news.’ (IcePaHC: 2008, Ofsi.1163)
- b. Norwegian, Inner Østfold
På tjuårsdagen heldt [**han** Torbjørn] og [**ho**
on twenty-year-day.DEF held PA.M.3SG Torbjørn and PA.F.3SG
Eline] ein fest for [**ho** Sissel]
Eline a party for PA.F.3SG Sissel
‘On her 20th anniversary, Torbjørn and Eline held a party for Sissel.’
(Johnsen 2016: 194)

The function of the PA has been examined for a range of Germanic varieties, with various functions attributed to it. In West Germanic, where the PA takes the form of the definite article, cf. (1), it is assumed that the PA does not mark definiteness, since personal names refer to an entity conceptualised as unique and are thus inherently definite (Longobardi 1994; Nübling 2017, 2020; Schmuck 2020c). In Southern German varieties, the PA is obligatory and does not appear to have any pragmatic effect (Nübling 2020; Schmuck 2020b), whereas in Northern German varieties it is optional and has been claimed to fulfil various pragmatic functions. Hartmann (1982), for instance, has argued that the PA as exhibited in Rhineland dialects can indicate that the individual referred to is known to

²I gloss instances of the proprial article as PA throughout.

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speaker and hearer, and can also convey a speaker's annoyance with an individual. Similarly, the PA in (Flemish) Dutch dialects has been claimed to express familiarity (van Langendonck 2007: 158). Werth (2014), meanwhile, has argued that in Northern German dialects, the PA can act as a focus marker, or as a marker of social distance.

In North Germanic, a similarly wide-ranging list of pragmatic functions has been attributed to the PA, with a specific focus on the given/new dimension. For modern Icelandic, it has been argued that the PA marks "familiarity or givenness", as evidenced by the fact that the PA is only felicitous if the referent is known to both speaker and listener (Sigurðsson 2006: 220). Similar claims with respect to familiarity have been made for the North Germanic PA elsewhere, notably by Håberg (2010) for certain Norwegian dialects and by Dahl (2015: 97), who claims the same for "most colloquial varieties" of Swedish. At the same time, others have claimed that the PA in present-day Mainland Scandinavian plays a role in discourse activation (Teleman et al. 1999; Strahan 2008; Lie 2008, 2010). Johannessen (2008, 2020), meanwhile, claims that a superficially similar element which occurs in Present-day Norwegian signals "psychological distance", occurring in contexts where the speaker/addressee does not know the person referred to, or in contexts where the speaker expresses a negative attitude towards the individual.

Furthermore, the pragmatic status of the PA in Early North Germanic is disputed. While Johnsen (2016) claims that the PA marks familiarity/givenness in Old Norwegian/Icelandic, as claimed for modern Icelandic (Sigurðsson 2006), Kinn (2016) claims the contrary for Old Norwegian, namely that 3rd person pronouns which occur before proper names (i.e. potential PAs) do not have any semantic or pragmatic effects. As such, the precise pragmatic status of the PA in Old Icelandic remains unclear. Moreover, discussion of its (potential) pragmatic effects have, as for modern Icelandic, been limited to a consideration of the given/new dimension. There is, however, a large and growing body of work on the interaction between morphosyntax and information structure from various perspectives which shows that one needs to go beyond a simple given versus new distinction in order to fully understand phenomena at this interface (e.g. Ariel 1990, 2001; Vallduví 1992; Grosz et al. 1995; Vallduví & Engdahl 1996; Walker et al. 1998; Erteschik-Shir 2007; Frascarelli & Hinterhölzl 2007; Krifka 2007; Bianchi & Frascarelli 2010; Cook & Bildhauer 2013).

In this chapter, I examine the proprial article in Old Icelandic in this wider information-structural context which recognises different types of "topic transition" (e.g. Daneš 1974; Grosz et al. 1995; Walker et al. 1998; Frascarelli & Hinterhölzl 2007; Bianchi & Frascarelli 2010). On the basis of Old Icelandic corpus data

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from IcePaHC (Wallenberg et al. 2011) and further supplementary data from a related corpus, MlcePaHC (Ingason 2020), I show that the PA in Old Icelandic is more than a straightforward givenness marker, as previously claimed (Sigurðsson 2006; Johnsen 2016). While the PA is indeed restricted to discourse-given referents, it has a more nuanced motivation, marking a referent which is known from the discourse but which represents a new aboutness topic (Reinhart 1981), i.e. “shift-topic”. In this respect, the Old Icelandic PA functions as a specialised topic management device which signals the (re-)establishment of a familiar referent as topic. In addition, I confirm an early claim by Heusler (1921) that a special variant of the proprial article serves two functions in Old Icelandic as (i) an associative plural and (ii) a strategy for coordinating referents which are asymmetrically topical, discussing this in the context of recent theoretical research on associativity, coordination and information structure.

The chapter proceeds as follows. I discuss the current understanding of the proprial article in Icelandic and other North Germanic varieties in Section 2, and discuss the diachrony of proprial articles in Section 3. Section 4 outlines the methodology for the corpus study which is the focus of this chapter, including the collection and tagging of the data, and the relevant information-structural concepts. Section 5 examines the so-called “plain” proprial article (Sigurðsson 2006) in the broader context of topic management devices, and Section 6 discusses the pragmatic properties of a special variant of the proprial article. Section 7 concludes the chapter.

2 The proprial article in modern North Germanic

2.1 The proprial article in modern Icelandic

Sigurðsson (2006) provides a detailed overview of the properties of the proprial article in modern Icelandic. The PA can occur, generally optionally, with simple personal names and short forms of kinship terms, but is highly questionable or ruled out with common nouns beyond these kinship terms, cf. (3).³ Note that such examples do not involve an intonational break between the PA and the referent it combines with, which distinguishes the PA from straightforward apposition (Sigurðsson 2006; Wood 2009).

³The proprial article is generally ruled out with full names, presumably due to the fact that the referent must be familiar/given. Sigurðsson (2006: 225) notes it is possible if the referent is commonly known by their full name, as with, for instance, a famous politician. The PA is also possible with simple personal names modified by adjectives, though optional, as elsewhere (Delsing 1993: 134):

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(3) modern Icelandic

- a. **hann** Jón / **hún** María
PA.M.NOM.3SG Jón.NOM PA.F.NOM.3SG María.NOM
- b. **hann** pabbi / **hún** amma
PA.M.NOM.3SG dad.NOM PA.F.NOM.3SG grandma.NOM
- c. ?? **hann** kennari / * **hún** bók
PA.M.NOM.3SG teacher.NOM PA.F.NOM.3SG book.NOM
(Sigurðsson 2006: 224–225)

The PA can (optionally) occur on a range of grammatical functions, e.g. subject, object, prepositional complement and predicative complement, cf. (4).

(4) modern Icelandic

- a. Subject:
[**Hún** **María**] kom í gær
PA.F.NOM.3SG María.NOM came yesterday
‘Maria came yesterday.’
- b. Object:
Við sáum [**hana** **Mariú**] í gær
we.NOM saw PA.F.ACC.3SG María.ACC yesterday
‘We saw Maria yesterday.’
- c. Prepositional complement:
Bréfið er frá [**henni** **Mariú**]
letter.NOM.DEF is from PA.F.DAT.3SG María.DAT
‘The letter is from Maria.’

(i) modern Icelandic

- a. Svo fæddist [**hann** Siggí litli]
so was-born PA.M.NOM.3SG Siggí.NOM little.NOM
‘So little Siggí was born.’ (IcePaHC: 2008, Mamma.1122)
- b. Og [Lancelot litli] rak óðara upp glaðlegt gelt
and Lancelot.NOM little.NOM drove madly up cheerful.ACC bark.ACC
‘And little Lancelot madly drove up a cheerful bark.’
(IcePaHC: 2008, Mamma.1809)

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- d. Predicative complement:
 Er þetta ekki [**hún** **María**]?
 is DEM.NOM NEG PA.F.NOM.3SG María.NOM
 ‘Is that not Maria?’
 (Sigurðsson 2006: 225)

The PA shows case, person and number agreement with the personal name it combines with, and is always prenominal (**hún** *María*); postnominal distribution (**María* **hún**) is ruled out according to Sigurðsson (2006). Additionally, the PA can occur on possessors in what Sigurðsson (2006: 216) refers to as the “Name-Genitive Construction”, e.g. (5).

- (5) modern Icelandic
 Allir bílarnir [**hans** Jóns] eru gulir
 all.NOM cars.NOM.DEF PA.M.GEN.3SG Jón.GEN are yellow
 ‘All Jóns cars are yellow.’ (Sigurðsson 2006: 213)

In this particular context, a genitive-marked PA is obligatory if the head noun bears the suffixed definite article (Sigurðsson 2006), cf. the contrast in (6).

- (6) modern Icelandic
 a. bókin [**hennar** Maríu]
 book.NOM.DEF PA.F.GEN.3SG Maria.GEN
 b. *bókin [Maríu]
 book.NOM.DEF Maria.GEN
 (Sigurðsson 2006: 224)

In terms of its pragmatic properties, Sigurðsson (2006: 220) claims that the PA is a “marker of familiarity or givenness”, on the basis that it is only felicitous if both speaker and addressee know and can identify the referent in question. Sigurðsson (2006: 226) further claims that the familiarity signalled by the PA is a “deictic feature” which speakers use to signal that both they and the addressee are familiar with the referent.

Crucially, the examples of the Icelandic PA discussed so far must be considered as just one variant of the PA, specifically what Sigurðsson (2006) calls the “Plain Proprial Article Construction”. Another example of this “plain” type, this time occurring with a coordinated referent (‘Jón and María’), is provided in (7a) below. This “plain” PA is distinct from what Sigurðsson (2006) calls the “Gapped Proprial Article Construction”, illustrated in (7b).

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(7) modern Icelandic

- a. [(**Pau**) Jón og María] eru vinir
 PA.N.NOM.3PL Jón and María are.PL friends
 ‘Jón and María are friends.’
- b. María fór út. [**Pau** Jón] ætla að hittast
 María went out. PA.N.NOM.3PL Jón.NOM intend.PL to meet
 ‘María went out. She and Jón are going to meet.’
 (Sigurðsson 2006: 227–228)

In the “plain” type in (7a), the PA can be omitted and the sentence is still grammatical – indeed, as already mentioned, this variant of the PA is optional. By contrast, in the “gapped” type in (7b) the PA cannot be omitted, since this would result in a mismatch in number agreement between the verb and subject; *Pau Jón* in this context functions as a plural for subject-verb agreement, denoting a set consisting of María and Jón.⁴

The “gapped” PA in modern Icelandic has been discussed under a number of different labels in line with different analyses. As mentioned, Sigurðsson (2006) discusses it as a special “gapped” variety of the proprial article, in line with the fact that he analyses it as involving a coordination structure and deletion; see Wood (2009) for a similar analysis in the context of “imposters” (Collins & Postal 2012), i.e. elements which exhibit a mismatch between grammatical person and notional person. Sigurðsson & Wood (2020), meanwhile, develop a different analysis for the construction, which they instead refer to as the “Pro[NP]” construction, as distinct from the (plain) proprial article.⁵

The construction in question in fact appears to qualify as what is often labelled as an “inclusory” construction in a diverse range of languages, in particular Austronesian and Australian languages (cf. Lichtenberk 2000; Singer 2001; Bhat 2004; Gaby 2005; Haspelmath 2007; Bril 2011; Schultze-Berndt et al. 2013); it consists

⁴As Sigurðsson (2006) observes, in some contexts the “gapped” PA can combine with more than one name in a coordination structure:

- (i) modern Icelandic
 Anna kemur líka. [**Pau** Jón og María] eru vinir
 Anna comes too PA.N.NOM.3PL Jón.NOM and María.NOM are.PL friends
 ‘Anna is coming too. She, John and Mary are friends.’ (Sigurðsson 2006: 229)

In such cases, the “gapped” type is identical in form to a “plain” PA construction, cf. (7a).

⁵In the context of Old Icelandic, the “gapped” PA has also been discussed as an “associative plural” construction in modern theoretical and typological work (den Besten 1996; Moravcsik 2003; Daniel & Moravcsik 2013; Sigurðsson & Wood 2020), as I discuss in detail in Section 3.

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of a non-singular pronoun (“superset”) plus a personal name (“subset”) whose referent is included in the reference of the non-singular pronoun, cf. (8) and the example repeated in (9).

- (8) $\underbrace{\text{PA.DU/PL}}_{\text{SUPERSET}} - \underbrace{\text{name}}_{\text{SUBSET}}$

- (9) *María* fór út. [**Pau** Jón] ætla að hittast
María went out. PA.N.NOM.3PL Jón.NOM intend.PL to meet
 ‘*María* went out. She and Jón (=they including Jón) are going to meet.’

Compare similar inclusory constructions from a range of languages in (10), where the non-singular pronoun (superset) is shown in bold and the personal name (subset) in italics.

- (10) a. Yapese
 Ka **ra** bow *Tamag*
 PST 3DU/PL come+DU tamag
 ‘He and Tamag came.’ (Jensen 1977: 270, as cited in Aissen 1989: 519)
- b. Toqabaqita
Keeroqa *tha* *Bita* kero sifo *naqa*
 3DU PERS.MKR Bitā 3.DU.NONFUT descend PERF
 ‘He/she and Bitā have gone down.’ (Lichtenberk 2000: 10)
- c. Kriol
Mindubala *Namij* kol-im dardaga
 1.DU.EXCL Namij call-TR bloodwood.apple
 ‘Me and Namij call it dardaga.’ (Schultze-Berndt et al. 2013: 243)
- d. Māori
 Kei te aha **kōrua** ko *Tame*?
 TAM what 2DU SPEC Tame
 ‘What are you and Tame doing?’
 (Bauer 1997: 548, as cited in Bril 2011: 246)

On this basis, I will refer to examples like (9) as the “inclusory PA”, as distinct from the “plain PA” already discussed. With this term, I commit to no more than the observation that the pronoun and the name are in a superset-subset relation as in (8).⁶

Just like the plain PA, the inclusory PA can occur on various grammatical functions and agrees in case with the personal name, e.g. (11).

⁶Sigurðsson & Wood (2020: 2) also briefly acknowledge that the construction is similar to in-

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(11) modern Icelandic

- a. Quirky subject:
[**Okkur** Ólafi] leiddist
PA.1PL.DAT Olaf.DAT bored
‘Olaf and I were bored.’
- b. Direct object:
Hún sá [**okkur** Ólaf]
she.NOM saw PA.1PL.ACC Olaf.ACC
‘She saw Olaf and me.’
- c. Possessor:
Hún er vinur [**okkar** Ólafs]
she.NOM is friend PA.1PL.GEN Olaf.GEN
‘She is a friend of Olaf and me.’
(Sigurðsson & Wood 2020: 5)

Also similar to the plain PA, Sigurðsson (2006) claims for modern Icelandic that the inclusory PA marks familiarity/givenness, i.e. indicates that the addressee knows and can identify the PA-marked referent, in other words the same function as that attributed to the plain PA (Sigurðsson 2006).

At the same time, there are some differences between the plain and inclusory PA, as extensively discussed by Sigurðsson & Wood (2020). Firstly, unlike the plain PA, which cannot occur with common nouns (Sigurðsson 2006), Sigurðsson & Wood (2020) observe that the inclusory PA can occur with animate common nouns often denoting occupations (e.g. *við kennarinn* ‘the teacher and I’). Secondly, they show that the pronoun in the inclusory PA shows head properties, controlling person and number agreement on the finite verb, e.g. (12), and number, gender and case agreement on adjectival and participial predicates, e.g. (13).

clusory constructions as discussed for other languages, but say that the term is not “entirely satisfactory” and that they “use the term “inclusive” in a different sense”, namely in relation to whether the pronoun refers to a subset that is included in the set denoted by the noun it combines with. On this particular definition, they note that constructions such as *við Ólafur* (I and Ólafur) are “non-inclusive”, since the pronoun is not included in the reference set of *Ólafur*. However, this seems to be the reverse of the standard understanding of “inclusory” constructions (e.g. Lichtenberk 2000; Bhat 2004; Gaby 2005; Haspelmath 2007; Gil 2009; Bril 2011; Schultze-Berndt et al. 2013), whereby the pronoun is the superset, whose reference includes the referent expressed by the noun (subset), cf. (8) above. In line with this wider typological body of work, I opt for the term “inclusory PA” for the Icelandic construction.

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(12) modern Icelandic

- a. [Við María] fórum
PA.NOM.1SG Mary.NOM went.1PL
‘Mary and I went/left.’
- b. [Þið María] fóruð.
PA.NOM.2PL Mary.NOM went.2PL
‘Mary and you went/left.’
- c. [Þær María] fóru
PA.F.NOM.3PL Mary.NOM went.3PL
‘Mary and she went/left.’
(Sigurðsson & Wood 2020: 4)

(13) modern Icelandic

- a. A male + Olaf:
[Þeir Ólafur] eru sterkir
PA.M.NOM.3PL Olaf.NOM are.3PL strong.M.NOM.PL
‘Olaf and he are strong.’
- b. A female + Mary:
[Þær María] eru sterkar
PA.F.NOM.3PL Mary.NOM are.3PL strong.F.NOM.PL
‘Mary and she are strong.’
- c. A non-male + Olaf:
[Þau Ólafur] eru sterk
PA.N.NOM.3PL Olaf.NOM are.3PL strong.N.NOM.PL
‘Olaf and she/it are strong.’
- d. A non-female + Mary:
[Þau María] eru sterk.
PA.N.NOM.3PL Mary.NOM are.3PL strong.N.NOM.PL
‘Mary and he/it are strong.’
(Sigurðsson & Wood 2020: 6)

2.2 The proprial article in modern Mainland Scandinavian

As Sigurðsson & Wood (2020) note, the inclusory PA construction is only present in modern Insular Scandinavian, and in Faroese it is less robust than in Icelandic. In modern Mainland Scandinavian, the inclusory PA construction has been lost altogether. The plain PA, however, is present in Norwegian and Swedish, e.g. (14).

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- (14) a. Norwegian, Voss
 Men [**ho** Inger] se kkje e så mykkje te
 but PA.F.3SG Inger see NEG I so much to
 ‘But Inger, I don’t see much.’ (Håberg 2010: 90)
- b. Northern Swedish
 [**En** Bjürström] ha affärn
 PA.M.3SG Bjürström has shop.DEF
 ‘Bjürström has the shop.’
 (Delsing 2003: 21, as cited in Johannessen & Garbacz 2014: 10)

According to Jorgensen (2000), there is no PA in Danish, contrary to suggestions in earlier work (Hulthén 1944).

In terms of the function of the PA in modern Mainland Scandinavian, there seems to be a wide range of claims, varying across individual varieties. Dahl (2015: 97), for instance, notes that in “most colloquial varieties of Swedish” the PA has a clear pragmatic effect which he illustrates with *han Erik* meaning ‘that person Erik that you know’, i.e. signalling familiarity (see also Delsing 2003). In varieties where the PA is obligatory with given names and name-like uses of kinship terms, no such effect is found according to Dahl. Others, meanwhile, have claimed that the PA signals a new person in the discourse, thus playing a role in discourse activation (Teleman et al. 1999; Strahan 2008; Lie 2008, 2010). Lie (2010), for instance, argues that the PA in Present-day Norwegian does not refer to a previously mentioned referent or a referent available in the situational context, but rather serves to activate specific, shared knowledge. Similarly, Teleman et al. (1999) state for Swedish that the PA functions to actualise referents that are not present in the current discourse but which are present in the shared knowledge of speaker and hearer.

Johannessen (2008, 2020), meanwhile, claims in the context of Present-day Norwegian that the PA must be distinguished from what she refers to as the “pronominal psychological demonstrative” (PDD). The PDD can occur with any kind of human noun as well as proper names, and typically occurs in contexts where the speaker/addressee does not know the person referred to, or in contexts where the speaker expresses a negative attitude to the referred to person, e.g. (15).

- (15) Norwegian
 jeg og Magne vi sykla jo og [**han** Mikkel] da
 I and Magne we cycled then and he Mikkel then
 ‘I and Magne and that guy Mikkel we cycled then.’
 (Johannessen 2008: 164)

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This leads Johannessen (2008, 2020) to claim that the PDD signals “psychological distance”. Due to the fact that the earliest written examples noted by Johannessen (2008) are from the beginning of the 20th century, and that the use of the PDD is found to have increased between 1970 and 2005 (Johannessen 2008), Kinn (2017) suggests that the PDD is a relatively recent development.

3 Historical context

3.1 Proprial articles, case and the grammaticalisation of definiteness

The diachronic development of the PA in Germanic has generally been neglected in modern theoretical research, although its emergence in the history of (High) German has attracted some recent interest (Schmuck & Szczepaniak 2014; Schmuck 2020a,b,c). Here, the rise of the PA has been characterised as representing a relatively late stage in the overall grammaticalisation of the definite article (e.g. Schmuck & Szczepaniak 2014; Schmuck 2020b), in line with the fact that the German PA is formally identical to the definite article, cf. (1a) above. The grammaticalisation of the definite article with common nouns is virtually complete by the end of the Old High German period (c. 750–1050), where it occurs even with unique common nouns, e.g. *thiu sunna*, ‘the sun’ (9th century, Otfrid, as discussed in Schmuck & Szczepaniak 2014: 103). The establishment of the article with unique common nouns – which, like personal names, are inherently definite – is seen as a crucial step which in turn facilitated the article’s further grammaticalisation to proper nouns, including personal names, as of the Early New High German period (c. 1350–1650) (Schmuck & Szczepaniak 2014; Schmuck 2020b). In this context, Schmuck & Szczepaniak (2014) propose (16) as the grammaticalisation pathway of the definite article, which is an adapted version of that in Lyons (1999: 337), also taking into account uniques.

(16) simple definite > generic > unique > proper noun

In addition, many have attributed the rise of the PA in German to the loss of case-marking on proper nouns (e.g. Behaghel 1923: 52–55; Schmuck & Szczepaniak 2014; Ackermann 2018; Schmuck 2020c). In Old High German, proper nouns inflected like common nouns, but case-marking was lost as of the Middle High German period (1050–1350). The assumption is that, as case-marking was lost on proper nouns, including on personal names, this was compensated for by the newly emerging PA which became the exclusive exponent of case. This is supported, for instance, by data in Ackermann (2018: 153–154, 188–189), who observes that use of the PA increases as case inflection is lost.

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In contrast to West Germanic, the PA is attested comparatively early in North Germanic, and is exhibited already in the earliest attested stage, Old Norse/Icelandic (c. 1150–1450), e.g. (17). As in the modern language, the Old Icelandic (plain) PA takes the form of the 3SG personal pronoun (masc. *hann*, fem. *hún*).⁷

(17) Old Icelandic

Og er Túta kemur fyrir Halla þá réttir
and when Túta.NOM comes before Halli.ACC then outstretches
[**hann** Halli] hendur í móti grísinum
PA.M.NOM.3SG Halli.NOM hands.ACC towards pig.DAT.DEF
'And when Túta comes before Halli, then Halli stretches out his hands
towards the pig.' (IcePaHC: 1275, Morkin.1156)

In light of the development of the PA in German, where it is generally assumed that the loss of case and the grammaticalisation of the definite article to unique common nouns were crucial factors, the early attestation of the PA in Old Icelandic is interesting; Old Icelandic has rich morphological inflection on nominals, including personal names – as indeed the modern language does still – and it is well known that the definite article was not yet fully grammaticalised with common nouns at this stage (Leiss 2000, 2007; Börjars et al. 2016). As Börjars et al. (2016) discuss, noun phrases in Old Norse/Icelandic do not require an explicit marker of (in)definiteness in order to receive a definite/indefinite interpretation. In this context, the thorough investigations by Leiss (2000, 2007) show that Old Icelandic can be considered a “hypodeterminating language”, whereby definiteness is overtly marked on definite expressions where definiteness cannot be presupposed, i.e. rhemes, but is not marked on expressions which are inherently definite, i.e. themes and proper nouns. Moreover, evidence from Old Swedish suggests that the definite article was not grammaticalised to unique and generic contexts in this early stage of North Germanic (Skrzypek 2012).

As such, the early attestation of the PA in North Germanic cannot be related to the establishment of a highly grammaticalised definite article in the way that the rise of the German PA is often accounted for. Rather, as its formal identity with personal pronouns suggests, the North Germanic PA should be considered on its own terms, separate to the ongoing grammaticalisation of definiteness.⁸

⁷In the corpus data which this chapter makes use of (outlined in Section 4), all texts are normalised to modern Icelandic orthography, regardless of their date. For sake of consistency, I retain this normalised orthography here.

⁸In this sense, the label “proprial *article*” is perhaps misleading. Nevertheless, as it is by far the most common term in the literature on North Germanic, I retain the term here.

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As further support of this, Dahl (2015: 98), citing synchronic data from Delsing (1993), points out that, although there is significant overlap in the distribution of the proprial article and “extended” use of definite forms (e.g. with generics) in present-day North Germanic varieties, there are also dialects which have the PA and no extended use of definite forms, as well as those which have extended use of definite forms and no PA. This synchronic distribution leads Dahl to suggest that the PA and extended uses of definite forms have separate histories of origin, in other words cannot be considered as part of the same grammaticalisation process as they are for historical German.

3.2 The disputed status of the plain proprial article

As already mentioned, the status of the plain PA in early North Germanic is disputed in the literature (Faarlund 2004; Kinn 2016; Johnsen 2016). Faarlund (2004: 89), for instance, notes that the plain PA in Old Norse/Icelandic in the singular (i.e. *hann*, *hún*) is “rather unusual” and “mostly confined to a colloquial style”. Kinn (2016: 165) observes that a 3sg personal pronoun *hann* “sporadically co-occurs with proper names” in Old Norwegian, providing, for instance, the example in (18).

(18) Old Norwegian

Oc i þuí kœmr [**hann** asbiorn] i stovuna
and in that comes he Ásbjǫrn in dining.room.DEF

‘And in that moment, Ásbjǫrn entered the dining room.’ (Kinn 2016: 165)

Kinn (2016: 165) claims that personal pronouns in contexts like (18) in Old Norwegian do not seem to have any semantic or pragmatic effect. She instead assumes that such instances, while superficially similar to the modern PA construction, are in fact cases of straightforward apposition. This is in line with the theory of null subjects which is the main component of her thesis.

Kinn (2017) revisits the status of the (plain) PA in Old Norwegian. She notes that in her dataset taken from two texts (*The Legendary Saga of St. Óláfr* and *The Old Norwegian Homily Book*), the appearance of a plain PA-like element (*hann*, *hon*) before a personal name does not appear to be systematic; there are only four such instances, and the great majority of personal names appear without any accompanying pronoun. She contrasts this finding with the study by Dahl (2015: 98), which found a more systematic use of *hann/hon* before personal names in a short Norwegian charter in the *Norwegian Diplomatarium* from 1430. On the basis of this, Kinn (2017) suggests that the PA emerged in some dialects around that particular time, i.e. later than the Old Norwegian data she herself examined.

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Johnsen (2016), however, takes issue with Kinn's claim for Old Norwegian and provides early examples from Old Icelandic which he claims exhibit proprial articles, e.g. (19), which is taken from an episode in which King Harald Fairhair meets Skalla-Grímr, from an Icelandic manuscript from c. 1320–1350.

(19) Old Icelandic

Qlvir tók til máls: “Nú er Grímr hér kominn, sonr Kveld-Ulfs.” [...] Qlvir took to speech now is Grímr here come sonr Kveld-Ulfr's [...] Konungr litaðist um. Hann sá, at maðr stóð at baki Qlvi [...]. “Er king looked around he saw that man stood at back Qlvir [...]. is þetta [hann Skalla-Grímr]”, sagði konungr, “in mikli maðr?” Grímr this he Skalla-Grímr said king the great man Grímr sagði, at hann kenndi rétt. “Ek vil þá”, sagði konungr, “ef þú said that he knew right I will then said king if you beiðast bóta fyrir Þórolf, [...] veita þér [...] sómd, eigi minni request compensation for Þórolfr [...] give you [...] honor not smaller en ek veitta [honum Þórolfi], bróður þínum” than I gave him Þórolfr brother yours

‘Qlvir began speaking: “Now Grímr has arrived, the son of Kveld-Ulf”. [...] The king looked around. He saw a man standing behind Qlvir [...]. “Is this Skalla-Grímr”, said the king, “the great man?” Grímr said that he was right. “Then I wish”, said the king, “if you request compensation for Þórolfr, [...] to honor you no less than I honored Þórolfr, your brother.”’ (Johnsen 2016: 197)

Johnsen (2016) provides a number of convincing arguments that these examples can be considered instances of the (plain) PA and that they do not merit analysis as apposition, including the fact that the pronoun cannot stand on its own with its referent retrievable from context, as in the example in (20). Since Ketill Auðunarson has not been mentioned earlier in this chapter, nor the fact that anyone is going to receive rafters, without the proper name the referent is impossible to identify.

(20) Old Icelandic

Halli á Hakavíkinni borgaði fyrir Loðini á Holtum uppá eitt hundrað Halli on Hakavika bailed for Loðinn on Holtar upon one hundred sperna [honum Katli Auðunarsyni] rafters him Ketill Auðunarson

‘Halli from Hakavika guaranteed one hundred rafters to Ketill Auðunarson on behalf of Loðinn from Holtar.’ (Johnsen 2016: 200)

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In terms of the pragmatic properties of the PA in early Norwegian/Icelandic, Johnsen (2016) observes that the PA-marked referent is known and given information in the context, while personal names which refer to individuals who are not familiar from the context are not accompanied by a PA. Johnsen's claims, however, are made on the basis of a relatively small dataset, and so merit testing on a larger scale.

Finally, Faarlund (2004: 89) specifically comments on the plain PA in the plural with a coordinated referent in Old Norse/Icelandic ('they X and Y'), saying that this is much more common than the singular plain PA with a single name ('he X'). He provides the example in (21).

- (21) Old Norse/Icelandic
 með hverjum skildaga [þeir Einarr ok Brúsi
 with what agreement.DAT PA.M.NOM.3PL Einar.NOM and Brúsi.NOM
 brœðr] hófðu félag sitt gort
 brothers.NOM had partnership.ACC their.REFL.ACC made
 'with what agreement the brothers Einar and Brusi had formed a
 partnership' (Hkr II.206.15, Faarlund 2004: 89)

3.3 The inclusory proprial article, number and associativity

Besides the plain PA, Old Icelandic also exhibits the inclusory PA, as discussed in early philological work on Early Germanic, notably Bergmann (1838: 220), Grimm (1898: 350–351) and Heusler (1921: §395–396, §404–405), as well as more recently by Faarlund (2004: 90). Both Grimm and Heusler point out that the inclusory PA can be a dual pronoun in the 1st and 2nd person, which in Old Icelandic retain a distinction between dual (DU) and plural (PL) in the personal pronoun paradigm, cf. Table 1. Thus, in the first and second persons, one finds both dual PAs and plural (inclusory) PAs, as in (22) for the first person and (23) for the second person.

- (22) Old Norse/Icelandic
 a. erom [vit Gunnarr] nú sätter
 are PA.NOM.1DU Gunnarr.NOM now reconciled
 'Gunnar and I are now reconciled'
 b. sætt, þeire er konungr gørþe mille [vár Brúsa]
 agreement DEM REL king.NOM made between PA.GEN.1PL Brúsi
 'the agreement which the king made between us and Brúsi'
 (Heusler 1921: p. 124, §395)

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Table 1: Distinction between dual and plural in the 1st and 2nd person personal pronouns in Old Icelandic (Barnes 2008: 61)

	1st person		2nd person	
	DU	PL	DU	PL
NOM	<i>vit</i>	<i>vér</i>	<i>(þ)it</i>	<i>(þ)ér</i>
ACC	<i>ok(k)r</i>	<i>oss</i>	<i>yk(k)r</i>	<i>yðr</i>
DAT	<i>ok(k)r</i>	<i>oss</i>	<i>yk(k)r</i>	<i>yðr</i>
GEN	<i>okkar</i>	<i>vár</i>	<i>ykkar</i>	<i>yð(v)ar</i>

- (23) a. Old Norse/Icelandic
 þó at [it Egell] talezk við
 though COMP PA.NOM.2DU Egill.NOM speak.RECP with
 ‘although you(sg) and Egill speak with each other’
 (Heusler 1921: p. 124, §395)
- b. og hefir þetta mikið um spillt, er [þér Eyvindur]
 and has DEM much PTCL worsened REL PA.NOM.2PL Eyvindur.NOM
 fundust við Jótland.”
 met.RECP by Jutland
 ‘and this has greatly worsened since you(pl) and Eyvindur met each other by Jutland’ (IcePaHC: 1250, Thetubrot.73)

Grimm (1898: 350) provides similar examples of inclusory PAs in the dual from both Old English and Old High German poetry, e.g. (24), which indicates that this particular construction is a broader Early Germanic phenomenon, although examples in West Germanic seem to be much rarer than in North Germanic.

- (24) a. Old English
 vit Scilling
 PA.NOM.1DU Scilling.NOM
 ‘Scilling and I’ (Traveller’s Song, line 103, Grimm 1898: 350)
- b. Old English
 uncer Grendles
 PA.GEN.1DU Grendel.GEN
 ‘mine and Grendel’s’ (Beowulf, line 2002, Grimm 1898: 350)

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- c. Old High German
 wiz Hiltiprant
 ‘Hildebrandt and I’ (Grimm 1898: 350)⁹

In the third person, which lacks a dual in Old Norse/Icelandic, inclusory PAs in the plural are also attested and have been discussed in modern theoretical work as an “associative plural” construction (den Besten 1996; Moravcsik 2003; Daniel & Moravcsik 2013; Sigurðsson & Wood 2020), i.e. a construction which refers to a focal, typically human referent, plus their (unnamed) associates. Such discussions refer to examples like (25).

- (25) Old Norse/Icelandic
 þeir Gizorr
 PA.M.NOM.3PL Gizorr.NOM
 ‘Gizorr and his associates’ (Daniel & Moravcsik 2013: ex. (4))

However, Heusler (1921: §404), who discusses the example in (25) in detail, notes that it can have two different meanings: (i) ‘Gizorr and his people’ and (ii) ‘Gizorr plus another named individual’.¹⁰ According to Heusler, in the first case Gizorr is the main person, around which one or several unnamed (or not to be named again) people are grouped, i.e. an associative plural.¹¹ In the second case, the already named individual is in the “consciousness” of the speaker, to which Gizorr is added as a second person.¹² These two meanings are also reflected in the translations of the examples provided by Faarlund (2004: 90), e.g. (26), though he does not discuss the construction in detail.¹³

- (26) Old Norse/Icelandic
 a. [þeir Ásbjörn] lendu útan at eyjunni
 PA.M.NOM.3PL Ásbjörn landed from.out at island.DAT.DEF
 ‘Ásbjörn and his men landed on the outside of the island’
 (Hkr II.250.18, Faarlund 2004: 90)

⁹The specific text is not provided by Grimm. I have not been able to find the precise example, and it has been claimed that Grimm himself constructed this example (Krause 1924: 236, fn. 2); thanks to Nelson Goering and Svetlana Petrova for pointing this out.

¹⁰Original: “G. und die Seinen” and “ein genannter nebst G.” respectively (Heusler 1921: §404).

¹¹Original: “Im ersten Falle ist G. die Hauptperson, an die sich ein oder mehrere ungenannte (oder nich wieder zu nennende) anreihen, “G. und die um ihn” (Heusler 1921: §404).

¹²Original: “Im zweiten Falle liegt der andere, schon genannte (...) im Bewußtsein des Sprechenden, so daß nur Gizorr als Ergänzung, als 2. Person hinzugefügt werden muß.”

¹³Sigurðsson & Wood (2020: 9) also acknowledge this second function of the inclusory PA in modern Icelandic, and in fact state that the associative plural usage of the construction, as seen in Old Icelandic, is “obsolete” in the modern language.

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- b. hvat [þau dróttning] tala jafnan
 what PA.N.NOM.3PL queen.NOM talk constantly
 ‘what he and the queen are always talking about’
 (Hkr I.293.5, Faarlund 2004: 90)

Strikingly, the inclusory PA is also attested in the Poetic Edda, as pointed out by Bergmann (1838: 220), who provides the examples in (27).

(27) Old Norse/Icelandic

- a. þau Högni
 PA.N.NOM.3PL Högni.NOM
 ‘she and Högni’ (Atlamál, verse 10, Bergmann 1838: 220)
- b. við Freyr
 PA.NOM.1DU Freyr.NOM
 ‘Freyr and I’ (Skírnismál, verse 20, Bergmann 1838: 220)
- c. ið Gyrimir
 PA.NOM.2DU Gyrimir.NOM
 ‘you(sg) and Gyrimir’ (Skírnismál, verse 24, Bergmann 1838: 220)

Such examples in the Poetic Edda, which preserves poems likely composed in c. 800-1100 CE, show that the inclusory PA has a long history in North Germanic.

4 Methodology

4.1 Data collection

The claims in this chapter are based on data from two parsed corpora of historical Icelandic, IcePaHC (Wallenberg et al. 2011) and MicePaHC (Ingason 2020), henceforth referred to collectively as “(M)IcePaHC”. IcePaHC spans the whole Icelandic diachrony from 1150-2008 CE, with 61 text excerpts from varying genres, which altogether contain around 1 million words. MicePaHC is an extended corpus of Old Icelandic saga texts currently under development, and I use this resource to complement the IcePaHC data, since the PA is a relatively low-frequency phenomenon, at least in the extant written texts which are available to us from the Old Icelandic period.

I restrict the study to texts dated up to 1450 (\approx Old Icelandic), according to the dating provided by the corpora themselves.¹⁴ Both corpora are syntactically annotated according to the Penn Treebank format established for historical English

¹⁴1450 is relatively late to be considered “Old Icelandic”, but since the PA is a relatively low-frequency phenomenon, I stretch the period to gather as much data as possible.

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(Santorini 2010), which allows for the extraction and quantitative investigation of specific hierarchical structures and linear orders via the CorpusSearch query language (Randall 2005). Each sentence from (M)IcePaHC is equipped with a unique sentence ID which provides information about the year and name of the text, the text genre and the number of the token in the text. When citing an example from (M)IcePaHC, I specify the particular corpus and provide the year, text name and token number, allowing for identification of the example in the relevant corpus.

In the (M)IcePaHC annotation, the plain and the inclusory PA are treated identically as a pronoun which combines with an appositive noun phrase (NP-PRN), headed by a proper noun (NPR-*). An example of an annotated plain PA is provided in (28a) and of an inclusory PA in (28b).¹⁵

- (28) a. (NP-SBJ (PRO-N hann-hann)
(NP-PRN (NPR-N Ófeigur-ófeigur)))
b. (NP-SBJ (PRO-N þeir-hann)
(NP-PRN (NPR-N Þorleifur-þorleifur)))

I extract all third person PAs as the basis of the study via CorpusSearch queries (Randall 2005); as mentioned in Section 3, the inclusory PA also occurs in the first and second person but I leave such examples for further research.

As outlined in Section 2, in contexts where the inclusory PA combines with more than one personal name in a coordination structure, it will be identical in form to a plain PA construction. There are many such examples in the (M)IcePaHC data where, without contextual information, the construction could in principle be an instance of either the plain or inclusory PA, e.g. (29).

- (29) Old Icelandic
a. Síðan fara [þeir Arinbjörn og Egill] á
then go PA.M.NOM.3PL Arinbjörn.NOM and Egill.NOM to
fund Bjarnar
meeting.ACC Björn.GEN
'Then Arinbjörn and Egill (at least) go to a meeting with Björn.'
(IcePaHC: 1250, Thetubrot.60)
b. [Þau Rannveig og Gamli] tóku allvel
PA.N.NOM.3PL Rannveig.NOM and Gamli.NOM received very.well
við Gretti
with Grettir.DAT

¹⁵See the official annotation policy at https://linguist.is/icelandic_treebank/NP-PRN.

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‘Rannveig and Gamli (at least) gave Grettir a very good welcome.’
(IcePaHC: 1310, Grettir.1635)

Examples like (29) can only be categorised as plain or inclusory via close manual examination of the example in context; it is not possible to categorise them automatically via the (M)IcePaHC annotation. Thus, I set them aside as a third “mixed” group, alongside a set of examples where the PA is identical in form to the 3sg pronoun *hann/hún* and which are straightforwardly all of the plain type, cf. (28a), and a set which are straightforwardly all of the inclusory type, i.e. examples where the PA is identical in form to the 3pl pronoun *þeir/þær/þau* and where the PA combines with only one personal name, cf. (28b).

The inclusory and mixed types are attested more frequently in the corpora than the plain type, which is less frequent. Thus, while I rely only on IcePaHC data for the inclusory and mixed types, for the plain type I also include relevant examples from MIcePaHC to supplement the small number in IcePaHC; for the inclusory and the mixed type, including all examples from MIcePaHC would yield too many examples to allow manual qualitative checks. After manual checking of the search outputs to exclude misannotations and erroneous examples, this yields the three datasets outlined in Table 2.¹⁶

Table 2: PAs in (M)IcePaHC (1150–1450)

Corpus	Plain	Inclusory	Mixed
IcePaHC	38	169	107
MIcePaHC	46	–	–
Total	84	169	107

The plain and inclusory subsets in Table 2 are manually tagged for properties relevant to the investigation, specifically (i) the grammatical function of the PA-marked expression, (ii) whether the referent marked by the PA is discourse-given or discourse-new, and (iii) whether the referent marked by the PA represents a topic, and if so, what type of topic transition is relevant as per the definitions in (32) below.

In terms of the distribution of the PA across different text types, one can look at the IcePaHC data in isolation to gain at least an impression, since that corpus

¹⁶In order to make the study of manageable scope, I restrict the study to third person instances of the PA, and exclude any examples which include nouns tagged as “proper nouns” which are not personal names, e.g. *goði* ‘chieftain’, *jarl* ‘earl’.

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spans a range of genres (narrative, religious, biographical, scientific and legal texts), while MicePaHC consists of solely saga texts. The generalisation for all three subsets of data in Table 2 is that the PA is virtually restricted to narrative texts in Old Icelandic, i.e. sagas. For the plain subset, all 38 examples from IcePaHC occur in sagas. For the inclusory subset, all but one of the 169 examples occur in sagas and all but one of the 142 examples from the mixed subset occur in sagas. The two examples of the PA found in non-sagas occur in the religious texts *Homiliubok* and *Judit* and are provided in (30).

(30) Old Icelandic

- a. að af trænu kom það epli, er [þau
COMP of tree.DAT.DEF came DEM.NOM apple.NOM REL PA.N.NOM.3PL
Eva og Adamur] átu fyrirboðið
Eve.NOM and Adam.NOM ate forbidden
'that from the tree came that apple, which Eve and Adam ate
(and it was) forbidden' (IcePaHC: 1150, *Homiliubok*.2082)
- b. og hugði að þau Júdit mundu sofa bæði
and thought COMP PA.N.NOM.3PL Judith.NOM would sleep both
saman
together
'and thought that he and Judith would both sleep together'
(IcePaHC: 1450, *Judit*.434)

Homiliubok is a collection of sermons featuring extensive quoted passages from the bible, and *Judit* is a bible translation of the Book of Judith, and it is clear from the examples in (30) that they occur in narrative passages. Thus, one can claim on the basis of the IcePaHC data that, at least within the written language, the PA in Old Icelandic appears to be a narrative-specific device.

4.2 Topicality and topic transitions

Any study of the morphosyntax–information structure interface must first outline one's terminology and understanding of key information-structural concepts. In particular, terms such as “topic” and “focus” subsume a range of notions depending on author and approach, and the definition of topichood in particular is a slippery customer (e.g. Chafe 1976; Reinhart 1981; Givón 1983; Jacobs 2001; Frascarelli & Hinterhölzl 2007; Krifka 2007; Neeleman et al. 2009; Bianchi & Frascarelli 2010). In this chapter, “topic” will be understood as roughly equivalent to “aboutness topic”, i.e. the entity about which information is expressed

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(cf. “sentence topic”, Reinhart 1981). In this context, the diagnostic tests provided by Götze et al. (2007: 165) can be used to identify the aboutness topic of an utterance, cf. (31).

- (31) An NP X is the aboutness topic of a sentence S containing X if:
- a. S would be a natural continuation to the announcement
Let me tell you something about X
 - b. S would be a good answer to the question
What about X?
 - c. S could be naturally transformed into the sentence
Concerning X, S'
where S' differs from S only insofar as X has been replaced by a suitable pronoun

As already mentioned, there is good reason to assume that studies of information-structural phenomena should go beyond a distinction between given and new and this is no less the case with topic and focus; whereas topics are prototypically given and foci prototypically new, there are many non-trivial exceptions to these general correspondences (see e.g. Cook & Bildhauer 2013). With respect to topicality, one way of distinguishing between different subtypes of topic is to go beyond whether a referent is given or new and instead consider specifically the relation between a current topic and the topic of the immediately preceding utterance, i.e. the topic transition (see e.g. Daneš 1974 and “Centering Theory” in Grosz et al. 1995). In this chapter, I recognise four types of topic transition, as defined in (32) (cf. Canes Nápoles & Riester 2021 for a similar typology).

- (32)
1. TOPIC CONTINUITY: current topic is co-referential with topic of immediately preceding utterance
 2. TOPIC PROMOTION: current topic is co-referential with focus of previous utterance
 3. TOPIC RESUMPTION: current topic is co-referential with an earlier topic which was not the topic of the immediately preceding utterance
 4. SUBSECTIONAL TOPIC SELECTION: current topic is an element of a previously introduced set of entities

Type 1 in (32), topic continuity, equates to notions defined elsewhere as “familiar topics” (Frascarelli & Hinterhölzl 2007) or “continuous topics” (Bianchi & Frascarelli 2010; cf. also Givón 1983), whereas types 2–4 represent various

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types of what are standardly labelled “shift-topics” (Frascarelli & Hinterhölzl 2007; Bianchi & Frascarelli 2010). Note however that types 2–4 each involve a shift of topic to a referent which, although not the topic of the preceding sentence, is already present in the discourse in some way, i.e. given/familiar. This will become particularly relevant in the discussion of the plain proprial article alongside other topic management devices in Old Icelandic in Section 5.

5 Topic management and the plain proprial article

Recent years have seen a surge of interest in the morphosyntax–information structure interface in Early Germanic, especially within Early West Germanic, (e.g. Trips & Fuß 2009; Hinterhölzl & Petrova 2009, 2010; Petrova & Hinterhölzl 2010; Epstein 2011; Breban 2012; Meurman-Solin et al. 2012; van Gelderen 2013; Bech & Eide 2014; Los & van Kemenade 2018; Catasso et al. 2021). Particular attention has been centred on the various devices which are employed for the management of discourse participants, and different types of topic transition (e.g. Epstein 2011; Breban 2012; van Gelderen 2013; Los & van Kemenade 2018; Catasso et al. 2021). By comparison, relatively little has been said about Early North Germanic in this context.¹⁷ In this section, I examine various morphosyntactic devices in Old Icelandic, including the proprial article, in terms of how they contribute to topic management. The discussion in this section is limited to the plain PA; I examine the inclusory PA in Section 6.

5.1 Narratives and information structure

As outlined in Section 4, the evidence from IcePaHC indicates that the PA is a narrative-specific phenomenon, at least in the exclusively written language which is available to us from the period. As many authors have noted (e.g. Carroll & Lambert 2003; Dimroth et al. 2010; Riester 2015), narratives as a genre bring their own specific characteristics which interact with the expression of information structure. Riester (2015) notes, for instance, that narratives are primarily structured on the temporal dimension, and that the “question-under-discussion” (von Stutterheim & Klein 1989; van Kuppevelt 1995) is typically a global one (e.g. *What happened? What happened next?*). Dimroth et al. (2010) note that this global question-under-discussion which underlies so much of narrative texts results in a prototypical narrative structure where the time talked about (“topic

¹⁷Relevant exceptions include Kossuth (1980), Leiss (2007), and Booth & Beck (2021).

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time”, Klein 1994) shifts from one utterance to the text, while the protagonist is maintained, and the predicate that holds for the protagonist constantly changes.

Furthermore, medieval Icelandic sagas must be considered on their own terms as a particular type of narrative with their own saga-specific linguistics traits, which may be to some extent linked to their (at least partly) oral origins (e.g. Byock 1984; Quinn 2000; Sigurðsson 2004). Various literary studies of the sagas have pointed out the rather unique style of saga narrative. Clover (1974), for instance, refers to sagas as exhibiting a “narrative of parataxis”, where a series of relatively independent units or “scenes” occur in paratactic sequence, without connecting narrative of any kind. As she also notes, the narrative in the sagas is often “stranded”, with the scene shifting back and forth between accounts, involving rhetorical devices of scene-setting. Similarly, Byock (1994) observes that the basic building blocks of saga structure are small, discrete particles of action and that they have a characteristic sense of homogeneity, with repeated presentation of incident after incident, in an economic style which the sagas have become famous for.

Given their rather unique style, it is unsurprising that certain authors have highlighted various morphosyntactic phenomena with special pragmatic properties which are particularly characteristic of saga texts, such as the “narrative inversion” V1 pattern (Kossuth 1980; Platzack 1985; Hopper 1987; Booth & Beck 2021), discussed below in Section 5.2, tense switching (Richardson 1995) and certain formulae which signal a shift in scene and/or temporal backtracking (Clover 1974). In this section, I claim that the PA is another such device employed for a specific type of topic management.

5.2 Givenness, topic continuity and narrative inversion

As outlined in Section 2, previous claims regarding the pragmatics of the Icelandic PA have focused on the given/new dimension, with the standard view that it is a familiarity/givenness marker, both in the plain variety and the inclusive type (Sigurðsson 2006). Moreover, this claim has been extended to early Norwegian/Icelandic by Johnsen (2016), as also discussed in Section 2. However, on closer inspection it is clear that the plain PA is not motivated in prototypical givenness contexts, for instance, where a single referent is maintained as the topic (cf. “topic continuity” in (32) above) and where no other referents are active in the discourse. Rather, in such contexts, the referent is expressed via straightforward personal pronouns, in line with the expression of topic continuity in Early Germanic more generally (e.g. van Gelderen 2013; Los & van Kemenade 2018). An example is provided in (33), which represents a continuous discourse segment

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from the opening of a new chapter, where the character of Haflíði Höskuldsson is introduced and maintained as the topic throughout.

(33) Old Icelandic

- a. Maður hét Haflíði Höskuldsson bróðir
man.NOM was.called Haflíði Höskuldsson brother.NOM
Sighvats auðga
Sighvatur.GEN wealthy.GEN
'There was a man called Haflíði Höskuldsson, brother of Sighvatur the wealthy.'
- b. Hann dreymdi um veturinn eftir jól þá er Melaför var
he.ACC dreamt in winter.DEF after Christmas when Melaför was
að hann var úti staddur á Kolbeinsstöðum
COMP he.NOM was outside stood at Kolbeinsstaðir
'He dreamt in the winter after Yule, when Melaför was, that he was standing outside at Kolbeinsstaðir.'
- c. Þar átti hann heima í Haugatungu
there had he.NOM home in Haugatunga
'He had his home there in Haugatunga.'
- d. Hann sá að leikur var sleginn þar skammt frá
he.NOM saw COMP game.NOM was struck there not.far from
garði
farmstead
'He saw that a game was struck there not far from the farmstead.'
(IcePaHC: 1250, Sturlunga.389.28–32)

A similar example, from the opening of *Finnboga saga ramma*, is shown in (34).

(34) Old Icelandic

- a. Ásbjörn hét maður
Ásbjörn.NOM was.called man.NOM
'There was a man called Ásbjörn.'
- b. Hann var kallaður dettiás
he.NOM was called Dettiás
'He was called Dettiás.'

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- c. **Hann** var Gunnbjarnarson Ingjaldssonar
 he.NOM was Gunnbjörnson.NOM Ingjaldurson.GEN
 ‘He was the son of Gunnbjörn, son of Ingjaldur.’
- d. Mikill maður var **hann** og sterkur og
 great.NOM man.NOM was he.NOM and strong.NOM and
 vænn að álitu
 handsome.NOM to appearance.DAT
 ‘He was a great man, strong, and handsome in appearance.’
- e. **Hann** bjó í Flateyjarðal á bæ þeim er
 he.NOM lived in Flateyjarðalur on farmstead.DAT DEM.DAT REL
 heitir á Eyri
 is.called á Eyri
 ‘He lived in Flateyjarðalur on the farmstead which is called á Eyri.’
 (IcePaHC: 1350, Finnbogi.625.1–5)

All of the sentences in (33) and (34) exhibit verb-second (V2) word order but a particular type of verb-first (V1) order has also been claimed to signal topic continuity, namely the “narrative inversion” construction (Platzack 1985), where a clause-initial finite verb is followed by a topical subject, typically realised as a personal pronoun, e.g. (35) (Kossuth 1980; Booth & Beck 2021).

- (35) Old Icelandic
 Sat **hún** hjá fótum hans
 sat she.NOM by feet.DAT he.GEN
 ‘She sat by his feet.’ (IcePaHC: 1150, Homiliubok.1875)

The construction is particularly common in narrative texts, especially the sagas (Platzack 1985) and cannot initiate a new discourse (Sigurðsson 2018), instead typically appearing in the reporting of sequenced temporal events with no change in participants (Platzack 1985; Hopper 1987; Kossuth 1980). Booth & Beck (2021) discuss the construction at length as an exception to V2, on the basis of corpus data from IcePaHC, and claim that the construction signals a clause with a subject which is an “anaphoric topic”, i.e. a topic with a direct antecedent in the immediately preceding context in the same narrative section. They provide the example in (36), which represents a series of temporally sequenced clauses, and where V2 coincides with topic-shift and narrative inversion V1 with topic continuity.

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(36) Old Icelandic

- a. **Gissur** kom í Reykjaholt um nóttina eftir
 Gissur.NOM came to Reykjaholt in night.ACC.DEF after
 Máritíusmessu
 Máritíusmass.ACC
 ‘Gissur came to Reykjaholt in the night after Máritíusmass.’
- b. Brutu **þeir** upp skemmuna er Snorri svaf í
 broke they.NOM up storehouse.ACC.DEF REL Snorri.NOM slept in
 ‘They (=Gissur and his men) broke open the storehouse where
 Snorri was sleeping.’
- c. En **hann** hljóp upp og úr skemmunni og í hin
 but he.NOM leapt up and out storehouse.DAT.DEF and in DEM.ACC
 litlu húsin er voru við skemmuna
 little.ACC houses.ACC.DEF REL were by storehouse.ACC.DEF
 ‘But he (=Snorri) leapt up and out of the storehouse and into those
 little houses which were next to the storehouse.’
- d. Fann **hann** þar Arnbjörn prest og talaði við hann
 found he.NOM there Arnbjörn.ACC priest.ACC and spoke with he.ACC
 ‘He (=Snorri) found there Arnbjörn the priest and spoke with him.’
- e. Réðu **þeir** það að Snorri gekk í kjallarann
 planned they.NOM DEM.ACC COMP Snorri.NOM went in cellar.ACC.DEF
 er var undir loftinu þar í húsunum
 REL was under loft.DAT.DEF there in houses.DAT.DEF
 ‘They (=Arnbjörn and Snorri) planned that Snorri would go into the
 cellar which was under the loft there in the houses.’
- f. **Þeir** **Gissur** fóru að leita Snorra um
 they.NOM Gissur.NOM began to seek Snorri.GEN around
 húsin
 house.ACC.DEF
 ‘Gissur and his men began to search for Snorri around the house.’
 (IcePaHC: 1250, Sturlunga.439.1765–1772, Booth & Beck 2021: 21)

Of the 83 examples of the (singular) plain PA in the (M)IcePaHC data (see Section 4), there is only one instance where the PA occurs on the subject of a narrative inversion V1 clause. On the standard assumption that the PA is a familiarity/givenness marker, this is unexpected, since narrative inversion V1 by

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definition involves a topical subject which is discourse-given. Rather, it suggests that the function of the (plain) PA in Old Icelandic should be more closely examined. The one example where the (plain) PA coincides with the subject of a narrative inversion clause is shown in (37), together with the relevant preceding context.

(37) Old Icelandic

- a. Þuríður gengur þá innar og leggur sitt stykki
 Þuríður.NOM goes then in and places her.REFL.ACC piece.ACC
 fyrir hvern þeirra bræðra
 before each.ACC DEM.GEN brothers.DEM
 ‘Þuríður goes in then and places her piece before each of the brothers.’
- b. Tekur [hann Steingrímur] til orða og mælti:
 takes PA.M.NOM.3SG Steingrímur.NOM to word and said
 ‘Steingrímur takes up the word and said:’
 (MIcePaHC: 1300, Heidarviga.1450–1454)

Sentence B in (37) involves a topic shift from Þuríður (=topic of sentence A) to Steingrímur and is thus an atypical use of narrative inversion, which typically marks topic continuity. Note, however, that Steingrímur is referenced in sentence A as one of the brothers, i.e. that sentence A involves topic shift via subsectional topic selection (cf. (32) above). In the next section, I show that marking this type of topic-shift is overall a common function of the plain PA in Old Icelandic.

5.3 The plain *proprial* article, subjecthood and topic-shift

Like in modern Icelandic (Section 2), the plain PA in Old Icelandic can occur on a range of grammatical functions, as evidenced by the (M)IcePaHC data which provide examples on subjects, possessors, objects and prepositional complements, cf. Table 3. For each grammatical function, I compare the number of PA-marked personal names against the number of simple personal names which occur without the PA. This reveals that the presence of the PA is in fact incredibly rare across all functions, cf. Table 3. In this section, I focus on the plain PA as it occurs on subjects, which is the most common in the dataset (65/84 examples).

As already shown in Section 5.2, the (plain) PA does not occur in prototypical givenness contexts, i.e. those which involve topic continuity. On first sight, this observation appears to cast doubt on the standard assumption that it functions

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Table 3: Frequency of the plain PA across grammatical functions in (M)IcePaHC (1150–1450)

Grammatical function	PA	no PA	%PA
Subject	65	28 391	0.23
Possessor	13	3 961	0.33
Object	3	3 048	0.10
Prepositional complement ^a	3	–	–
Total	84		100.00

^aI do not make this comparison for the PA on prepositional complements as unlike with proper nouns (NPR-*) which occur as subjects, possessors and objects, which are virtually all personal names, proper nouns which occur as prepositional complements are very often place names, which are not possible to disambiguate from personal names in the corpus annotation.

as a familiarity/givenness marker. At the same time, the familiarity/givenness association with the PA is not in fact inaccurate; the (M)IcePaHC data for the plain PA, once tagged as described in Section 4, confirm that the PA-marked referent in Old Icelandic is always discourse-given. Specifically, in all 84 instances of the plain PA in (M)IcePaHC, the PA marks a referent which is referred to in the previous discourse. However, as I will show in this section, the (M)IcePaHC data indicate that the (plain) PA is more than just a straightforward familiarity/givenness marker. In particular, it occurs on the subject in contexts involving a particular type of topic-shift, where a discourse-given referent is promoted to, resumed, or subsectionally selected as the topic (cf. the topic transitions in (32) above). Crucially, such an account relies on a more complex understanding of the interaction between morphosyntax and information structure, beyond a simple given/new distinction.

Of the topic-shift contexts in which the plain PA appears, one can distinguish three sub-contexts, which involve particular types of topic transition as outlined above in (32): (i) TOPIC PROMOTION, (ii) TOPIC RESUMPTION and (iii) SUBSECTIONAL TOPIC SELECTION. Firstly, the plain PA can mark instances of topic-shift involving topic promotion, i.e. where a referent construed as non-topical in the previous context (e.g. as a focused element) is “promoted” to topic, e.g. (38).

(38) Old Icelandic

- a. Og er Túta kemur fyrir Halla þá réttir
and when Túta.NOM came before Halli.ACC then outstretched

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[hann Halli] hendur í móti grísinum...
 PA.M.NOM.3SG Halli.NOM hands.ACC towards pig.DAT.DEF

‘And when Túta came before Halli, then Halli stretched out his hands towards the pig.’ (IcePaHC: 1275, Morkin.1156)

- b. Svo er sagt að þeir kæmu að máli við Þórodd
 so is said COMP they.NOM came to talk.DAT with Þóroddur.ACC
 goða Eyvindarson frænda sinn synir
 chief.ACC Eyvindarson.ACC kinsman.ACC their.ACC sons.NOM
 Þóris flatnefs. Hét annar þeirra Þórður illugi
 Þórir.GEN flat-nose.GEN was.called other.NOM they.GEN Þórður illugi
 en annar Björn. Þeir báðu hann ráðagerðar til að drepa
 and other Björn they.ACC asked he.ACC plan.GEN to to kill
 Skútu Áskelsson því að hann hafði drepið föður þeirra
 Skúta Áskelsson because he.NOM had killed father.ACC they.GEN
 og bróður. [Hann Þóroddur] vill nú þreifa
 and brother.ACC PA.M.NOM.3G Þóroddur.NOM will now consider
 um þá
 about they.ACC

‘So it is said that they, the sons of Þórir Flat-nose, come to speak with Chief Þóroddur Eyvindarson, their kinsman. One of them was called Þórður illugi and the other Björn. They asked him for a plan to kill Skúta Áskelsson because he had killed their father and brother. Þóroddur now wishes to consider about them.’
 (MIcePaHC: 1400, Reykdæla.2035–2038)

Secondly, the plain PA signals topic-shift in contexts where a referent who was a previous topic, but was not the topic in the immediately preceding context, can be re-established or resumed as the topic (“topic resumption”, cf. Gast 2010). A very common context here is extended dialogues which alternate back and forth between at least two speakers. An example is shown in (39), which is a continuous piece of discourse where the conversation alternates between Ófeigur and Gellir, and where the PA is used to signal turn-taking.

(39) Old Icelandic

- a. “Hví sætir það?” segir Ófeigur
 why amounted DEM.NOM says Ófeigur.NOM
 ‘“How did that come about?”, says Ófeigur.’

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- b. “Því,” kvað [**hann** Gellir], “að eigi hafa þeir
because said PA.M.NOM.3SG Gellir.NOM COMP NEG have DEM.NOM
menn til orðið er bæði séu vel ættaðir og
men.NOM PTCL become REL both would.be well born and
fémiklir og hefðu staðfestur góðar”
moneyed and would.have residences good
‘ “Because”, said Gellir “these men have not come forth, who were
both well-born and -moneyed and who have good residences.” ’
- c. “Já,” kvað [**hann** Ófeigur], “þar er gott
yes said PA.M.NOM.3SG Ófeigur.NOM there is good.NOM
mannval”
choice.people.NOM
‘ “Yes”, said Ófeigur, “there is a good choice of people there.” ’
(IcePaHC: 1450, Bandamenn.39.717-721)

Thirdly, the plain PA occurs in another type of environment involving topic-shift, specifically where a discourse-old referent, which was previously explicitly mentioned/understood as the member of a set of referents, is picked out from the set as a new topic (“subsectional topic”, cf. van Deemter 1992; Dekker & Hendriks 1996; Krahmer & Deemter 1998), e.g. (40).

(40) Old Icelandic

- a. og þar koma til móts við þá Egill og
and there come to meeting.GEN with they.ACC Egill.NOM and
Gellir [...] Einn dag um þingið er á
Gellir.NOM one.ACC day.ACC at assembly.ACC.DEF when on
leið gengur Ófeigur frá búð og kemur til
way.ACC goes Ófeigur.NOM from booth and comes to
Mýramannabúðar og var [**hann** Egill] úti í
Mýramenn’s.booth.GEN and was PA.M.NOM.3SG Egill.NOM out in
virkinu og talar við mann einn
work.DEF and speaks with man.ACC one.ACC
‘and Egill and Gellir come there to meet with them [...] One day at the
assembly, when it is underway, Ófeigur leaves the booth and comes
to the booth of the Mýramenn and Egill was out working and he
speaks with a certain man.’ (IcePaHC: 1450, Bandamenn.36.599)
- b. En þau voru í akri Vigdís og Sigmundur.
and they.NOM were in field.DAT Vigdís.NOM and Sigmundur.NOM

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Og er [hún Vigdís] sá hann gekk hún
and when PA.F.NOM.3SG Vigdís.NOM saw he.ACC went she.NOM
í mót honum
towards he.DAT

‘And they were in the field, Vigdís and Sigmundur. And when Vigdís saw him, she went towards him.’ (MIcePaHC: 1350, Viga.505)

- c. Þá mælti Glúmur við Ingólf: [...] Og nú gengu
then spoke Glúmur.NOM with Ingólfur.ACC and now go
þeir báðir saman og nú viku [hann
they.NOM both.NOM together and now turns PA.M.NOM.3SG
Glúmur] í hlöðu
Glúmur.NOM into barn.ACC

‘Then Glúmur spoke with Ingólfur: [...] and now they both go together and now Glúmur turns into the barn.’
(MIcePaHC: 1350, Viga.887)

In sum, the plain PA – at least on subjects – signals a specific type of topic shift involving the (re-)establishment of a discourse-given referent as topic. As such, the standard assumption that the (plain) PA signals givenness is not incorrect, but it is only part of the story. A final observation which is relevant in this context is that the order of the PA and the PA-marked referent in the (M)IcePaHC data is fixed; the PA is always prenominal. This fixed ordering is striking, given that word order in the nominal domain is known to be relatively free in early North Germanic (e.g. Börjars et al. 2016), where e.g. demonstratives, adjectives and possessors can occur before or after the head noun. However, as Börjars et al. (2016) point out, word order in the Old Norse/Icelandic noun phrase is not completely free; there is a structurally defined, discourse-prominent position at the left edge which hosts information-structurally privileged elements. On the assumption that the (plain) PA serves a special information-structural function in marking topic-shift, its restriction to this information-structurally privileged position is thus expected.

6 The *inclusory proprial* article

6.1 Associativity, givenness and topicality

As discussed in Section 2, previous accounts of the pragmatics of the *inclusory* PA in modern Icelandic have been restricted to the given/new dimension, with

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the claim that, like the plain PA, the gapped PA marks familiarity/givenness (Sigurðsson 2006). At the same time, the gapped PA in Old Icelandic has been discussed, often in passing, as an “associative plural” construction (den Besten 1996; Moravcsik 2003; Daniel & Moravcsik 2013; Sigurðsson & Wood 2020), although, as mentioned in Section 3, Heusler (1921) points out that this is only one function. As Heusler states, the PA can also express two individuals, one of whom is already in the “concisouness” of the speaker, i.e. in the common ground (Stalnaker 2002), and thus not explicitly named, and one who is explicitly named and “added” as a second person (cf. footnote 12 above). To my knowledge, the precise properties of the inclusory PA in Old Icelandic have not been examined since the early descriptive work by Heusler (1921). In this section, I examine to what extent the two different functions of the inclusory PA are exhibited in the (M)IcePaHC data. I focus specifically on examples in the third person, which in principle allow for both functions.

With respect to associative plurals, they are typically defined both in terms of form and meaning. Corbett & Mithun (1996: 1), for instance, define them as consisting of a nominal plus some sort of marker, which denote a set comprised of the referent of the nominal and one or more associated members (for similar definitions cf. Moravcsik 2003; Lewis 2021). In terms of pragmatics, the set denoted by an associative plural is ranked, with the referent around which the associate(s) is/are centred being “focal” (Moravcsik 2003) or “pragmatically dominant” (Daniel & Moravcsik 2013). Although such constructions generally have a restricted distribution within individual languages, typologically they are relatively common; Daniel & Moravcsik (2013), for instance, found associative plural constructions to be present in 201/238 sample languages. They are particularly common throughout Australia, Asia and Africa, although rare in Western Europe, found only in Icelandic, Norwegian, Frisian, German, Northern Saami and Basque.¹⁸

¹⁸Note that the associative plurals for Norwegian, Frisian and German are rather different to the Icelandic construction discussed here:

- (i) a. Norwegian
 moren og di
 mother and they
 ‘mother and the rest of the family’ (Daniel & Moravcsik 2013: Sentence igt-1209)
- b. Frisian
 heit en hjar
 father and them
 ‘father and them’ (Daniel & Moravcsik 2013: Sentence igt-3403)

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In order to investigate to what extent the inclusory PA in Old Icelandic functions as an associative plural on the terms just outlined, I conduct a manual investigation of two texts which provide particularly abundant examples of the construction and for which reliable published English translations are available: (i) *Grettir* (Faulkes 2001) and (ii) *Jomsvikingar* (Finlay & Jóhannesdóttir 2018). As with the investigation of the plain PA in Section 5, I focus here on the inclusory PA as it occurs on the subject, which constitutes the vast majority of the examples in the two texts ($n=19$). 11 of the 19 examples are translated with an associative plural meaning ('X and his associates'), where the PA-marked expression refers to a group of unidentifiable human individuals centred around the PA-marked referent ('X'), e.g. (41). In each instance the PA-marked referent is discourse-given, but is not present in the immediately preceding context. Since many of the examples involve long passages of text, I do not provide glossing but simply the accompanying published translations from Faulkes (2001) and Finlay & Jóhannesdóttir (2018).

(41) Old Icelandic

- a. Þorgils frétti að [**þeir** Þorsteinn] fjölmenntu mjög til alþingis og sátu í Ljárskógum. Því frestaði hann heiman að riða að hann vildi að [**þeir** Þorsteinn] væru undan suður riðnir þá er hann kæmi vestan og svo varð.

'Thorgils heard that **Thorstein's party** was assembling a great following for the Althing and was waiting in Liarskogar. He delayed his own departure because he wanted **Thorstein and his party** to have ridden away south by the time he came from the west, and so it turned out.' (IcePaHC: 1310, *Grettir*.1381–1383)

- b. Þau Rannveig og Gamli tóku allvel við Gretti og buðu honum með sér að vera en hann vildi heim riða. Þá frétti Grettir að [**þeir** Kormákur] voru sunnan komnir og höfðu gist í Tungu um nóttina.

'Rannveig and Gamli welcomed Grettir warmly and invited him to stay on with them, but he wanted to ride home. Then Grettir found out that **Kormak's party** had come back from the south and had lodged at Tunga for the night.' (IcePaHC: 1310, *Grettir*.1635–1638)

c. German

Anna und die

Anna and PL.DEF.ART

'Anna and her group' (Daniel & Moravcsik 2013: Sentence igt-3235)

- c. Og nú er það sagt, að Haraldur konungur gráfeldur fellur þar í bardaganum og mestur hluti liðs hans, og lauk svo um hans æfi. [5] Og þegar er Hákon jarl veit þessi tíðendi, þá gerir hann atróður harðan, þá er [þeir Gull-Haraldur] voru sízt viður búnir.
 ‘And now it is said that King Haraldr gráfeldr fell there in battle with the greater part of his company, and thus his life ended. And as soon as Jarl Hákon learned this news, he makes a hard rowing attack when **Gull-Haraldur and his men** were least prepared for it.’
 (IcePaHC: 1260, Jomsvikingar.490–492)
- d. En um daginn eftir, þá berjast þeir allan dag til nætur, og þá eru hroðin tíu skip Haralds konungs, en tólf af Sveini, og lifir enn hvortveggi þeirra, og leggur Sveinn nú skip sín inn í vogshotninn um kveldið. En [þeir Haraldur konungur] tengja saman skip sín um þveran voginn fyrir utan og leggja stafn við stafn, og búa svo umb, að Sveinn væri inni tepptur í voginum, og ætla að hann skyldi eigi út koma skipunum, þótt hann vildi við það leita.
 ‘But the following day they fight all day until night, and then ten of King Haraldr’s ships are stripped, and twelve of Sveinn’s, and both of them are still alive, and now Sveinn berths his ships in at the head of the bay in the evening. But **King Haraldur and his men** link their ships together across the outside of the bay, setting stem to stem and arranging things so that Sveinn would be trapped in the bay, and intended that he would not be able to get his ships out if he wanted to try it.’
 (IcePaHC: 1260, Jomsvikingar.1283–1290)

The remaining eight examples of the inclusory PA in these two texts are translated instead as ‘he and X’ and as such do not appear to qualify as associative plurals on the understanding of the term here. Some examples from this group are provided in (42).

(42) Old Icelandic

- a. Um vorið fór Grettir norður í Voga með byrðingsmönnum. Skildu [þeir Þorkell] með vináttu en Björn fór vestur til Englands.
 ‘In the spring Grettir went north to Vågan with merchants; **he and Þorkel** parted on friendly terms.’ (IcePaHC: 1310, Grettir.1040–1042)
- b. Þá var til jarls kominn Bersi Skáld-Torfuson, félagi Grettis og vin. Gengu [þeir Þorfinnur] fyrir jarl
 ‘By this time Grettir’s comrade and friend Bersi Poet-Torfa’s son had

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arrived at the earl's. **He and Thorfinn** approached the earl.'

(IcePaHC: 1310, Grettir.1147–1148)

- c. Fór Grettir með Þorfinni. Skildust [**þeir** Þorsteinn bróðir hans] með vináttu.

'Grettir went with Thorfinn. **He and his brother Thorstein** parted in friendship.' (IcePaHC: 1310, Grettir.1263–1264)

- d. Og nú tekur jarl upp þetta fé allt að herfangi og geldur Haraldi konungi af því fé þriggja vetra skatt fyrir fram, og kveðst eigi mundu í öðru sinni betur til fær en nú. Haraldur konungur tekur því vel, og skiljast [**þeir** Hákon] nú, og fer hann í braut úr Danmörku

'And now the jarl takes all that money as booty and pays King Haraldr from that money three years' tribute in advance, and said he would not another time have a better opportunity than now. King Haraldr accepts that gladly, and **he and Hákon** part now, and he goes away from Denmark until he comes to Norway.' (IcePaHC: Jomsvikingar.507–511)

- e. Þess er nú við getið að Pálnatóki á son við konu sinni Ólöfu, og er hann fæddur litlu síðar en konungur fór í braut af veizlunni; sá sveinn var kallaður Áki. Hann var þar upp fæddur heima með feður sínum, og várust [**þeir** Sveinn Haraldsson] fóstbræður.

'It is now told further that Pálnatóki has a son with his wife Ólof, and he is born shortly after the king went away from the feast; this boy was called Áki. He was brought up there at home with his father, and **he and Sveinn Haraldsson** were foster-brothers.'

(IcePaHC: 1260, Jomsvikingar.1128–1133)

This second group, as exemplified in (42), appears to qualify as the second function of Heusler (1921). The PA-marked expression denotes a set comprising two individuals, one of whom is already in the common ground (Heusler's "consciousness") and represents a continuing topic in the present utterance and is not explicitly named. Close inspection reveals that the second referent is consistently discourse-given, but never has the status of continuing topic; rather it is typically a newly promoted or resumed topic (cf. (32) above). I discuss this issue of asymmetry in topicality further in Section 6.2.

6.2 Inclusive constructions and noun–pronoun coordination

Various authors have discussed inclusive constructions in the wider context of linguistic devices which indicate the involvement of two or more persons in a particular semantic role, including standard coordination (e.g. Bhat 2004; Gaby

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2005; Haspelmath 2007; Bril 2011). Bril (2011), for instance, in her discussion of conjoining strategies in Austronesian languages, observes that inclusory constructions often (though not always) occur in languages which ban (standard) noun–pronoun conjunction. She further notes that, if inclusory constructions are available in a language which permits (standard) noun–pronoun conjunction, the choice between standard coordination and the inclusory construction typically correlates with discourse effects, whereby standard coordination expresses equal topicality, salience, or emphasis between conjuncts, and inclusory constructions involve pragmatic asymmetry between conjuncts.

Searches in (M)IcePaHC show that standard coordination of a 3sg pronoun and a personal name ('he and X') is attested in Old Icelandic, though very rare, and certainly much rarer than the inclusory PA. I have found only one continuous example, i.e. where the coordinated pronoun and personal name are directly adjacent, shown here in (43). The example occurs on a possessor and is from a late text (*Ectorssaga*, 1450).

(43) Old Icelandic

En gamli maður segir: ["..."] Gekk hann þá út og kom aftur
 but old.NOM man.NOM says went he.NOM then out and came back
 skjóttliga leiðandi eftir sér einn þræl stórran að ekki
 quickly leading after REFL.DAT one.ACC slave.ACC big.ACC COMP nothing
 var í milli um vöxt hans og Aprívals
 was between about size he.GEN and Apríval.GEN
 'But the old man says ["..."] Then he went out and came back quickly,
 leading after him a big slave such that there was nothing between his and
 Apríval's size.' (IcePaHC: 1450, *Ectorssaga*.1515)

Besides the continuous example in (43), I have also found one example where the 3sg pronoun and coordinated personal name are discontinuous ('he...and X'), shown here in (44).

(44) Old Icelandic

Var Þorleifur á húsum þeim er eru í útnorður
 was Þorleifur.NOM at buildings.DAT DAT.DEM REL are in northwest.ACC
 frá kirkju. Hafði hann þar hanboga og Jósteinn
 from church.DAT had he.NOM there handbow.ACC and Jósteinn.NOM
 glenna austmaður hans
 glenna.NOM east.man.NOM he.GEN
 'Þorleifur was at those buildings which were north-west of the church.

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He and Jósteinn Glenna, his man from the east, had there a handbow.
(IcePaHC: 1250, Sturlunga.391.102)

The difference between (43) and (44) is that the named referent *Apríval* in (43) is known from the previous discourse, whereas in (44) *Jósteinn* is a first mention, and occurs with other identifying material ('his man from the East'). Like inclusory constructions, discontinuous nominals crosslinguistically have been observed to often coincide with information-structurally asymmetric conjuncts, especially in languages where word order is sensitive to information structure (e.g. McGregor 1997; De Kuthy 2002; Fanselow & Féry 2006; Skopeteas et al. 2022). On the basis of the very limited data available for Icelandic, one can suggest that discontinuous coordination of a pronoun and a name is used when the pronoun is a continuing topic, and the name is discourse-new. When the name is familiar, but not a continuing topic, i.e. when the referents differ not in givenness but in topicality, the M(IcePaHC) data indicate that Old Icelandic by far favours the inclusory PA construction compared to standard coordination, which in such contexts appears to be very rare.¹⁹ Besides functioning as an associative plural, the inclusory PA (at least on subjects) thus serves an additional function in expressing a topic which comprises a continuing topic and an additional discourse-given referent which is re-established as topical (shift-topic), in line with the general trend for inclusory constructions to involve conjuncts which differ in topicality (Bril 2011).

7 Conclusion

In this chapter, I have demonstrated that investigations of linguistic features at the morphosyntax–information structure interface must go beyond the given/new dimension in order to achieve a full understanding of such phenomena. By considering different types of aboutness topic in terms of types of topic transition, I have shown that the *proprial* article in Old Icelandic is more than a straightforward givenness marker, as previously claimed Sigurðsson 2006; Johnsen 2016. Rather, the (M)IcePaHC corpus data indicate that the *proprial* article is often employed in Old Icelandic saga narratives as a topic management device. The plain PA was shown to occur optionally as a topic-shift marker, employed specifically when a discourse-given referent is (re)established

¹⁹Relatedly, Sigurðsson (2006: 230) states for modern Icelandic that the inclusory PA *við Jón* ('we John') is "often or usually preferred" to the standard pronoun-noun coordination structure *ég og John* ('John and I').

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as a topic via topic promotion or resumption, or via subsectional topic selection. The (M)IcePaHC data also confirmed an early claim by Heusler (1921) that the inclusory PA serves two different functions in Old Icelandic: as (i) an associative plural and (ii) a strategy for coordinating (at least) two human referents which are both discourse-given but differ in topicality (continuing topic versus shift-topic). More broadly, the Old Icelandic facts emphasise the different nature of the diachrony of the proprial article in North Germanic compared to Continental West Germanic (e.g. Schmuck & Szczepaniak 2014; Schmuck 2020a,b,c), and in particular that, in the former, topic management rather than the grammaticalisation of definiteness and loss of case is a key factor.

Abbreviations

ACC	accusative	NEG	negation
COMM	common	NOM	nominative
COMP	complementiser	NONFUT	non-future
DAT	dative	PA	proprial article
DEF	definite	PERF	perfect
DEM	demonstrative	PERS	person
DU	dual	PL	plural
EXCL	exclusive	PST	past
F	feminine	PTCL	particle
GEN	genitive	REFL	reflexive
INDEF	indefinite	REL	relativiser
INF	infinitive	SG	singular
M	masculine	SPEC	specifying preposition
MKR	marker	TAM	tense-aspect-mood
N	neuter	TR	transitive

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Chapter 8

Modifying variation: About the adjective position in Old Norwegian

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In this chapter I analyze the positional variation of adnominal adjectives in Old Norwegian. Even though a syntactic development towards a fixed prenominal appearance of adjectives is already well underway in the period studied here, the corpus material still shows cases of postnominal adjectives and cases where the adjectives flank the head noun. For other Germanic languages, positional variation of adjectives relative to the noun that they are modifying has been addressed within discussions of the developing article system and of functional differences such as “attribution versus predication” or “restrictive versus non-restrictive modification”. I will build on these discussions, and further focus on information-structural influence on word order variation, including a left periphery to the Old Norwegian NP with designated positions for *topic*, *focus* and *contrast* in accordance with the split DP hypothesis. I argue that information-structural constraints play an important role for the observed variation within the nominal projection in Old Norwegian.

1 Introduction

In Old Norse (Old Norwegian and Old Icelandic), we can observe considerable syntactic variation of various elements within modified NPs in the surface structure. As such, e.g. possessives, demonstratives and adjectives can appear either before or after the noun they modify (cf. Faarlund 2004: 55; Börjars et al. 2016: e12). In this chapter, I focus on variation within NPs in Old Norwegian that are modified by attributive adjectives, embedded in nominal expressions through



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direct modification¹ (occurring in adnominal position, expressing inherent or enduring properties; individual-level reading). Excluded from the analysis are adjectives that occur in a predicative context, i.e. structures where the adjective functions as a predicate to the subject (expressing some kind of accidental or temporary property of the nominal expression; stage-level reading; see e.g. Sadler & Arnold 1994: 192ff; Larson & Marušič 2004: 274f; Larson & Takahashi 2004: 7ff; Cinque 1994: 94f; Cinque 2010: 6ff). Discontinuous phrases² are excluded from the analysis as well.

In the extended NP in Old Norse, modifiers can occur both before and after the noun (I here assume that this reflects information-structurally motivated variation, see Section 3.3). However, the order of adjective + noun is already the predominant order in the material (contra Faarlund 2004: 68; see also Mørck 2016: 394 who repeats the statement made in Faarlund, referring also to Ringdal 1918: 19ff), and I assume, in opposition to van Gelderen & Lohndal 2008, that this is the base order in this language stage (see also Bech et al. 2023 [this volume], who show that all early Germanic languages had the order adjective + noun). The development away from the possibility for postnominal appearance of the adjective and towards a strict adjective + noun order in Germanic languages is said to correlate with two factors: 1) the emergence of a determiner system, entailing explicitly overt marking of definite contexts (cf. van Gelderen & Lohndal 2008; Pfaff 2019), and 2) the general fixation of word order with less influence of information-structural constraints and prosodic weight in the syntax (cf. Fischer 2006, 2012; Tiemann 2022). This development thus implies a change from information-structurally marked positions to canonical positions (i.e. from pragmatics to grammar, see Sankoff & Brown 1976; Givón 1979).

For Old Norwegian, three general surface patterns³ are found in the corpus material: adjectives may precede (1a), follow (1b) or flank (1c–1d; I will refer to

¹Cf. Pfaff (2015: 17), referring to Cinque (2010) who addresses indirect and direct modification: “indirect modifiers are syntactic predicates in a [reduced relative clause], whereas direct modifiers are APs merged in dedicated functional projections”.

²The only linearly non-adjacent cases considered here are those where the adjective article *hinn* (ART) appears between the noun and the adjective. However, as this element is interpreted as an element of the adjectival constituent (see Section 3.1.1), I do not analyze these cases as actually discontinuous (cf. also Skrzypek 2009, 2010; Stroh-Wollin 2009, 2015; Börjars et al. 2016; Pfaff 2019).

³The notion *pattern* is used descriptively and refers to the linear orders in the surface structure.

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this as *split construction*)⁴ the noun they modify.⁵

- (1) a. Adjective – Noun
 þeir hafa **storar** *vaker* þar
 they have large.ACC.PL.STR opening.ACC.PL there
 ‘they have large openings there’ (10v, col.b:21–22)
- b. Noun – Adjective
 komi i *skola* **goðan**
 come.SBJV in school.ACC.SG good.ACC.SG.STR
 ‘would come in/enter a good school’ (17v, col.b:15)
- c. Adjective – Noun – and – Adjective
 sæm byriar [**lyðnum** *syni* oc
 as behooves humble.DAG.SG.STR son.DAT.SG and
litillatom] at finna [**astsamlegan** *foður* oc
 obedient.DAT.SG.STR to find loving.ACC.SG.STR father and
gofgan]
 renowned.ACC.SG.STR
 ‘as it behooves a humble and obedient son to approach a loving and
 renowned father’ (1r, col.a:22–26)
- d. Adjective – Noun – Adjective
 annat hvart mæð [**longu** *hafi*
 whether with wide.DAT.SG.STR sea.DAT.SG
rasta fullu]
 full.of.strong.current.DAT.SG.STR
 ‘whether with a wide sea full of strong currents’ (15v, col.a:12–13)

This kind of syntactic variation has been discussed extensively for Old English, mainly in correlation with phenomena of definiteness, declension, and linear iconicity (see especially Fischer 2000, 2006, 2012; Haumann 2003, 2010; Bech

⁴Only examples with two adjectives modifying the same referent (strict identity) were considered under the split construction (see Sections 4.1 and 4.2). I excluded constructions containing two adjectives referring to two different referents, as in *gamla menn ok unga*, ‘old and young men’ (taken from Bech 2017: 7). Note that square brackets used in examples illustrating a split construction, e.g. (1c), do not refer to an underlying syntactic structure. In these instances, they are used simply to clarify that the adjectives refer to one common referent.

⁵Examples are taken from the main text of the corpus material studied here, *Konungs skuggsjá* in AM 243 b4 fol. The references are given according to the manuscript page (r/v=recto/verso), the column (a/b), and the line number on the manuscript page. In all the examples, the adjectives are marked in bold, while the head noun is marked by italics. Additional elements of interest are marked by a combination of bold and italics.

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2019). For Old Norse, however, orders differing from the assumed base order A–N (see e.g. Nygaard 1905; Ringdal 1918; Faarlund 2004: 68; Mørck 2016: 394) have not been studied in detail. van Gelderen & Lohndal 2008 and Bech 2017 touch upon this topic, concentrating on Old Norwegian, but do not analyze possible triggers for the observable variation in greater detail. I argue here that in many ways syntactic variation is a choice of the user, and thus due to information-structural constraints. To examine how and to what degree these constraints influence variation in the Old Norwegian NP, the central point of the discussion concentrates on an examination and possible interplay of the following factors: i) the definiteness of the NP, ii) the conveyed information status of involved elements, and iii) prosodic weight. Note that this study is intended to propose a first unified analysis for positional alternation of adjectives in Old Norwegian, so there are some distinctions that have not been made and lie outside the scope of the study (e.g. a systematic analysis of the semantics/classes of adjectives; cf. e.g. Cinque 1994; Dimitrova-Vulchanova 2003; Larson & Marušič 2004; Laenzlinger 2005; Alexiadou et al. 2007).

The present chapter has two main objectives. The first is to study the syntactic variation observed within the Old Norwegian NP separately from Old Icelandic, focusing on adjectives directly modifying a noun. In syntactic studies, these two languages are most often treated under one common notion: “Old Norse”. However, Icelandic and Norwegian show distinct developments towards their modern counterparts, and thus may show syntactic differences already relatively early in the language history (cf. also Tiemann 2022). The second objective is to study the influence of various factors and constraints triggering variation within the extended NP. The structural analysis builds on Pfaff’s (2015, 2019) analysis of Icelandic; however, I extend the structure for the NP in Old Norwegian through the inclusion of the split DP hypothesis.

The chapter is structured as follows: in Section 2, I present the corpus material used here and lay out the parameters examined in this study. In Section 3, I discuss the different factors assumed to be responsible for syntactic variation and the theoretical background for syntactic movement operations within the extended NP. After that, Section 4 presents a discussion of the derivation of various surface patterns, focusing on the split construction in Sections 4.1. and 4.2, before I conclude this chapter with a summary and remarks in Section 5.

2 Corpus material and parameters

The data for the analysis presented here is gathered from a corpus compiled by the author at the University of Bergen, *Korpus over den norske Konungs skuggsjá*

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(KoNoKs). This corpus contains the Old Norwegian text of *Konungs skuggsjá* ‘The king’s mirror’ in the Norwegian main manuscript, AM 243 b α fol.⁶ from the 1270s. The text is annotated for syntax and information structure, following the work collated in ANNIS,⁷ and in accordance with the annotations done within two large projects on information-structural analyses of older languages.⁸ KoNoKs is a corpus under development and at the time of this analysis it consists of 36,861 words. Even though this is still a relatively small corpus, it is sufficiently large to be able to make statements about the adjective position in Old Norwegian, since NPs containing adjectives directly modifying a noun are rather frequent. Additionally, I cross-checked my findings and the patterns given in Bech (2017) with four other Old Norwegian texts in five manuscripts: the *Old Norwegian homily book* (in AM 619 4to) from ca. 1200–1225, *Óláfs saga ins helga* (in Upps DG 8 II) from ca. 1225–1250, *Landslög Magnúss Hákonarsonar* (in HolmPerg 34 4to and in Upps DG 8 I) from ca. 1275 and 1300–1350, and *Strengleikar* (in Upps DG 4–7to) from ca. 1270. These texts were examined through the PROIEL web application;⁹ however, they had to be checked manually due to incomplete annotations and/or missing review. Moreover, since these texts do not follow the same annotation practice for phrase structure and information structure as the text in KoNoKs, the analysis of these four texts was limited to cross-checking for examples and the existence of patterns. Thus, the results are mainly presented in a qualitative–descriptive way, and a detailed analysis of adjectives in these texts is left for a later study.

To extract the data from KoNoKs, the ANNIS query system was used. The first query was a request for all adjectives in KoNoKs (Corpus A in Figure 1). In a second query, I narrowed down the search to all NPs where the head noun is directly modified by one or more APs on which it is dependent. I then studied these findings in detail and removed predicate constructions (copula constructions and constructions showing semantic temporality), an example of which is given in (2).

⁶<https://handrit.is/manuscript/view/da/AM02-0243-b-alpha/0#mode/2up>.

⁷ANNotation of Information Structure, which was originally designed in the German collaborative research centre (Sonderforschungsbereich) 632 (see Krause & Zeldes 2016).

⁸These were two projects funded by the German Research Foundation: *Informationsstruktur in komplexen Sätzen – synchron und diachron* <https://gepris.dfg.de/gepris/projekt/199843560?context=projekt&task=showDetail&id=199843560&>. (2011–2017) and *Informationssstruktur in älteren indogermanischen Sprachen* <https://gepris.dfg.de/gepris/projekt/109055449> (2009–2016).

⁹<http://foni.uio.no/proiel>.

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tween strong and weak adjectives (B1.a, B1.b, B2.a, and B2.b). All the instances of the split construction in Corpus B3 display strong adjectives.

KoNoKs contains a total of 1117 adjectives. Of these, 878 adjectives appear as direct modifiers in a nominal projection. The majority of these display the order A–N (88.5%), while there are considerably fewer examples showing the order N–A (7.2%). Even fewer adjectives occur in a split construction (4.3%). As mentioned above, I do not give any frequencies for adjectives and their positions in the other texts considered here. All numbers are restricted to KoNoKs.

As optionality in word order is often a complex phenomenon and the result of several parameters that are interlinked, I consider the influence of various assumed triggers for variation (see Table 2), but focus is especially the discussion of information-structural constraints (see in this context Gundel 1988; Bech 2001; Petrova 2009, 2012; Taylor & Pintzuk 2012; Struik & van Kemenade 2018).

It has been noted in the literature that information-structural features of adjectives are difficult to determine (cf. van Gelderen & Lohndal 2008: 13; Allen 2012: 259f). I therefore translate these features into a division of *non-essential* versus *essential*, providing grounds for clearer assignments of emphasis on adjectives on the basis of an analysis of the immediate surrounding context (see Section 3.4 for a detailed discussion). Prosodic weight was measured by syllable count of the adjective(s), counted from nucleus to nucleus, and grouped into light (1–3 syllables) and heavy (4–6 syllables) adjectives. If the NP includes two adjectives, their combined syllable number was considered. Additional elements, such as the adjectival article, were left out of the count.

3 Factors of variation and movement within the NP

3.1 Morphological and syntactic definiteness

Definiteness is, according to Heltoft (2010: 14), cited in Börjars et al. (2016: e15) “a paradigmatic contrast in adjectives and thus in NPs, but not in nouns”. It is generally held that weak versus strong inflection compensated for the lack of a definite and indefinite article in older language stages (see Mitchell 1985: vol I, 51; Traugott 1992: 171ff; Fischer 2000: 159ff; Fischer 2001: 249ff; Fischer 2006: 256ff). The two declensions are thus dependent on syntactic and semantic functions (see Faarlund 2004: 37; see also Abbott 2008: 122ff for a discussion of definite and indefinite NPs), where weakly inflected adjectives are mainly used in semantically definite NPs and strongly inflected adjectives in semantically indefinite NPs. This distinction can be translated into informational features. The strong (indefinite) adjectival inflection may indicate that the feature presented by the

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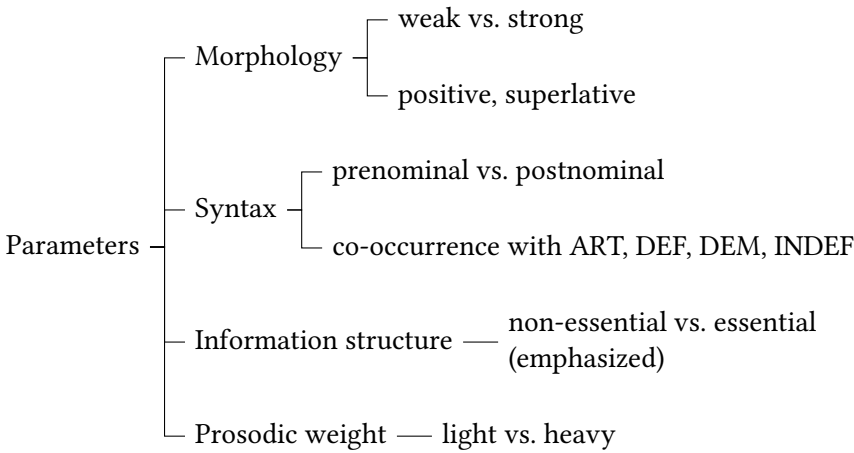


Figure 2: Parameters for adjectives directly modifying the head noun

adjective is new in the context, while the weak adjectival inflection, syntactically supported by an overt definiteness marker, points towards a given feature within the context. Syntactically, the emergence of the definite (and indefinite) article starts to mark the NP overtly for definiteness and contextually for givenness. Adjectival inflection together with these overt markers can create narrow semantic content, e.g. in constructions showing a strong adjective in combination with an overtly marked definite noun (cf. e.g. Thráinsson 2007: 3 for modern Icelandic), implying that the noun is known in the context, while the adjectival property describes a new feature of this known referent (this, however, is only possible with the occurrence of the nominal article *-inn* (DEF), as the adjectival article is exclusively bound to the weak inflection in the oldest attestations; cf. Pfaff 2019, see also Section 3.1.1).

The distinction between weak/strong adjectival inflection and semantically definite/indefinite NPs has often been brought into correlation with a distinction between (prenominal) attributive versus (postnominal) predicative use of adjectives (see e.g. Fischer 2012: 256 for Old English). Attributive adjectives occur inside a noun phrase, modifying the head noun, while predicative adjectives form a separate constituent and do not function as a modifier governed by the head noun. However, in the analysis presented here, I do not define strong adjectives as solely functionally predicative. Prenominal strong adjectives are thus not unexpected and are patterned with prenominal weak adjective readings regarding their semantic and functional properties, in line with Haumann (2010: 66ff), unless explicitly stated otherwise.

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3.1.1 Definiteness

The prototypical way of marking a context for definiteness is by using the definite articles ([+definite]; they can have the feature [+specific]), or by using demonstratives (which have a [+deictic] feature), which clearly show distinct reference and anaphoricity within the discourse (see e.g. Schwarz 2009). Accounts on definiteness phenomena have described the ability to identify a referent and refer to a totality, i.e. unique referents, uncountable nouns and plurals (cf. e.g. Lyons 1999; Rampazzo 2012). All Germanic languages developed a definite article system towards the modern counterparts to encode this kind of information. In Old Norwegian (and Old Icelandic), one of two definite article items was used: a free morpheme (ART; adjectival article; cf. Börjars et al. 2016: e15) and a bound morpheme (DEF; nominal suffix article), as shown in (3).

(3) Definite articles in Old Norse

a. Adjective article (ART)

hinn fyrsta dag
 ART.ACC.SG first.ACC.SG.WK day.ACC.SG
 ‘the first day’ (7v, col.b:16)

b. Nominal article (DEF)

dag-inn
 day-DEF.ACC.SG
 ‘the day’ (40r, col.a:8)

The adjective article (ART) complements the weak adjective (cf. e.g. Strohm-Wollin 2009, Pfaff & Walkden 2023 [this volume]) and is illicit with a bare noun (**hinn dag*)¹⁰, in which case simple definiteness may be expressed through the element DEF as in (3b). The only element obligatorily marked for (in)definiteness within the NP is the adjective, meaning that the definite article in semantic/discourse-pragmatic definite NPs (identificatory and contextually given in the discourse) is often still missing in Old Norwegian.¹¹ In overtly marked definite NPs modified by an adjective, the unbound article ART triggers the definite (i.e. weak) form of the adjective, which may be considered an agreement relation between the feature [DEFINITE] and [WEAK] (cf. Vangsnes 1997: 118; Pfaff 2015: 54,

¹⁰However, cases of double definiteness which display both of these elements can be found in Old Norwegian, as in ‘*hinir bæzto mænn-iner*’ ‘ART best men-DEF’ (26v, col.b:20–21).

¹¹Note that Old Norse does not yet have a fully grammaticalized article system (see Nygaard 1905: 27f; Faarlund 2004: 56, 74; Crisma & Pintzuk 2019: 225).

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who translates this into a c-command relation).¹² Describing two different definite articles as shown in (3), I follow Pfaff (2019) and assume that DEF is present in a position below *nP* and closest to *N*, while I assume ART to be merged as the head of weak APs (note that strong APs are illicit with ART). Strongly inflected adjectives are found in semantically indefinite NPs; however, they can also occur in definite contexts like those shown in (4) and (5) when ART is absent (see (12)). I consider these therefore as the default form in all contexts. Above the merging site for (all) adjectives is a CardP hosting numerals or cardinal quantifiers in its specifier position, and above this a projection for demonstratives (layered DP, see Julien 2002, 2005; Adger 2013). Note that a DP in this sense is a demonstrative phrase headed either by a demonstrative or a pronoun (cf. also Lander & Hageman 2014). Based on the analysis presented in Pfaff (2019) for Icelandic (see also Harðarson 2017), as well as the proposed universal by Greenberg (1963: 87)¹³ regarding the order of demonstratives, numerals, adjectives, and nouns, I assume the base structure for the extended Old Norwegian NP to be the one given in (A). For the purpose of this chapter, I will present a relatively simple structure, ignoring aspects that are not at the center of the discussion.

- (A) [DemP *sá* ... [PossP pronouns ... [CardP ... [_{αP} AP...[_{nP} DEF N]]]]]

For weak adjectives, the AP consists of two elements, forming one constituent ([ART A_{WK}]). ART can also co-occur with additional elements that may render the NP definite, such as the demonstrative *sá*, exemplified in (4)¹⁴ or a possessive pronoun like *MINN*, as in (5). This in turn implies that these elements are not on a par with ART, neither categorically, nor functionally, nor structurally (see Pfaff 2019: 24, 31f; cf. also Faarlund 2004, 2009). These elements are merged in a separate position above the adjectival projection.

- (4) *sá* ART A.WK
 Kona *þærs* *hins* *rika* *mannz*
 wife DEM.GEN.SG ART.GEN.SG rich.GEN.SG.WK man.GEN.SG
 ‘wife of this rich/mighty man’ (35v, col.a:14–15)

¹²The weak form of the adjective is not found outside of definite contexts with an overt definite marker/trigger (an exception is the word *samr* ‘same’ whose degree of adjectivity, however, can be discussed; see also Bech 2017: 12).

¹³Universal 20: “When any or all of the items (demonstrative, numeral and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite.”

¹⁴It has also been noted that “[d]emonstratives do not necessarily give the NP a unique or specific reference” (Faarlund 2004: 85f), so that the indefinite form of the adjective may co-occur with demonstratives.

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(5) POSS ART A.WK

mina hina **liotligo** *asion*
 my ART.ACC.SG horrible.ACC.SG.WK appearance.ACC.SG
 ‘my terrible appearance’ (43v, col.a:12–13)

The bound article DEF is less frequent in structures involving an adjective. In structures that only contain DEF as an overt definiteness marker, the default form of the adjective is used (=strong declension). However, in the corpus material DEF may also co-occur with ART (see also Pfaff 2019: 18 for Old Icelandic), as in the examples given in (6). In this case the weak form of the adjective is triggered. These examples also show that these two morphemes cannot be the same element and occupy different syntactic positions (contra Faarlund 2004).¹⁵

(6) Double definiteness in Old Norwegian

a. Co-occurrence (ART+DEF)

hinn **heiti** *vægr-inn*
 ART.NOM.SG hot.NOM.SG.WK way-DEF.NOM.SG
 ‘the hot zone’ (12v, col.b:29–30)

b. Co-occurrence (DEM+ART+DEF)¹⁶

þeir **hiner** **kalldu** *vægir-nir*
 DEM.NOM.PL ART.NOM.PL cold.NOM.PL.WK way-DEF.NOM.PL
 ‘the cold zones’ (13r, col.a:3)

With these general observations in mind, we can now take a closer look at the surface patterns displaying one adjective modifying a head noun found in

¹⁵For Old Icelandic, Pfaff (2019: 18) even shows examples of direct adjacency of these two elements. However, constructions showing some kind of double definiteness are still quite rare in the corpus material (see also Lundeby 1965). Double definiteness was generally ‘rare’ in Old Norse (Faarlund 2004: 58). According to Lundeby (1965), double definiteness in Norwegian developed around 1200 and was established as a structure before 1400 (see also Lohndal 2007: 290; van Gelderen & Lohndal 2008). Note, however, that the type of double definiteness shown in the examples in (6) is of another kind than the one found in modern Norwegian (cf. Lander & Haegeman 2014: 292), as ART disappeared towards modern Norwegian while its function was taken over by the demonstrative (developing into a determiner). While modern Norwegian shows an obligatoriness for NPs modified by an adjective to show double definiteness, in Icelandic this “is consistently attested as a marked pattern from the 12th century onwards and disappeared in the early 20th century” (see Pfaff 2019: 19).

¹⁶The occurrence of the demonstrative in this example points towards a contrastive reading of this phrase as it immediately follows the phrase given in (6a) within the discourse context.

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the corpus material. I will follow Pfaff's (2019) listed patterns for Old Icelandic,¹⁷ starting here with pattern (II) (see Table 1), as there are no instances found of what Pfaff labelled pattern (I) for Icelandic (A.WK N-DEF).

The last column in the table shows the number of examples for the specific patterns found in KoNoKs. Only those adjectives are represented in Table 1 that appear with an overt definiteness marker (DEF, ART and/or *sá*).¹⁸

In contrast to the Old Icelandic data (cf. Pfaff 2019: 14), pattern (DD-b) is already a possible surface pattern in the 13th century in Old Norwegian, showing that the replacement of ART by the distal demonstrative *sá* started relatively early in the language history of Norwegian (see also Stroh-Wollin 2009, 2015). However, an additional definiteness marker is still needed to support the replacement of ART. The element *sá* slowly developed into a definite determiner and the universal adjectival article in the Mainland Scandinavian languages. The fact that a competition between ART and *sá* is still going on in Old Norwegian is also supported by the appearance of pattern (VII) showing both elements next to each other. The later exchange/retention of the element ART in the syntax leads to a split between the Mainland Scandinavian languages and Icelandic. As predicted, no examples of a co-occurrence of ART with strongly inflected adjectives are found in the corpus material.

3.1.2 Indefiniteness

Apart from Icelandic, all Germanic languages have also developed an article system to mark indefiniteness. In Old Norse, the element *einn*, if used as an indefinite marker, may mark specificity¹⁹ but is not an obligatory element within indefinite structures (see also Heine 1997: 72f, 2002 in Skrzypek 2012: 51, 53; cf.

¹⁷The three patterns (V), (VI) and (VII) are not described by Pfaff (2019). However, they are patterns which are also found in Icelandic. I decided to add these to the description here, even though these and other patterns are represented only by very few examples in KoNoKs. Also pattern III, for instance, is only represented by one example, but it is a verified pattern in other Old Norwegian texts, cf. e.g. 'Crist stol hinn dýri' 'the **valuable** chair of Christ' (HómNo 2.33,8), 'firir nott-ena hælgu' 'for the **holy** night' (MLL 7,3), or 'cross-en helga' 'the holy cross' (HómNo 3.3,66). Two additional patterns show cases of double definiteness: DD-a and DD-b. Pattern (VII) is also found with the proximal demonstrative, *sjá/þessi* (two distinct types of demonstratives), as in 'Ormr þæsse hinn orðslægi' 'That **articulate** worm' (41r, col.b:8).

¹⁸Only basic patterns are presented in Table 1. These structures may show additional elements, such as a possessive pronoun. A quick search in the other Old Norwegian texts considered showed the same patterns. In total, the corpus presents 55 examples of weak adjectives. The reason for the total count of 51 adjectives in Table 1 is that four examples did not appear with a definite marker (with the word *samr* and some adjectives in the superlative).

¹⁹Note that the adjective position might also be sensitive to the specific or non-specific reading of the NP in which it appears (see Jacob 2005: 72; see also Bosque 1996). A detailed discussion

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Table 1: Possible word order patterns connected to overt definiteness. Pre-/post-articular refers to the adjectival position relative to DEF or ART

			nom.	articular		
(II) ^a	ART	WK	pre	post	<i>hina bæztu mænn</i> (2v, col.b:20–21) 'the best man'	40
(III)	DEF > ART ^b	WK	post	post	<i>haf-et mykla</i> (13r, col.a:17) 'the great ocean'	1
(IV)	DEF	STR	pre	pre	<i>visan mæistar-ann</i> (4r, col.b:1) 'the wise master'	2
(DD-a)	ART + DEF	WK	pre	pre/post	<i>hinum heita væg- inum</i> (14v, col.b:1) 'the hot way/zone'	5
(DD-b)	<i>sá</i> + DEF	WK	pre	pre/post	<i>þeim heita væg- inum</i> (14v, col.b:9) 'the hot way/zone'	2
(V) ^c	DEF	STR	post	post	<i>lannd-et þitt</i> (12r, col.a:1) 'the unfrozen soil'	4
(VI)	<i>sá</i>	STR	pre	post	<i>þeim hæl gum manne</i> (8r, col.b:15) 'this holy man'	6
(VII)	<i>sá</i> + ART	WK	post	post	<i>Tre þat hit fagra</i> (40r, col.b:16) 'This beautiful tree'	3

^aThis pattern is especially used with superlatives or in enumerations, e.g. 'Hinn þriðe lutr' 'the third thing' (11r, col.b:26–27); 'hit þriðia sæla kyn' 'the third kind of seal' (10v, col.a:26).

^bAccording to Pfaff (2019: 18f, 31), the adjectival article ART can occur as a free or a bound element in Old Icelandic. He further notes that nominal and adjectival articles are two distinct elements, as cases of double definiteness including both ART and DEF suggest against treating these as one. The Old Norwegian data support this statement (cf. ex. 6).

^cOne example of pattern (V) displays the word *sialfr* 'self'. It is questionable whether this is a true example of this pattern.

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Crisma 2015: 142 for the three stages of the development of the indefinite article). Crisma & Pintzuk (2019: 232) refer to Old Swedish and Skrzypek's (2012: 76, 158) analysis, stating that "*en* is used exclusively as a numerical [...] at least until 1225. Skrzypek found the earliest attestation of non-numerical *en* in *Bur* (dated 1276–1307)", which falls into the same period analyzed for Old Norwegian in this study. Mørck (2016: 387) further notes for Old Norwegian that "[a]llerede på 1200-tallet fins det [...] bruk av *einn* som minner om den ubestemte artikkelen i moderne norsk [...]" ('Already in the 13th century, there are instances of the usage of *einn* that resembles the indefinite article in modern Norwegian'). In the corpus material analyzed here, some examples of *einn* already displaying a specific marker were found as well. However, the function as a non-numeral still reflects an earlier stage as a presentative marker to introduce new and salient referents with an anaphoric chain following its introduction into the discourse (see Skrzypek 2012: 52; Skrzypek 2013: 33). Examples of the non-numerical usage of *einn* in the corpus material are given in (7).

(7) Indefinitely marked modified NP

- a. **heilagr** *maðr* **einn**
 holy.NOM.SG.STR man.NOM.SG INDEF
 'a holy man' (7r, col.b:25)
- b. **æinn** **heilagr** *maðr*
 INDEF holy.NOM.SG.STR man.NOM.SG
 'a holy man' (7r, col.b:14)
- c. *holme* **æinn** **litell**
 islet.NOM.SG INDEF small.NOM.SG.STR
 'a small islet' (6r, col.b:19–20)

These examples reflect the three surface patterns including INDEF found in the corpus material, here given in Table 2 (again, the number of examples found is given in the last column). As expected, weak adjectives do not appear in overtly marked indefinite extended NPs.

But, whatever the 'exact' stage of *einn* is in Old Norwegian, I have here only considered examples that are already semantically different from the numeral use of *einn*, i.e. introducing new referents and starting to mark indefiniteness by

of this, however, is put aside for a later analysis of the material, as KoNoKs does not entail an annotation for *specificity*.

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Table 2: Possible word order patterns connected to overt indefiniteness. Pre-/post-articular refers to the adjectival position relative to DEF or ART

(I–b)	INDEF	STR	prenominal	pre-articular	2
(II–b)	INDEF	STR	prenominal	post-articular	13
(III–b)	INDEF	STR	postnominal	post-articular	8

these means.²⁰ However, strong adjectives are not in need of an overt marker (INDEF) in the same sense as weak adjectives are dependent on ART. In Old Norwegian, structures with an indefinite interpretation and without any overt indefinite marker are still the norm, as shown in (8).

(8) Indefinite modified NP

- a. *Nalar margar oc þræðr ærna. eða*
 nail.ACC.PL many.ACC.PL.STR and thread.ACC.PL strong.ACC.PL.STR or
sviptingar
 cord.ACC.PL
 ‘many nails, and strong thread or cords’ (3v, col.a:10–11)
- b. *sænnder varmar vingiafer norðanvinnde*
 sends warm.ACC.PL.STR friendship.gift.ACC.PL northwind.DAT.SG
 ‘sends warm gifts of friendship to the north wind’ (4v, col.a:16)

Only 23 examples displaying non-numerical *einn* used as a marker to introduce a new referent within a directly modified nominal projection could be identified in KoNoKs. Of these, 15 examples show a surface pattern with prenominal adjectives and 8 examples show postnominal adjectives. Pattern (II–b) in Table 2 with both a prenominal adjective and a prenominal article is the predominant pattern in these contexts. It is also the only grammatical pattern possible in modern Norwegian where *einn* is grammaticalized as the indefinite article. However, being first of all a quantifier in Old Norwegian, *einn* is assumed to be merged as the specifier of CardP above the AP, as shown in (B).²¹

(B) [DemP ... [CardP *einn* [_{αP} AP_{STR} ... [_{nP} N]]]]

²⁰There are clear examples in which *einn* functions as a numeral, especially in constructions including *sjá/þessi*, e.g. ‘Þæssa *æina* grein’ ‘this **one** branch’ (43v, col.b:25), or *sá*, e.g. ‘Ða er þar ænn *æinn* sa lutr’ ‘There is yet **one** such (one other) thing’ (8r, col.b:4–5).

²¹See e.g. the following example: þætta *æitt* satt *upphaf* ‘this **one** true source’ (1v, col.b:8–9).

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The deviating patterns to INDEF–A–N (i.e. A–N–INDEF and N–INDEF–A) can be explained through NP-movement with the optionality of pied-piping the adjective (see Section 4).

From the discussion on adjectives in definite and indefinite contexts in Old Norwegian, it seems that concerning the positioning of adjectives relative to N, both weak and strong adjectives can appear in pre- and postnominal position.²² For weak adjectives in postnominal position, Fischer (2001: 265f.) states for Old English that these adjectives are weak because they do not convey new information, connecting inflection to givenness, and with this the weak form of adjectives exclusively to given information. However, adjectives that convey given information are not exclusively weak, neither in Old English (see Bech 2019) nor in Old Norwegian (e.g. the adjectives in the examples given for patterns (III) and (VII) in Table 1 have not been mentioned in the previous discourse of their appearance and are not inferable from the discourse). Thus, neither the form of the adjective nor the additional (in)definiteness markers seem to be decisive factors for the ordering of adjectives within the modified NP in Old Norwegian. Optionality in word order is a complex phenomenon and the result of several interlinked parameters.

3.2 Context and referentiality

After this closer look at the extended NP, also the immediate context of a phrase needs to be taken into account, and with this the distinction between attributively and predicatively used adjectives. Fischer (2000, 2001) argues for Old English that the weak adjectival inflection has an identifying and attributive function (inherent or enduring property of the noun it modifies), iconically relates to ‘old information’, and appears in prenominal position. Strong adjectives, on the other hand, relate iconically to ‘new information’ and to predication (e.g. not an inherent property of the noun it modifies; a one-time occurrence). These adjectives are not incorporated into the noun and may appear postnominally. However, in the following examples, I will show that the two generalizations: i) attributive=prenominal, and ii) weak=attributive and strong=predicative cannot be transferred to Old Norwegian (see also Bech 2017: 8). For Old English, too, Fischer’s strict distribution has been discussed as problematic (see Bech 2019). The examples given in (9) show weak adjectives in postnominal position (see also Pfaff 2019: 14 for Old Icelandic; he finds 212 examples of weak adjectives in

²²The prenominal position for adjectives is, however, already preferred in Old Norwegian with 88.2% of all strong APs (726|823) and 92.7% of all weak APs (51|55) appearing in this position in the corpus material.

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postnominal position and writes that this is a marked, but stable pattern). These adjectives are attributive, despite their placement in relation to N (see also Hauermann 2010: 62 and Mitchell 1985: vol. I, 75), and do not necessarily need to be given information within the discourse, but can be new mentions in the given context.

- (9) a. Strengleikar
 hia havi hinu mykla
 at ocean.DAT.SG ART.DAT.SG great.DAT.SG.WK
 ‘at the great ocean’ (Streng 7,3)
- b. Old Norwegian homily hook
 vitni hinu sanna
 witness.DAT.SG DAT.SG.ART true.DAT.SG.WK
 ‘the true witness’ (HómNo 2.8,24)

Moreover, predicatehood seems not to be inherent to strong adjectives in Old Norwegian. See the following examples in (10).

- (10) a. þvi at þeir hafa heilhugaðer værit við alla
 because that they have sincere/kind been towards all
 [goða mænn oc hælga]
 good.ACC.PL.STR man.ACC.PL and holy.ACC.PL.STR
 ‘because they have been kind towards all good and holy men
 (6r, col.a:18–19)’
- b. engan visan mæistar-ann
 no wise.ACC.SG.STR master-DEF.ACC.SG
 ‘no wise master’ (4r, col.b:1)

In (10a) both adjectives identify the referent and modify the noun *mænn* (i.e. they do not show any signs of semantic temporariness or stage-level reading). Note also that I analyze both adjectives as prenominal adjectives (see Section 4.2). Example (10b) also shows a prenominal strong adjective that modifies the referent directly. Being prenominal and attributive, these examples show that inherent predicatehood for strong adjectives seems not to be strictly applicable to Old Norwegian. However, I considered further arguments made by Fischer (2000, 2001) for Old English for a transfer discussion of Old Norwegian data, as she provides an extensive discussion on syntactic variation focusing on the adjective position. Fischer also correlates the predicatehood of strong adjectives to the observation that Old English adjectives are non-recursive and due to this not

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hierarchically ordered in a correlating relationship (see van Gelderen & Lohndal 2008 repeating the statement made by Fischer for Old Norwegian; see however Bech 2017 for examples of stacked adjectives in Old English and Bech 2019 for further discussions). It is true that stacked adjectives are rare in the Old Norwegian material, however, they do occur, as shown in (11).²³

- (11) a. Stacked weak adjectives
 Sa hinn riki gamle maðr
 DEM ART.NOM.SG rich.NOM.SG.WK old.NOM.SG.WK man.NOM.SG
 ‘the rich, old man’ (Streng 2,282)
- b. Stacked strong adjectives
 hafðe [...] kallað margha goða hufðingia
 had [...] called many.ACC.PL.STR good.ACC.PL.STR leader.ACC.PL
 ‘had [...] invited many good leaders’ (36r, col.b:3)

Moreover, Fischer’s discussion (cf. 2001: 257ff; see also Haumann 2003: 260f) points out a mismatch between definiteness and indefiniteness in structures with a definite nominal expression and a strong adjective, which indicates a predicative status of strong adjectives. This described mismatch, showing a strong adjective and a possessive pronoun, is exemplified for Old Norwegian in (12).

- (12) *sœmilect* *nafn* *sitt* *gott* *yfirlæti*
 honourable.ACC.SG.STR title.ACC.SG his good.ACC.SG.STR reput.e.ACC.SG
 oc *fagra* *þionosto*.
 and fair.ACC.SG.STR service.ACC.SG
 ‘his honourable title, (his) good reput.e, and (his) fair service’
 (21r, col.b:6–7)

Here, the nominal expressions are semantically/pragmatically definite (by virtue of containing a possessive pronoun anchoring them in the discourse as defined entities); however, the adjectives signal for them to be indefinite (by virtue

²³As Bech (2017: 15) notes in her study, however, the majority of examples found displaying this pattern include *margr* ‘many, numerous’ as the first of the two adjectives. KoNoKs only displays one example of stacked adjectives, also including *margr*, which is annotated as an adjective in the corpus material (following Haugen 2001: 142; Nedoma 2010: 71; Cleasby 1957; Zoëga 1910). However, *margr* might be discussed further concerning its degree of adjectivity. The overlap of *margr* with the category of quantifiers and its possible semantic and syntactic integration in this word class is likely to influence its strong tendency to appear as the first of two adjectives in stacked adjective constructions. A further discussion of the membership of *margr* into the adjective or quantifier class is an interesting topic, but will not be discussed further in this chapter.

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of the strong morphology of the adjective) at the same time. Contextually, neither the nominal expressions nor the properties of the adjectives of this example convey new information. Note also that possessive pronouns arguably have definiteness-like features but do not carry the feature [DEFINITE] yet (see also Börjars et al. 2016), and thus do not yet render the NP syntactically definite. They are rather interpreted as anaphoric or cataphoric deictics (see Tiemann 2023). Furthermore, adjectives might add a new property to an already given referent. Fischer (2001: 257ff, 265ff) argues that the strong adjective in constructions like these cannot be analyzed as a modifier of the head noun, but must be analyzed as a secondary predicate, e.g. a reduced relative. Structurally, the example in (12), however, shows that the strong adjective and the noun moved together in front of the possessive (pied-piping of the adjective, see also the structure given in (B)). This movement indicates a stronger connection between adjective and noun than that given by predication.²⁴ In addition, Pfaff (2019: 26) notes for Old Icelandic/Old Norse that adjectives following a possessive pronoun generally seem to be strongly inflected, which is also true for the Old Norwegian material examined in this study (unlike modern Norwegian).²⁵ Here, several factors seem to influence the inflection and position of the adjective; the structure, however, seems not of a predicative nature.

Turning lastly back to Fischer's (2000, 2001) analysis for Old English concerning the positioning of adjectives which, according to her, is directly attributed to their function as attributive (=prenominal) or predicative (=postnominal), several examples have already demonstrated that strong adjectives in Old Norwegian occur in postnominal position in an attributive function. This seems to be the general case for listings, as shown in (13b).

(13) Attributive use

- a. eða skilningar laus komi i skola goðan
 or wit less come.SBJV in school.ACC.SG good.ACC.SG.STR
 'or a simple-minded (person) would come/enter a good school'
 (17v, col.b:14–15)
- b. Nalar margar oc þræðr ærna. eða
 nail.ACC.PL many.ACC.PL.STR and thread.ACC.PL strong.ACC.PL.STR or

²⁴Note that example (12) displays an enumeration, which might be a decisive factor for this word ordering.

²⁵The corpus material also showed two examples of an alternative pattern where a possessive precedes the sequence ART + A.WK, as in 'nema ec skryði *mina* hina liotligo *asion*' 'unless I adorn *my* terrible *appearance*' (43v, col.a:12–13).

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sviptingar

cord.ACC.PL

‘many nails, and strong threads or cords’ (3v, col.a:10–11)

What can be determined, however, is that while strong adjectives may appear as predicative adjectives (cf. also ex. (14b), with an example of a prenominal predicative adjective in a coordinated structure), weak adjectives do not act in this function in any of the positions available to them.

(14) Predicative use

- a. þvi at af iðrottum væ[r]ðr maðr froðr
 this that of arts becomes man.NOM.SG wise.NOM.SG.STR
 ‘because a man becomes wise through (the/a) arts (crafts/procession)’
 (1v, col.b:20–21)
- b. þar sœm haf-it er diupt oc þo
 there as ocean-DEF.NOM.SG is deep.NOM.SG.STR and yet
 salltr sœr-inn
 salty.NOM.SG.STR sea-DEF.NOM.SG
 ‘there where the ocean is deep and yet the sea salty’ (12r, col.b:17–19)

According to these findings, no clear generalization about the position of strong adjectives correlating with their function can be made. Other factors might be more decisive when it comes to the syntactic variation seen within the Old Norwegian extended nominal projection. The weak inflection, on the other hand, has a very restricted distribution: weakly inflected adjectives only occur attributively in overtly definite marked NPs (*Elsewhere Principle*: the strong inflection appears when the weak inflection is not triggered by a c-commanding definite marker, see Pfaff 2019: 13; cf. also Pfaff 2015 for modern Icelandic). The morphology of the adjective thus restricts the possible functions, but it does not determine the function in a strict 1:1 ratio (recall that the strong form is the default form in all contexts). The examination so far can be summarized as follows:

- 1) Old Norwegian does not yet have a dedicated (in)definite element, neither free nor bound. More specifically the feature [DEFINITE] existed in Old Norwegian but did not have obligatory exponence.
- 2) The opposition of strong versus weak adjectives and their position relative to N does not seem to be a strict one in Old Norwegian. (However, the appearance

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of weak adjectives in postnominal position is more restricted than for strong adjectives.)

3) The article ART acts to license the weak AP (cf. Pfaff 2019; see also Perridon & Sleeman 2011: 8; Stroh-Wollin 2009: 7f) as the head of (exactly one) AP.

4) Neither the morphology of the adjective nor the presence or absence of overt (in)definiteness markers seems to solely determine the position of the adjective on the surface structure.

3.3 Information structure

I will now turn to pragmatic influence on word ordering, and with this to an information-structural approach. This postulates that utterances are structured according to the transmission goals of a communicative situation, allowing for variation on various linguistic levels to reach an optimal informational exchange (cf. Halliday 1967; Chafe 1976; Lambrecht 1994; Büring 2005; Caruso 2016). Assuming one underlying base structure (*Universal Base Hypothesis*), the positioning of constituents then reflects their informational content in the given structure (cf. Rizzi's 1997 split CP hypothesis). Within the clause, positions for *topic*, *focus* and *contrast* are generated in the left periphery of CP (see among others, Petrova 2009; Hróarsdóttir 2009). Scholars such as Giusti (1996), and Isac & Kirk (2008) have further suggested that the nominal domain, too, encodes discourse-related notions, mirroring the structure of the CP (in the same hierarchical order: Top>Foc; see Caruso 2016: 31 for arguments of the order of TopP and FocP in the nominal projection; cf. also Aboh et al. 2010 for a summary of work on information structure within the NP). Caruso (2015: 5) further notes that "[t]he most prominent discourse-related notions associated with noun phrases, namely (in)definiteness and specificity, are assumed to be realized within the nominal left periphery" (*split DP hypothesis*; cf. also Ihsane & Puskás 2001; Laenzlinger 2005; Giusti 2005, 2012; Haegeman 2004).²⁶ These encode (non)familiarity through the choice of determiners that mark the noun as either identifiable or non-identifiable for the addressee (see Aboh et al. 2010: 783). With this, NP-internal movement operations that correlate e.g. with *focus* readings are explained in the same manner on a phrasal level as on a causal level (cf. Giusti 2006: AP-to-SpecDP versus A-to-D movement). Caruso (2016: 28) summarizes the various domains of the noun phrase (parallel to the clause) under the following domains: 1) NP-shells; 2) an inflectional domain; and 3) the left periphery. The initial position is associated with information-prominent and contrastive elements.

²⁶For an account against *topic* and *focus* inside DP, see Szendrői 2010.

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Discussions within this approach often focus on the nominal constituent (cf. e.g. Isac & Kirk 2008: 142). However, as on the clausal level, any constituent can be targeted by information-structural interpretations (cf. Truswell 2004 who argues that “standard theories” of *focus* should be extended to adjectives; see also Harðarson 2017: 103f for information-structurally triggered movement of adjectives within the extended NP for (modern) Icelandic). Harries (2014: 92) notes for Old Norse that elements in a fronted position (FOC in her framework) carry information “which is more prominent discursively than the noun itself, [and] that the information which follows the noun carries information which is discursively less significant (backgrounded)”, following the same basic assumptions for the NP in Old Norse as assumed in this study. Furthermore, with a split of *focus* into *presentational* and *contrastive focus* (see Chafe 1976; Katz & Selkirk 2011), *focus* and activation status are considered distinct concepts. However, the constituent in *focus* is universally marked by prosodic prominence, i.e. by carrying main stress (or pitch accent). Moving elements into a designated fronted slot above the noun (in KontrP: *contrastive focus*) is a strategy exploited in languages that show syntactic variation, and a strategy that works like focalizing an element by adding pitch accent (cf. Corver & van Koppen 2009). Adopting this, I expand the Old Norwegian NP with a full-fledged left periphery and designated slots for *topic*, *focus* and *contrast* (note that a DP in Old Norwegian is a demonstrative phrase as stated in Section 3.1.1). It has been mentioned, however, that the coding of adjectives for e.g. saliency and whether they are presupposed or not, or whether such an element carries relational *focus* (more informative with respect to the noun), is unfortunately difficult (see van Gelderen & Lohndal 2008: 13; Allen 2012: 259f). This is a more general issue of assigning information-structural features to the word class of adjectives, and I decided to tackle this problem by introducing the concept of *essentiality*, focusing on information flow within a given discourse.

3.4 Information status and essentiality

Information status can be analyzed as a binary *given* (unfocused) – *new* (focused) distinction (see e.g. Prince 1981; Gundel et al. 1993; Birner 2006). Fischer (2006: 256) uses the terms *given/new* in the sense of “*salience*, i.e. which elements add least and most to the advancing process of communication” (Bech 2019: 25; see also Fischer & van der Wurff 2006: 122). Through the concept of *essentiality*, the information status of adjectives can be assigned in a more effective way, following a strict annotative evaluation based on the immediately preceding and continuing context.

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3.4.1 Non-essential

I start with what I term *non-essential* adjectives. In relation to the preceding context, these adjectives convey information that is known in the discourse situation (=old/given information; directly mentioned in the preceding discourse or contextually known/active in the knowledge stock of the interlocutors due to world/situational knowledge that can be assumed for the specific cultural sphere of the text,²⁷ as in *holy Mary*, *almighty God*, and are not necessary to identify the noun's referent). In relation to the continuing context, non-essential adjectives do not carry information necessary for the interpretation of the following sequences. An omission of the adjective does thus not lead to a change in the reference interpretation, nor to difficulties interpreting subsequent information.²⁸ The developing discourse is in these cases not based on the property carried by the adjective, as exemplified by the modern examples in (15).

(15) Non-essential

- a. My cat may seem arrogant from time to time. But this is not surprising, as cats are known to have this **arrogant** *nature* in general. I still treat her as a queen.
- b. I was eating a lot of candy at Christmas. The **sweet** *treats* are just for this time.

The second mentioning of the adjective *arrogant* in (15a) is a repetition of the immediately preceding utterance and can thus be omitted from the NP without changing the meaning of the utterance containing the noun *nature* in any direction or to any degree. The reference of *nature* still refers to the arrogant character of cats mentioned here. Also, the following clause, referring back to the property given by the adjective, can be understood in this context. The adjective *sweet*

²⁷ *Konungs skuggsjá* 'The king's mirror' is written in a courtly context in a Christianized society. As such, a general knowledge about e.g. church order and masses can be assumed to be present in the knowledge stock of the interlocutors. Such mentions are annotated as *accessible* in the corpus material of KoNoKs, either through common ground or situational knowledge (cf. Tiemann 2023: 94ff).

²⁸ This comes close to what has been discussed in the literature on adjectives under the notion (non-)restrictivity (cf. e.g. Bolinger 1967; Larson & Marušič 2004; Truswell 2005; Umbach 2006; Demonte 2008; Cinque 2010; Pfaff 2015). Furthermore, (non-)referentiality relates directly to the referent (referential=needed to understand the reference; non-referential=additional information for the encoding of the reference), while *essentiality* additionally relates to the discourse development (essential=needed for the understanding of the developing discourse; non-essential=information that does not add any informational value to the proceeding discourse).

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in (15b) can be inferred by the earlier mentioned *candy* and the general knowledge of candy being sweet and is thus not necessary for the correct encoding of the sentence it appears in and for the interpretation of the reference of *treats*. Omitting this adjective does not lead to a change in meaning. In other words, *non-essential* adjectives carry active information not needed for the understanding/interpretation of the noun's referent, the immediate phrase or the further development of the discourse referring to the specific entity. In contrast to the notion of *non-restrictivity*, which often is described as adding some kind of (unnecessary) "extra" information with no difference in the denotation of the noun alone, *non-essentiality* does not describe "extra" information, but active information through discourse development. Informationally speaking, the adjective gives old information to a new or given referent. An Old Norwegian example is given in (16).

(16) Non-essential

En þo er sa æinn lutr ænn æptir er geta ma æf syniz firir **gamans saker** oc skemtanar. *Gamans maðr* æinn var í lande því mioc longu oc þo var hann cristinn oc var sa maðr kallaðr Klefsan at nafni Ðat var mælt um þænn mann at ængi maðr munnde sa væra er hann sæ at hann munnde æi lægia gera mæð sinum **gamansamlegum orðum** oc þo **lygiligum**. oc þo at maðr væri ryggr í hug sinum þa er þat sagt at maðr munnde æi latrs binndaz æf þeir han heyrðe þæssa mannz rœðu.

'But there is yet one thing that one can learn, if you wish, for the *sake of amusement* and entertainment. A (certain) *funny man* was in this land very long/for a long time and also, he was a Christian, and this man was called Klefsan by name. It was told of this man that (there) would be no man, when he saw (Klefsan), that he would not be made to laugh at his **amusing** and yet **fantasized words/speech/stories**. Even though a man would be heavy in his mind, then it is said that a man could not restrain (his laughter) when he heard that man talk.' (9r, col.a:8–19)

The adjective *gamansamlegum* 'amusing' can easily be omitted from the phrase without creating any problems for the hearer in interpreting the words/stories spoken by Klefsan as 'funny'. *Gamansamlegum* is a direct repetition of a property introduced through the first mention *gamans* in connection with the following discussion and the referent Klefsan. *Gamans* thus sets the frame²⁹ for the following discourse, while *gamansamlegum* presents neither a

²⁹The theory of schemes and frames deals with the processing of entities that are in a firm

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new property nor necessary information for the correct interpretation of the noun *orðum* in the context of laughing people. The second adjective, *lygiligum* ‘fantasized’, is annotated as part of the same scheme as *gamansamlegum* (annotated under frames) in the corpus material and with this as an active part of the connotation (=non-essential). The *non-essential* nature of an adjective is thus evaluated on the basis of the preceding discourse (given/known features carried by the adjective), and on its informational value for the continuation of the discourse (referent identification needed for the interpretation of the utterance or not; see Tiemann 2023: 94ff for a more detailed account of the corpus annotation). Consequently, the adjective is assumed not to carry any (prosodic) emphasis and *non-essential* adjectives are thus generally de-focalized (the same is true for the following adjective *lygiligum*).

3.4.2 Essential by context

Essential adjectives, on the other hand, are those which are assumed to be contextually emphasized, used in contexts where the adjective cannot be omitted without a change in the interpretation of the modified noun’s referent or without causing encoding problems for what follows. It carries information needed for the identification of the modified entity and the contextual interpretation of the developing discourse. This makes the adjective a key element of the informational flow. In this sense, it is more prominent within the given discourse than the noun, might carry emphasis and is by these means focalized. This is the case when e.g. “the noun represents information which does not differ from the pre-supposition” (Harries 2014: 98) – then it is the adjective that is more informative. The adjective is then *essential by context* and displays information that cannot be assumed to be active in the knowledge stock of the interlocutors (it has not been mentioned in the immediate previous context, nor does it belong to/is annotated as part of an active scheme under the frames tag). A modern example is given in (17).

relation to each other. Elements that a scheme contains can open a scheme by simply being mentioned. As soon as the scheme is active, the other elements contained are treated like slots that want to be filled. If a slot is not saturated, the reader will fill it by inference (the typical information will be supposed). As such, the mention of “joke”, for example, sets the scene for the interpretation of possible following information, such as “laughter”, “tears”, “funny”, etc. Though this information is not mentioned in the preceding context, its status is not *new*, nor is it *given*, but rather a relation of its own, i.e. *bridging* (within a binary division, analyzed as *given*).

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- (17) Essential by context (~presentational focus)

The *old man* had difficulties doing squats. I am impressed, though, that he started working out again so late in his life.

The core information in this utterance is given through the adjective *old*. It identifies a specific referent; however, its property also describes a condition that becomes relevant information for the developing discourse and signals how the common ground develops. If the adjective *old* were omitted from the phrase, the information in the first clause would change in its meaning (to the general reference of *man* and with no clue as to why there appears to be difficulties doing squats, which here is connected to the high age), and the later phrase *so late in his life* would be difficult to comprehend cognitively. The semantic component expressed by the adjective is thus the crucial element of the assertion and opens a new scheme ('an old man'). It can then be identified as the focused component of the phrase. These adjectives are tagged as *new* and are within the focus domain in the corpus material of KoNoKs.

Stating that *focus* is expressed at a designated position in the left periphery of the NP (cf. Section 3.3) entails movement inside the NP, making the moved constituent the part of the phrase that carries the main information or assertion. Both stress and movement to a designated position can put focus on a constituent (highlighting system; see also Truswell 2005 for the syntactic parallel between the clausal left-periphery and the DP, and for focus movement inside the DP). For Old Norwegian, the assumed unmarked (de-focalized) position for the adjective is prenominal, thus I assume that postpositioning puts emphasis on the adjective (*presentational focus* mentioned above; following the hierarchy Top>Foc), as shown in (18).

- (18) Essential by context – postnominal position

at hvær þæira systra hafa fullan rett i domi æpter
that each DEM sisters have full right in decision after
tali **retto**.

weight.DAT.SG right.DAT.SG.STR

'that each of the sisters has full right in the decision according to their respective position (concerning the particular case discussed)'

(42r, col.a:8–9)

However, positional variation to signal a focused adjective seems to be a weakened strategy already in Old Norwegian, as the prenominal position is the predominant order in all contexts. We thus most often find adjectives that are *essential by context* (focused) already in prenominal position, as shown in (19).

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(19) Essential by context – prenominal position

Ða er þat ænn æitt sæla kyn ænn smæst er skemmingr heiter oc ero þeir æigi længri at væxti en tvæggia alna oc er þat mæð **unndarlegre** *natturo* þviat sva er fra sagt at hann færri unnder þa isa er flater ero

‘Then there is still one kind of seal yet the smallest (kind), which is called the “shori seal” and they are in growth/length no longer than two ells; and it has a **marvellous** *nature*; for it is said that he (the seal) goes under that ice (masses) which are flat.’ (10v, col.b:11–18)

The prominence of the adjective *unndarlegre* is relatively easy to spot due to the fact that the continuing subclause adds additional information to the property of the adjective. The adjectival feature presents key information for the developing discourse, needed to interpret the reference in context of what follows.

3.4.3 Essential by contrast

Putting essential adjectives against non-essential adjectives, I also take adjectives that display known information (tagged as *anchoring* and within an already existing scheme), but are needed to clearly identify the noun’s referent within the discourse or to clearly identify the transferred core information under the notion of *essential* (this overlaps with the common definitions of restrictive adjectives). These adjectives show effects of contrastivity – something that is less problematic to assign to adjectives than *presentational focus*. Within the field of information structure, *contrast* has been assumed to be an autonomous notion (see Molnár 2002), but it often co-occurs with other information-structural categories, i.e. *topic* and *focus* (see e.g. Repp 2010). In modern languages this is additionally or instead of word order variation connected to phonological rules (e.g. a pause between the contrasted modifier and the rest of the NP; cf. Rijkhoff 2002: 267f for adjective displacement in Turkish and Hungarian). It is not part of this chapter to enter into a discussion on the concept of *contrast* in much detail. However, as *contrast* puts emphasis on an element, these elements are not omittable, even though they convey known information within the discourse (the domain of contrast is defined as given). With contrastivity, an entity needs to be distinct/unambiguous.³⁰ The adjective in these constructions is thus most often accompanied by the definiteness marker *hinn*, marking referentiality for the adjective (in contrast to e.g. *sá* which marks deictic entities). Thus, we expect to

³⁰Note that prenominal adjectives characterized by focalization through *contrast* seem to have a high pragmatic affinity with the [SPECIFIC] usages of NPs.

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find mainly weak adjectives in these structures in Old Norwegian. I assume then that these emphasized adjectival elements in A–N order are assigned a feature [CONTRAST], marking the adjective *essential* (focused) for the identification of the referent within the given discourse. A modern example is presented in (20).

(20) Essential by contrast (~contrastive focus)

They had a lot of bikes at the store in various colours (including gray, yellow, blue, and brown). I decided to buy the **yellow bike** since you can see it better in the dark.

The adjective *yellow* is in this context of another nature than the adjectives described as *essential by context*; however, it is still important for the correct encoding of the information transferred, as it presents the relevant property to correctly identify the referent. This example shows that the adjective can either be annotated as *given* by a direct previous mentioning (if the part in brackets is included) or by its activation status, triggered by the scheme opened by the noun *colours*. For the actual analysis of the information status of adjectives, textual context is thus most important. An Old Norwegian example is given in (21).

(21) Essential by contrast

Biorn er þar oc a því lannde oc er hvitr oc ætla mænn at hann fœðez a því lannde því at hann hæfir alt aðra natturu en **svarter birnir** er i skogum ganga þeir væiða at ser ross oc naut oc annat bu oc fœðaz við þat En **hinn hviti biorninn** er a Grœnalannde er þa fær hann mæst í hafi ut a ísum oc væiðer þar at ser bæðe sæla oc hvala oc lifir við þat

‘(A) bear is there, too, in that land, and it is white, and men/people think that he is born in this land, for he has a completely different nature than **black bears** that roam in the forests. They hunt horse(s), and cattle, and other beasts and feed on it. But **the white bear** which is in Greenland, he goes/wanders mostly out on the ice in the sea, and hunts there himself both seals and whales and lives on it.’ (11v, col.b:7–16)

In this example, the adjective *hviti* is needed to correctly identify the current referent. The mentioning of *bear* opens for processing of entities that are in firm relation to each other and the entities of *black* and *white bears* are active in this sense. A correct encoding of the utterances they appear in is, however, dependent on the adjective, putting emphasis on these elements by means of contrast. The feature [CONTRAST] is often connected to the movement of elements (most

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often fronting; cf. e.g. Demonte 2008 for movement of adjectives to a prenominal position in Spanish) in Old Norwegian; however, the prenominal position is considered the base position of adjectives. Movement of the adjective to a position hierarchically higher up in the structure within the left periphery of the nominal projection, triggered by the feature [CONTRAST], thus does not lead to a visible reordering on the surface structure. Nevertheless, the prominence of the adjective in the prenominal position can be structurally signalled by multiple definiteness markers, as contrastive readings naturally have an identificational function (associated with definiteness). These markers are not yet obligatory to specifically single out a certain entity in Old Norwegian, and thus, their appearance puts special emphasis on the phrase. Additionally, the appearance of definite elements in a fronted position makes it clear that *focus* is a more complex phenomenon than e.g. expressing newsworthy information. It is better described as being more of a highlighting device within the phrase.³¹ It is important to note that a contrastive reading in Old Norwegian seems to be supported mainly by the definite markers ART and DEF (also in double definiteness constructions as in (22a)), while demonstratives generally might not point towards a contrast, but appear as deictic elements in double definiteness constructions, cf. (22b).³²

(22) Double definiteness

a. ART+DEF (~Essential reading)³³

Nu er þar allt byggiannða unnder þeim vægum er millum ero kulðans oc brunans. ... en æpter hugþocca minum at ætla þa þyckir mer þat licazt at **hinn heiti vægrinn** ligr or austri oc i væstr. mæð biugum ring brænnanda vægar um kringðum allum iarðar bollum. En þat er þa licazt moti því at þeir **hiner kalldu vægirnir** liggia á hinum yztum siðum heimsens til norðs oc suðrs

‘Now is all built/occupied under these ways/zones which are between the cold and the burning heat. [...] but in my opinion it seems likely to

³¹See Giusti (2005: 25), who suggests an association between “multiple occurrences of determiners” and the split DP hypothesis.

³²Note that the example in (22a) also shows a pattern containing both a demonstrative and ART+DEF (**þeir hiner kalldu vægir-nir** ‘DEM ART cold zone-DEF’). In cases like these, the adjective is still considered *essential by contrast* due to the appearance of the article ART in the double definiteness structure. In example (22b), the same reference occurs without ART (**þeim kallda vægi-num** ‘DEM cold zone-DEF’) here in a deictic function and with a *non-essential* reading of the adjective.

³³The definite markers (double definiteness; see Section 3.1.1, see also Schwarzschild 1999; Wagner 2006) in (22a) mark off diametrically opposed constituents (specific and definite, cf. Aboh et al. 2010: 784).

me that **the hot zone** lies from east to west with a curved ring (like) a burning way around the entire globe. And it is then likely in return that **the cold zones** lie on the outer edges of the world to the north and south.’ (12v/13r, col.b/a:20–4)

b. DEM+DEF (~Non-essential reading)

En þat er þa licazt moti því at þeir hiner kalldu vægirnir liggja á hinum yztum síðum heimsens til norðs oc suðs oc æf ec hæfi þætta ætlat æptir rettri skipan þa er þat æi ulict at grœna land liggi unnder þeim kallda væginum

‘And it is then likely in return that the cold zones lie on the outer edges of the world to the north and south; and if I have thought this out correctly, then it is not unlikely that Greenland lies under **this cold zone**.’ (13r, col.a:2–8)

As mentioned above, *essentiality by contrast* is expected to occur mainly with weak adjectives, as they are triggered by the occurrence of the definite marker ART, and thus signalling a specific referent before another one by default. However, also strong adjectives may appear in this function within contrasted pairs in elliptic parallel constructions, as shown in (23).³⁴

- (23) millim illra luta oc goðra
 between bad.GEN.PL.STR thing.GEN.PL and good.GEN.PL.STR
 ‘between bad and good things’ (40v, col.a:28–29)

Adjectives analyzed as an essential part of the phrase can thus be divided into two subcategories: i) they convey information that goes beyond the linguistic information of the referent noun, making it the prominent element of the phrase within the given context, and ii) their property narrows down the interpretation of the noun in contrast to entities that are in a tight relation to each other within the given discourse, preventing a misinterpretation (in various degrees) of the information. If an adjective is the *focus*-candidate of the phrase, the form of the adjective correlates with the two types of *essentiality*. The vast majority

³⁴Umbach (2005: 209) writes that “[f]ollowing Krifka [(1999)] contrastive topics must comply with a “distinctiveness condition” requiring that they are subject to different [comment] predication.” Another type of *contrastive topic* is formed through parallel structures. According to Repp (2010: 1343), “[t]hey are found for instance in coordinations with ellipsis, [and] are normally considered prime examples of contrastiveness (see Molnár & Winkler [...]). Parallel structures, just like corrections, display exactly those characteristics that have been suggested to be typical for contrast: there is a restricted set of explicit, identifiable alternatives, given in the two conjuncts, which serve as the immediate context for each other”.

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of adjectives that are *essential by contrast* appear in the weak form (with the exception of occurrences of strong adjectives in elliptic constructions); adjectives *essential by context* are usually strong (correlating with a new feature connected to their indefinite form). Assuming further an unmarked prenominal position for the adjective in Old Norwegian, this position leaves room for the *non-essential* function of the adjective, thus permitting the adjective to be used for other pragmatic and/or semantic purposes. The generalization concerning an unmarked prenominal position is, however, challenged by a) the feature [CONTRAST] (see e.g. Rizzi 1997), leading to emphasized prenominal adjectives as mentioned by Faarlund (2004), as well as by b) the beginning fixation of word order (towards a strict prenominal position of attributive adjectives).

3.5 Prosodic weight

Another factor often considered within studies on syntactic variation is prosodic weight (see e.g. Hróarsdóttir 2009; Hinterhölzl 2009; Hinterhölzl & Petrova 2018), often connected to element length and complex structures. Thus, Bech (2019: 45), referring to Grabski (2017), notes for Old English “that A–N–*and*–A is the default pattern for [...] complex constructions, and [that this] relates [...] to the tendency to avoid heavy clusters of elements, as noted by Mitchell (1985)”. This seems to be the case for Old Norwegian, too, which disfavours a) stacked adjective constructions, and b) a heavy constituent in a fronted position. Prosodic weight has not been at the centre of attention in studies on NP-internal syntax in Old Norse, but its impact has been noticed. Faarlund (2004: 71; see also Börjars et al. 2016: e13f) points out that an adjective followed by a complement always has to follow its head noun, as in (24), marked by a combination of bold and italics.

- (24) þar fylgði segl stafat ***með vendi***
 there followed sail.NOM.SG striped.NOM.SG.STR with stripe.DAT.SG
 ‘A sail striped with stripes came with it.’ (Hkr II.244.9, Faarlund 2004: 71)

This clearly shows an effect of prosodic weight. A brief search in the corpus material of KoNoKs revealed the same tendency as described by Faarlund (2004: 71). For the following analysis of prosodic weight and its correlation with other factors, I left out split constructions (Corpus B3, cf. Figure 1) from the examination. For the analysis of prosodic weight, I first examined the relation between the syllable count for APs (measured from nucleus to nucleus) and their position relative to N (pre-/postnominal). I only considered the number of syllables of the actual adjective, leaving ART out of the calculation, as it is an additional structural element. The adjectives were divided into two groups, light APs (with 1–3

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Table 3: Order distribution of adjectives with regard to weight

	AN		NA		total
	n	%	n	%	
Light APs (1–3 syllables)	712	92.1	61	7.9	773
Heavy APs (4–6 syllables)	65	97.0	2	2.9	67
	777		63		840

syllables) and heavy APs (with 4–6 syllables), as shown in (25). Table 3 shows the results of this analysis.

(25) Syllable division

- a. Light adjectives
i **heiðnum** *lonndum*
in heathen.DAT.PL.STR land.DAT.PL
‘in heathen lands’ (2r, col.a:20)
- b. Heavy adjectives
unnder **þycckqvaðum** *hialmi*
under cloudy.DAT.SG.STR helmet.DAT.SG
‘under (the/a) cloudy helmet’ (15v, col.b:19–20)

As already shown in Figure 1, there are considerably fewer examples of postnominal than prenominal adjectives in the corpus material. For both light and heavy APs, the results summarized in Table 3 show that a prenominal position of the adjective is clearly preferred. Furthermore, there are fewer heavy than light adjectives in postnominal position. However, as there are considerably fewer heavy adjectives in the corpus material in general, no conclusive statements can be drawn from this observation. An example of a heavy AP in postnominal position showing the expected correlation between prosodic weight and element positioning within the phrase is presented in (26). However, following the predominant order, heavy adjectives are most likely already placed in a prenominal position, as in (27).

(26) Heavy postnominal modifier

- þrir *vægir* **torfærileger**
three way.NOM.PL difficult.to.cross.NOM.PL.STR
‘three ways that are difficult to cross’ (14v, col.a:24–25)

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Table 4: Order distribution of adjectives with regard to adjective form and weight (syllable division)

	weak				strong			
	AN		NA		AN		NA	
	n	%	n	%	n	%	n	%
Light APs (1–3 syllables)	51	6.6	4	0.5	661	85.5	57	7.4
Heavy APs (4–6 syllables)	0	0	0	0	65	97.0	2	2.9
Total	51 55	92.7	4 55	7.3	726 785	92.5	59 785	7.5

- (27) Heavy prenominal modifier
sæm mæð **ottasamlegre** vorn
as with terrifying.DAT.SG.STR defence.DAT.SG.STR
‘as with terrifying defence’ (15v, col.b:14–15)

It thus seems that there are no weight effects, or at least that syllable count does not play a role (anymore?). In a second step, I analyzed the correlation between prosodic weight and the form of the adjective (i.e. weak/strong). The results are shown in Table 4. As mentioned above, ART is not part of the calculation, and neither is the split construction.

In addition to the general preference of a prenominal position for all adjectives, the division into weak and strong adjectives in correlation with prosodic weight shows that if an adjective appears postnominally, it is most likely strong (an effect of morphology correlating with positioning is visible; cf. Section 3.1). The analyzed corpus material did not show any examples of heavy weak adjectives. Therefore, no further statements about the distribution of heavy adjectives can be made. It seems that the only cases where a clear weight effect can be described are those in which the language turns to parallel structures instead of stacking adjectives or where the adjective itself is further modified (see also Bech’s 2017: 4 general overview of ordering possibilities for adjectives in the Old Norwegian NP; cf. (11) above). However, in these constructions as well, prenominal adjectives (prenominal position/pre-*pro*, see Section 4) are relatively heavy.³⁵ Stacking is still largely dispreferred in Old Norwegian, but prenominal position of two

³⁵See e.g. (1c). Note also that the adjective *astsamlegan* in this example (‘*astsamlegan foður oc*

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adjectives including a coordinator (elliptic case of the first conjunct: [[AP₁ *pro*_k] [& [AP₂ NP_k]]], see Section 4) already seems more acceptable, as exemplified in (28).

- (28) a. *mæð* [*varmum* *oc* *biartum* *geislum*]
 with warm.DAT.PL.STR and bright.DAT.PL.STR light.ray.DAT.PL
 ‘with warm and bright beams’ (4r, col.b:28–29)
- b. *mæð* [*goðum* *oc* *gnogum* *svorum*]
 with good.DAT.PL.STR and sufficient.DAT.PL.STR answer.DAT.PL
 ‘with good and sufficient answers’ (20r, col.b:3–4)

Adjectives that do appear in postnominal position might react to both information-structural constraints and prosodic weight. It seems, however, that the information status of the adjective (=essential by context) is the decisive factor in these cases, as most of the postnominal adjectives are relatively light (see, however, (26) for a heavy postnominal adjective).

4 Structure and movement

Taken from the discussion on *essentiality*, word order variation inside the NP is explained according to discourse-relations (see Truswell 2005; Laenzlinger 2005). The different word order patterns are then the result of movement inside the extended NP including a complex left periphery that sorts out the landing sites for the moved elements (cf. Giusti 2005 for Romance). The movement of elements into the left periphery is triggered by the interpretive features [TOPIC], [FOCUS] and [CONTRAST]. TopP hosts information that has been pre-established in the discourse, such as nominal elements marked as [SPECIFIC].³⁶ Below TopP is a projection FocP for focused (*presentational focus*) elements, and above TopP there is a projection KontrP, hosting contrasted elements, mirroring the structure of the CP, as shown in (C).

(C) KontrP » TopP » FocP » ...

As for specificity (which has not been discussed in any depth in this chapter), it is assumed that specific nouns move into the NP-internal topic position, while non-specific nouns may move into a focus position. Harries (2014: 61f) further

gofgan, ‘a loving and renowned father’) is already a relatively heavy adjective, appearing in prenominal position.

³⁶Note that this feature does not collapse into one property with the feature [DEFINITE].

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notes that specificity in Old Norse was marked on the adjective, and “the cognitive status of discourse referents was within the remit of the demonstrative”.³⁷ And Schroeder (1999: 93) aptly writes that “the modification of a referent forces a subset-reading of this referent, because a particular (qualitative) specification of a referent usually implies a delimitation of the specified referent from other possible (qualitative) specifications”. As such, nouns modified by adjectives are specific and assumed to move to Top0 in all cases presented here (cf. also Rizzi 1997; Haegeman 2000). The following movement operations within the Old Norwegian extended NP are assumed (see also Table 5):

a) Neutral, known adjectival feature (no emphasis, maybe repetition of the immediate context), structure with one adjective: the noun moves to Top0, the adjective is carried along (pied-piping case, phrasal movement; see e.g. Cinque 2010) resulting in the surface pattern A–N. An example is given in (29).

- (29) hinn heiti vægr böeygiz or austri oc i
 ART.NOM.SG hot.NOM.SG.WK way.NOM.SG. bends from east and in
 væstr
 west
 ‘the cold way/zone bends from east to west’ (2v, col.b:20–21)

b) Focused structure with one adjective: the noun moves to Top0 while the focused adjective moves to Foc0, resulting in the surface pattern N–A (end-focus). Focus on adjectives is analyzed through *essentiality*. An example is given in (30).

- (30) skilningar laus komi i skola goðan [...] æf hann
 wit less come.SBJV in school.ACC.SG good.ACC.SG.STR if he
 kæmr fra skola þa hygz hann þægar væra goðr
 comes from school so thinks he then be good.NOM.SG.STR
 klær-cr
 educated.man.NOM.SG
 ‘(if) a simple-minded (person) would come/enter in a good school [...] if
 he comes from school then (he) believes (himself) to be a well-educated
 man’

³⁷Schroeder (2006: 595) writes for indefinite contexts that “the speaker classifies the referent of the noun phrase [by modification] as “identifiable”. However, since the referent is not established in the register of the hearer, this identifiability is not expressed as such [(there is no definite marking)]. Similarly, the referents of nouns which are possessive-marked and have [a definite adjective as their modification,] can be interpreted as not established but nevertheless identifiable on the basis of inclusive relation to an established set]” (see also Nilsson 1985: 67 for specificity-marked objects in Turkish).

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(17v col.b:14–20)

The further development of the clause given in (30), describing the attitude of a person, is dependent on the property transferred by the adjective ‘good’ in the first phrase (the referent ‘a good school’ sets the scene that the following sequence is elaborating on).³⁸ In the annotation, the adjective is marked as *new* within the nominal context (the adjective in this context has not been mentioned before in the discourse), and is connected to the following sequence either in a separate comment level or through a scheme annotation under frames.

c) Emphasis through direct *contrast* with one adjective: the noun moves to Top0 while the contrasted adjective moves to a position above Top0 (see e.g. Molnár 2006: 226) due to the feature [CONTRAST], resulting in the surface pattern A–N and a contrasted topic reading. The moved constituent can then mark its sister as the domain of *contrast* and *given* at the same time (cf. Schwarzschild 1999; Neeleman et al. 2009; Wagner 2006, 2010; see also Krifka 1998, 1999). An example is given in (31) (see ex. (21) for the context).

- (31) En hinn hvíti biörn-inn er a
 but ART.NOM.SG white.NOM.SG.WK bear-DEF.NOM.SG which on
 Grœnalannde er
 Greenland is
 ‘but the white bear which is in Greenland’ (11v, col.b:13)

Depending on certain conditions, movement can affect just the phrase bearing the feature triggering the movement, or alternatively, it can affect a larger entity containing the phrase bearing the relevant feature (pied-piping case). Positioning and movement of elements within the NP may, however, also be affected by

³⁸See the full context of the utterance: Ðvi er licit æf skynlauss maðr fær til hirðar sæm ufroðr ... fari til Iorsala eða skilningar laus komi i skola goðan. æf ufroðr maðr fær til Iorsala þa truir hann sialfr at hann se froðr oc sægir ifra sinni færð oc þat flæst er froðum manni þycki ænskis vært nema gabs oc haðs. Sva gerir oc hinn skilningarlaus æf hann kæmr fra skola þa hygiz hann þægar væra goðr klærçr oc værðr fæginn oc gærir af miket spott æf hann finnr þann er æcki kann mæð ollu. En æf hann finnr noccorn þann er klærçr er þa væit hann sialfr æcki. (‘This is like if a dull man goes to court, as (when) an unknowledgeable (man) goes to Jerusalem, or a simple-minded (person) would enter in a good school. If an unknowledgeable man goes to Jerusalem, then he believes himself that he would be knowledgeable and tells much of his journey; but most seems worthless to a knowledgeable man, (all) but mockery and foolery. As such is also the simpleton if he comes from school then he believes (himself) to be a well-educated man and rejoices and shows much mockery if he meets one who knows nothing. But if he meets someone who is a scholar, he himself knows naught.’)

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other factors. It is thus important to consider the interplay of different parameters/factors. It is also important to note that already in the 13th century, Old Norwegian started to grammaticalize a fixed word order (shown by e.g. the slowly developing possibility of adjective stacking), where morphological restrictions, information-structural constraints and prosodic weight play a less significant role in word ordering and might not trigger movement in all contexts where it would be expected. According to the patterns identified in Table 1 and following the structure given in (A–C), Table 5 summarizes the assumed movement operations.

However, there are also examples in the corpus material that do not quite fit the described approach. These are cases of postnominal adjectives that form a fixed compound-like expression with the head noun (one informational unit) and carry information that is active in the hearer's knowledge stock, as in (32). Additionally, in (32b) the adjective is classified as light.

(32) Postnominal adjectives (active information)

- a. *Iafnan skaltu guð almatkan oc hina*
 always should.you god.ACC.SG almighty.ACC.SG.STR and the
hælgu Mariu lata æiga noccot í felage mæð
 holy.ACC.SG.WK Mary.ACC.SG let own something in fellowship with
 þer
 you
 'Always let God Almighty and the holy Mary own something together with you in fellowship.' (3v, col.b:13–16)
- b. *ok merkir þat í því at fyr cross-en*
 and mark this in this that through/in.front.of cross-DEF.ACC.SG
helga ok fyr holld tekio Crists er friðr
 holy.ACC.SG.WK and through/in.front.of incarnation Christ is peace
settr á miðli himnescra luta ok
 settled on between heavenly.GEN.PL.STR thing.GEN.PL and
iarðnescra.
 earthly.GEN.PL.STR
 'and marked through/in front of the holy cross and through/in front of the incarnation of Christ, peace is settled between heavenly and earthly things' (HómNo 3.3,66)

We would expect such situationally/contextually known entities to appear in prenominal position, as the postnominal appearance suggests (according to the

Table 5: Patterns and their derivation

Pattern	Reading	Movement
Pattern (II): ART A.WK N	base structure neutral reading	the noun moves to Top0, pied-piping the adjective [... [_{TopP} hina bæztu mænn] _j ... [_{αP} ART A _{WK} [NP] _{t_i}]]
Pattern (III): N ART A.WK	emphasized adjective	the noun moves to Top0, while the adjective moves to Foc0 [... [_{TopP} stol] _i [_{FocP} hinn dýri] _j ... [_{αP} [ART A _{WK}] _{t_i} [NP] _{t_i}]]
Pattern (IV): A.STR N-DEF	emphasized adjective	the noun moves to Top0, while the adjective moves to Kontr0 [... [_{KontrP} visan] _j [_{TopP} mæistarann] _i ... [_{αP} [A _{STR}] _{t_i} [NP] _{t_i}]] ^a
Pattern (DD-a): ART A.WK N-DEF	emphasized adjective	the noun moves to Top0, while the adjective moves to Kontr0 [... [_{KontrP} hinn hvíti] _i [_{TopP} biorninn] _j ... [_{αP} [ART A _{WK}] _{t_i} [NP] _{t_i}]]
Pattern (DD-b): sá A.WK N-DEF	neutral reading (emphasized demonstrative)	the noun moves to Top0, pied-piping the adjective (the demonstrative appears above Top in Kontr0) [... [_{KontrP} þeim] _j [_{TopP} heita væginum] _i ... [_{αP} ART A _{WK} [NP] _{t_i}]]
Pattern (V): N-DEF A.STR	emphasized adjective	the noun moves to Top0, while the adjective moves to Foc0 [... [_{TopP} lanndet] _j [_{FocP} þitt] _j ... [_{αP} [A _{STR}] _{t_i} [NP] _{t_i}]]
Pattern (VI): sá A.STR N	neutral reading (emphasized demonstrative)	the noun moves to Top0, pied-piping the adjective (the demonstrative appears in Kontr0) [_{KontrP} þeim] _j [_{TopP} hægum manne] _i ... [_{αP} A [NP] _{t_i}]]
Pattern (VII): N DEM ART A.WK	neutral reading (emphasized demonstrative)	the noun moves to Top0, while the adjective is stranded (the demonstrative moves to Foc0) [... [_{TopP} Tre] _i [_{FocP} þat] _j ... [_{αP} hit fagra [NP] _{t_i}]]

^aNote that the simple structure presented here does not show the movement of the noun to combine with the bound article DEF, an element which is not assumed to be part of the base position of N.

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analysis presented here) information-structural emphasis (*presentational focus*). The compound-like nature of these expressions would also suggest that the adjective should get pied-piped when the noun moves to the topic position. A quick search in the Old Norwegian corpus material also reveals that the combinations *almáttigr guð/heilagr kross* are more common than *guð al máttigr/kross heilagr*, so that we can exclude a fixed postnominal order for these expressions. Within the given approach, these examples might be explained by stating that the adjectives ‘almighty’ and ‘holy’ are actually the locus of information within these contexts (*essential by context*), important for the development of the discourse. Structurally, the adjectives seem simply to be left stranded while the noun moves into the topic position. This could be explained through prosodic weight; however, the adjectives do not classify as heavy within the approach given here. One aspect that might be of importance is the parallel structure in which these phrases appear. Considering a stylistic point of view, the choice of the postnominal position of the adjective in the first conjunct becomes clearer. Example (32a) shows a case of assonance, in which *Mariu* in the second conjunct is bound together through the second syllable of *almatkan* with stress on *-mat-* (as is the case in e.g. modern German or English). The structure is then comprised of two times two syllables (*guð al- | mat-kan* and *hæl-gu | Mar-*iu**) with stress on the first syllable of the second part, respectively. Example (32b) shows a chiasmus of the onsets *crossen* and *Crists*, and *helga* and *holld tekio*. These analyses are part of the annotation within KoNoKs; however, a more detailed discussion of cases like these was put aside for a later study.

4.1 Split construction – Type I

Turning now to two or more adjectives within one NP, these are generally rare in the Old Norwegian corpus material (cf. also Bech 2017: 5). Here, I only consider structures under the split construction in which the quality expressed by the adjective in the postnominal position is attributed to the same referent (strict identity) as the prenominal adjective. In structures without a coordinator, the noun may pass multiple adjectives on its way up the tree (to Top0), leaving both in a postnominal position, as in (33) – with no example in KoNoKs – or a split construction occurs with one adjective in prenominal and one adjective in postnominal position (stranded) as the result of phrasal NP movement (pied-piping movement of the lowest adjective), as in (34). In total four examples of this are found in KoNoKs. The movement is illustrated in (D).³⁹

³⁹Note that *samfeðra* is an indeclinable adjective and thus does not get any glossing.

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- (33) *faður systir skilgen samfædra*
 father.sister.NOM.SG trueborn.NOM.SG.STR same.father.Ø
 ‘aunt trueborn of the same father’ (DG 8 5.284)
- (34) *mæð [longu hafi rasta fullu]*
 with wide.DAT.SG.STR ocean.DAT.SG of.strong.currents full.DAT.SG.STR
 ‘with the wide sea full of strong currents’ (15v, col.a:12)

- (D) a. $[AP_1 AP_2 NP] \rightarrow [[NP]_i [AP_1 AP_2 t_i]]$ (postnominal position)
 b. $[AP_1 AP_2 NP] \rightarrow [[AP_2 NP]_i [AP_1 t_i]]$ (split construction I)

The postnominal adjective in these patterns is structurally merged in a higher position than the prenominal one (reversed ordering of the adjectives on the surface after movement). Pfaff (2019: 12) notes for the surface structure (linear) postnominal adjective that the higher merging position “has semantic effects. Put informally, the adjective provides some comment or evaluation on the referent denoted by the lower noun phrase”. Possible reasons for the movement resulting in a pattern with only one of the two adjectives being pied-piped could either be due to the merging zone of the higher adjective, preventing it from being pied-piped together with the noun, or because of factors of prosodic weight and the avoidance of heavy elements in the left periphery (serving the end-weight principle). Properties that are decisive for the emergence of split constructions in general are free word order, flexible intonation, and no obligatory articles (cf. Féry et al. 2007 for Ukrainian). The involved movement is here assumed to be triggered by information-structural constraints parallel to movement within the clause, as discussed in Section 3.3. All examples of the type I construction found in the corpus material in KoNoKs show the strong (indefinite) form of the adjective. Bech (2017: 16) further notes that adjectives in these constructions often show restrictions concerning their type.

4.2 Split construction – Type II

If two adjectives are involved, they most often occur in a parallel split construction (including a coordination; placing the adjectives equally next to each other), rather than in a hierarchically ordered stacking construction or in a split construction of type I, as shown in (35). I term this construction a split construction of type II. Also here, both adjectives are analyzed as prenominal. This pattern, too, is found only rarely in the corpus material, with 34 examples in total (see also notes from Ringdal 1918: 57–60; Faarlund 2004: 72).

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- (35) a. *sæm byriar [lyðnum syni oc*
as behooves humble.DAT.SG.STR son.DAT.SG and
litillatom] at finna [astsamlegan foður oc
obedient.DAT.SG.STR to find loving.ACC.SG.STR father.ACC.SG and
gofgan]
renowned.ACC.SG.STR
 ‘as it behooves a humble and obedient son to approach a loving and
 renowned father’ (1r, col.a.:22–26)
- b. *en aðr hirti hann [gott korn oc*
but before gathered he good.ACC.SG.STR grain.ACC.SG and
reinnt]
clean.ACC.SG.STR
 ‘but before he gathered good and clean grain’ (24v, col.a.:25–26)

Faarlund (2004: 72) states that this pattern shows an alternative to a very common type of extraposition (with coordinated adjectives at the end of the NP), where the first adjective may remain to the left of the noun, while the other one is extraposed.⁴⁰ Here, I will not analyze the two adjectives as ambilateral adjectives or as extraposition, but as instances of NP coordination with an empty nominal element *pro* in the second conjunct of the type [A–N–*and*–A–nonDP *pro*] and with co-reference of the two nouns in an empty copy (again, note that DP is used theory-neutral in this study; see Lobeck 1995 for a broad discussion of ellipsis and nonDP *pro*; also Haumann 2003 for Old English). The second adjective is then in a prenominal position to a phonetically empty head.

As in type I, the adjectives involved in the type II split construction found in KoNoKs are all strong. For other languages it has been argued that the second, seemingly postnominal adjective functions as a predicative adjective (cf. Spamer 1979; Fischer 2000: 171, 176). However, Haumann (2003: 64f) argues that examples of Old English showing a demonstrative pronoun repeated in an ‘*and* adjective’ construction account for the fact that the second adjective cannot be predicative. She writes that “[t]he presence of a demonstrative or possessive pronoun is indicative of definiteness and definiteness does not go hand in hand with predicatehood. Moreover, the presence of the demonstrative pronoun is a clear indicator of the nominal status of what follows *and*” (Haumann 2003: 65, supporting an ellipsis analysis).⁴¹ Also for Old Norwegian I assume that the two positions (pre-

⁴⁰In host-internal extraposition, the extraposed material is base-generated internal to its host (non-movement approach, see e.g. de Vries 2002: ch.7; see also Overfelt 2015).

⁴¹Fischer (2000: 176) accounts for this fact by analyzing the weak adjectives as substantivized, i.e. nominalized adjectives.

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vs postnominal) are not automatically assigned to two different functions (see discussion above). I then follow Haumann and assume a nonDP *pro* (ellipted category as base-generated empty category; see Lobeck 1995) or in other words a reduced copy in multiple spell-out, following an economy-based analysis (*Economy of Pronunciation*; cf. van Urk 2018) predicting “that additional copies in multiple spell-out must be minimal in form, much like a linearization-based approach” (van Urk 2018: 965). The reconstruction of the elided nominal within the second DP and its semantic content must, according to Haumann (2003: 76), referring to Lobeck (1993: 786f.) “be recovered under sense identity [...] with the logical representation of the antecedent” – the lexical NP in the first conjunct (see also van Urk 2018: 966).⁴² Haumann (2003: 66), referring to Kester (1996: 187ff) further notes “that *pro* is licensed in the vicinity of overt adjectival number and gender agreement morphology”, something that also holds for Old Norwegian, as it has rich inflectional paradigms for both weak and strong adjectives. Turning back to the examples in (35), these show that the strong adjective in the postnominal ‘and adjective’ position functions as an attributive adjective in prenominal position, i.e. in pre-*pro* position (there is no sign of them functioning as predicative adjectives and assigning an additional property to the noun or occurring in a predicative context). This is stated, however, not with respect to the preceding noun, but within a second nominal expression of the same referent whose head is phonetically empty (see also Spamer 1979: 244; Haumann 2003: 71f), as simplified in (E). The relation between nonDP *pro* and its lexical antecedent is given by co-indexation.

- (E) a. [[AP₁ NP_j] [& [AP₂ *pro*_j]]] (split construction II)
 b. [[goða mænn_j] [& [AP hælga] [NP *pro*_j]]]

The noun in the first conjunct then functions as the lexical antecedent of nonDP *pro* (whence the impression that the attributive adjective modifying nonDP *pro* modifies the antecedent of nonDP *pro*).⁴³ Assignment of stress within the second conjunct falls on the only constituent left that can get intonational

⁴²Strong adjectival agreement features help recover grammatical information about nonDP *pro*, whereas the semantic content of nonDP *pro* “is recovered through dependency on a lexical antecedent” (Haumann 2003: 74, citing Kester 1996: 193). Under the strict identity interpretation, the adjective contained in the postnominal “and-adjective” construction is attributed to the same referent as the prenominal adjective. Whether a given nonDP *pro* is interpreted as strictly identical or as sloppily identical with its antecedent is essentially triggered by the linguistic context and/or world knowledge.

⁴³Note, however, that nonDP *pro* is not a referential expression itself (referential properties are determined elsewhere; cf. Haumann 2003: 76).

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stress within the elliptic phrase (the second adjective shows what is recognized as emphasis because it is an own phonological/intonational phrase).

5 Summary and concluding remarks

This chapter has given an overview of positional variation of attributive adjective(s) in the Old Norwegian extended NP. The examination shows that attributive adjectives in Old Norwegian may be found in prenominal or postnominal position, or in a split construction flanking the modified noun. In total seven patterns connected to overt definiteness, three connected to overt indefiniteness and two types of split construction are described within this study and are briefly compared to patterns found in the history of Icelandic. The discussion of pre- and postnominal position of adjectives focuses on the underlying base structure and the factors responsible for the variation in the surface structure. This variation involves NP-internal movement that can still be observed in the Old Norwegian corpus material, although the data suggests that a fixed prenominal position of the adjective is already the most common case (see also Bech et al. 2023 [this volume]). For the analysis of the remaining cases of structural variation, I suggest including the split DP hypothesis with a full-fledged left periphery to the Old Norwegian NP, where the various orders are mainly triggered by information-structural constraints. It has been shown that phenomena of morphology or definiteness do not solely play a decisive role for the constituent ordering within the Old Norwegian NP. The adjective morphology seems to group attributive adjectives according to their ability to appear in postnominal position (cf. esp. Table 1); however, for both weak and strong adjectives, cases of postpositioning are found. The nouns in the structures analyzed in this chapter are considered to move to Top0 in all cases, while the adjectives may move to Foc0, Kontr0, are pied-piped or left stranded, resulting in the various surface patterns that have been described. To determine if an adjective is emphasized within the phrase, I have introduced the concept of *essentiality*, based on the appearance of feature descriptions previously mentioned in the discourse, and on the further development of the discourse/informational flow, i.e. if a following sequence is dependent on the feature described by the adjective. This approach might be used in further studies on adjectives cross-linguistically. Additionally, I have analyzed two structural types of split constructions, one involving NP-internal movement, while the other one shows coordination with an empty head in the second conjunct.

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For the observable variation including an attributive adjective (or an adjective group) in Old Norwegian, the following statements have been made in this chapter:

- i) adjective(s) occur in postnominal position as the result of either solely information-structural constraints or as a result of a combination of information structure and prosodic weight;
- ii) adjective(s) appear in prenominal position as the result of different factors:
 - a. the prenominal position is the result of pied-piping within a neutral reading (no emphasis assigned; might ignore prosodic weight);
 - b. the prenominal position is the result of contrast with movement of the adjective into a position above Top0. However, the influence of prosodic weight can still be observed through flanking (split construction) to avoid heavy elements in prenominal position (stacking of two adjectives);
 - c. the adjective(s) no longer react to information-structural movement triggers (no movement into the lower Foc0 position; beginning grammaticalization of the fixed order A–N).

The last point takes the development towards a strict word order into account (as well as the rise of a proper determiner system that helped to indicate whether the information conveyed by the adjective presented focused or backgrounded information). Many examples thus challenge the set principles already in the 13th century, showing that the factors involved in word order variation are already weakened to a high degree. Thus, the discussed effects and movement operations triggered by information-structural constraints do not apply to all cases found in the corpus material. On the contrary, many examples are not affected by these constraints anymore. We therefore find both information-structural highlighted and “neutral” constituents, as well as both heavy and light constituents in prenominal position.

Further research is still needed to get a more detailed picture of factors that may have influenced the internal order of elements within the NP in the history of Norwegian. Even though several Old Norwegian texts were consulted for this study, only one text was analyzed in greater detail. A detailed analysis of other Old Norwegian texts could provide stronger evidence for the approach presented here, and discuss further the factors responsible for word order variation within the extended NP.

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Abbreviations

α P	alpha phrase	GEN	genitive
A	adjective	KontrP	contrastive phrase
ACC	accusative	N	noun
AP	adjective phrase	NOM	nominative
ART/ART	adjective article	nonDP <i>pro</i>	instances of <i>pro</i>
CardP	cardinal phrase		licensed by overt
CP	complementizer phrase		adjectival agreement morphology
DAT	dative	NP	nominal phrase
DEF/DEF	nominal suffix	<i>n</i> P	little NP
	article	POSS	possessive
DEM/DEM	demonstrative	PossP	possessive phrase
DemP	demonstrative phrase	SpecDP	specifier of DP
DP	determiner phrase	STR	strong
		t	trace
		Top	topic
Foc	Focus	TopP	topic phrase
FocP	Focus phrase	WK	weak
INDEF/INDEF	indefinite		

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Chapter 9

Adjectival articles in early Germanic

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The grammaticalization of demonstratives into definite articles is a well-known phenomenon and has received a lot of attention in the literature. Less attention has been paid to the observation that there is another outcome where the demonstrative develops into an article element – not of the nominal projection, but narrowly of the adjectival phrase. In North Germanic, the nominal definite article came to be realized as a suffix, which is why specific uses of the former demonstrative as an adjectival article are clearly identifiable. In the other Germanic languages, however, adjectival articles are not as easily identified. Article uses of a demonstrative can simply be construed as a nominal definite article, which, in certain cases, merely happens to be accompanied by an adjective. In this chapter, we will first illustrate the properties of the Old Icelandic adjectival article, based on distributional evidence, but also in comparison to modern Icelandic. Next, we will argue that, upon a closer look, evidence can be adduced for an adjectival article in West Germanic and Gothic, as well.

1 Introduction

Definite articles have received their fair share of attention in the literature (DP hypothesis, definiteness, grammaticalization etc.). The definite article in question is a nominal article that occupies a position in the nominal extended projection (D⁰) and marks the noun phrase/DP as “definite”, and diachronically usually derives from a demonstrative. There is, however, an article use that has not been the centre of attention the same way, even though it has not gone unnoticed either. Consider the bold-print elements in examples (1a)–(1d).



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- (1) a. Greek
to megalo to kokkino to vivlio
the big the red the book
‘the big red book’ (Alexiadou & Wilder 1998)
- b. Slovenian
tá ta zelen svinčnik
this the green pencil
‘this green pencil’ (Marušič & Žaucer 2006)
- c. Hebrew
ha-yeladim ha-nexmadim
the-children the-nice
‘the nice children’ (Ritter 1991)
- d. Swedish, Norwegian, Danish
den store mann-en / den store mand
the big man-the / the big man
‘the big/tall man’ (cf. mann-en ‘the man’)

These article elements only occur if the noun is modified by an adjective; hence we will refer to them as *adjectival articles*. Adjectival articles are formally often identical to the respective regular (= nominal) definite article or to a demonstrative; they often occur in addition to the nominal article/a demonstrative – or, as is the case in Danish, instead of the nominal article if the noun is modified.

In this chapter, we will have a close look at adjectival articles in the early Germanic languages, which broadly consists of two tasks: firstly, we will give a characterisation of the Old Icelandic adjectival article *(h)inn*.¹ Following Pfaff (2019, 2020, 2023), we will argue that *(h)inn* is, in fact, a component of the adjectival constituent (AP) rather than a determiner in the extended nominal projection (DP) – differently from modern Icelandic where *hinn* can be argued to occupy the D⁰ position. This idea can be supported by various observations, the gist of which can be summarized as follows: 1) there is an intimate relationship between *(h)inn* and precisely one weakly inflected adjective; 2) the sequence *(h)inn* + A.WK has the same distribution as strongly inflected adjectival phrases; 3) *(h)inn* (+ A.WK) cooccurs with various other determiners, including demonstratives and the (suffixed) nominal article.

Next, we will consider the other early Germanic languages, primarily addressing the question whether they even have a designated adjectival article, i.e. an

¹The notation *(h)inn* indicates that, in Old Icelandic manuscripts, we find instance both with and without an initial <h>.

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element comparable to *(h)inn*. Upon careful examination, it turns out that the formally distal demonstrative in West Germanic, halfway through the grammaticalization path towards a (nominal) definite article, does indeed have uses/occurrences that are on a par with *(h)inn*, but not with what we would expect from a regular definite article (or a demonstrative for that matter). Similarly, for Gothic, it can be shown that the distal demonstrative in many cases behaves like an adjectival article, notably in cases where the Gothic translation deviates from the Greek source text.

Notice that the assumed adjectival articles in West Germanic and Gothic, and a fortiori the definite articles (i.e. the d-determiners), historically derive from the distal demonstrative *sā* (with a stem in *p*).² On the other hand, the Old Icelandic adjectival article *(h)inn* derives from a Proto-Norse demonstrative *hinn* (PIE: *ke + *eno), which in turn is also the source of the suffixed definite (= nominal) article in the Scandinavian languages.³ Etymological difference aside, due to the fact that “articulization” has taken two formally/visibly distinct paths in North Germanic, but not in West Germanic, the adjectival article in the former is plainly visible since it only occurs with adjectives, whereas in the latter, it is “hiding in plain sight” insofar as it appears to be a regular article that merely happens to be accompanied by an adjective.

In addition, the evidence adduced is (partly due to the extant textual material) not always of the same sort, and we cannot always test all properties in all languages. Nonetheless, the conclusion will be that, for all early Germanic languages, we can identify an element that acts as an adjectival article, a formal element that is grammaticalized from a demonstrative and that forms a constituent with a weak adjective.

²For Gothic, of course, we cannot speak of a definite article proper because it disappeared from the record before the article could fully grammaticalize. As a matter of interest, the adjectival/definite articles in Greek and Slovenian, see (1a)–(1b), are also etymologically related to the same demonstrative, and so is the adjectival article in Mainland Scandinavian (1d), cf. fn. 3.

³The demonstrative use of *hinn* (meaning ‘the other one’) is found in Old Icelandic and has survived into modern Icelandic, whereas it has essentially disappeared from the other Scandinavian languages, see Pfaff (2019). In Old East Norse (Old Swedish, Old Danish), *(h)inn* is still found in the use as an adjectival article, but enters a competition with *sá* (oblique form *þæn*) and is replaced as adjectival article early on (see Stroh-Wollin 2009, 2015, 2020; Pfaff 2019); eventually the same happens in Norwegian and Faroese. Icelandic is the only language where *hinn* has survived as adjectival article; see Section 1.1. Demonstrative uses of *hinn* will not be addressed here.

In addition, *hinn* has an appositive use, which Pfaff (2020, 2023) argues to represent an intermediate stage, diachronically, between genuine demonstrative and adjectival article.

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The structure of the chapter is as follows: in Section 1.1, we will give a brief characterization of the element *hinn* in modern Icelandic. Even though it may be considered an adjectival article in the sense that the presence of an adjective is a necessary precondition for its occurrence, there are good reasons to assume that it really is a determiner in the extended nominal projection. The purpose is to have a contrast foil for the different behaviour of the same element in Old Icelandic. Following this, in Section 1.2 we give a brief overview of the sources we draw upon in the rest of the paper.

In Section 2 we discuss the adjectival article in Old Icelandic. The cumulative evidence from a wide range of observations – as such and in comparison to modern Icelandic – suggests that Old Icelandic *hinn* is a narrow component of the adjectival phrase. Section 3 turns to West Germanic and the languages Old English, Old High German, and Old Saxon. Here we argue that three types of evidence – from possessive + demonstrative constructions (Section 3.1.1), postnominal adjectives (Section 3.1.2), and vocatives (Section 3.1.3) – suggest that what is formally identical to the distal demonstrative also has an adjectival article function in these languages. In section 4 we turn briefly to Gothic as a representative of the East Germanic branch of the family, showing that here, too, the case can be made for an adjectival article. Section 5 then summarizes and concludes.

1.1 Prelude: the adjectival article *hinn* in modern Icelandic

Apart from using an article suffix with simple definite noun phrases (*bil-en* ‘car-the’), the modern Scandinavian nominal system is famous for employing a free-standing article that is mandatory if a definite noun phrase is modified by an adjective; the respective adjective occurs in the so-called weak inflection, cf. (2).

- (2) a. Swedish
 den *(gul-a) bilen
 DET yellow-WK car.DEF
- b. Danish
 den *(gul-e) bil
 DET yellow-WK car
- c. Norwegian
 den *(gul-e) bilen
 DET yellow-WK car.DEF
- all: ‘the yellow car’

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Modern Icelandic also has a freestanding article element, *hinn*, and even though it has a different etymology, it behaves alike in several respects, most notably, in that it also requires the presence of an adjectival modifier, as in (3).⁴

- (3) a. **hinn** *(meint-i) njósnari
 ART alleged-wk spy
 ‘the alleged thief’
 b. **hin** *(fræg-a) leikkona
 ART famous-wk actress
 ‘the famous actress’
 c. **hið** *(fullkomn-a) fyrirtæki
 ART perfect-wk enterprise
 ‘the perfect enterprise/company’

There are certain semantic and stylistic restrictions on the use of *hinn*, and it mostly occurs in written language. Nonetheless, it displays a number of interesting syntactic properties, as will be illustrated below. For one thing, in principle any number of adjectives can occur between *hinn* and the noun (4)–(5). The observation that adjectives can be modified by an adverbial/measure phrase illustrates that *hinn* combines with an adjectival projection/AP rather than simply with an adjective item (5)–(6).⁵ Likewise, cardinal quantifiers and numerals can occur between *hinn* and adjective (7a)–(7b); notably, we find cases with a numeral as the only modifier – without an adjective (7c). Moreover, we even find cases where a measure genitive phrase appears to be the sole modifier (8):⁶

- (4) a. **hinn** umdeild-i bresk-i aktívisti
 ART controversial-wk British-wk activist
 ‘the controversial British activist’

⁴But not vice versa; the standard pattern of definiteness marking with modified noun phrases employs the suffixed article: *gul-i bill-inn* ‘yellow-wk car-DEF’, not the freestanding article. All non-sourced Icelandic examples are from fieldwork by Alexander Pfaff.

⁵Notice that (5) constitutes an intermediate case; on the one hand, the ordinal numeral occurs as a separate adjective; on the other hand, it strictly speaking modifies the following superlative adjective, not the noun. Crucially, both are weakly inflected. We will return to this kind of construction in Section 2.3.3.

⁶(8a) could potentially be construed in analogy to (6b), but involving a deleted adjective; after all, the alternative *hin tveggja tíma langa sýning* ‘the two-hours long-wk show’ is a possibility. However, it is hard to see which kind of adjective could have been deleted in (8b). At least for this latter example, it would seem as though the genitive phrase is a modifier of the noun, rather than of an (invisible) adjective.

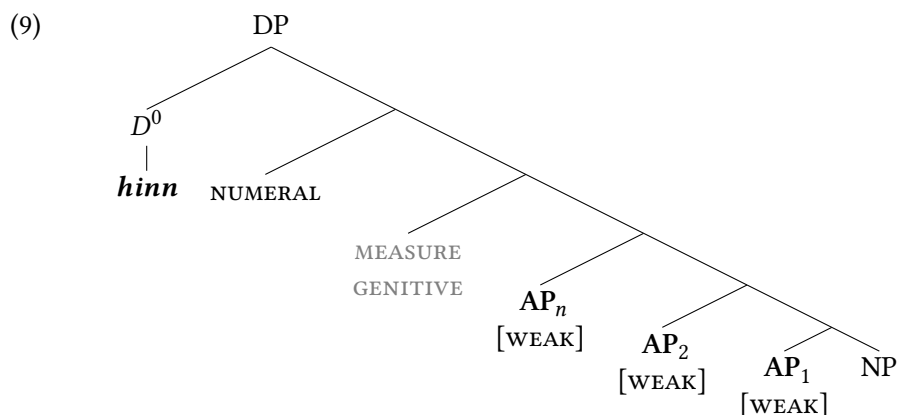
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- b. hinn svokallað-a klassísk-a fransk-a arkitektúr
ART so-called-wk classical-wk French-wk architecture
'the so-called classical French architecture'
- (5) a. hið þriðj-a mest-a bankagjaldþrot í sögunni
ART third-wk greatest-wk bankruptcy in history.DEF
'the third-greatest bankruptcy in history'
- b. hin fjórða-a stærst-a borg heimsins
ART fourth-wk biggest-wk city world.DEF.GEN
'the fourth-biggest city in the world'
- (6) a. hin nýlega frosna tjörn
ART recently frozen-wk pond
'the recently frozen pond' (Sigurðsson 2013: 3)
- b. Hin 51 árs gaml-a einhleyp-a Lorrea Carr
ART [51 year.GEN] old-wk single-wk Lorrea Carr
'the 51 year old single Lorrea Carr'
- (7) a. hinar mörg-u alþjóðleg-u skuldbindingar okkar
ART many-wk international-wk obligations our
'our many international obligations'
- b. hinar fjórar fræg-u kenningar
ART four famous-wk theories
'the four famous theories'
 - c. hin þrjú lögmál Newtons um hreyfingu
ART three laws Newton.GEN about motion
'Newton's three laws of motion'
- (8) a. hin tveggja tíma sýning
ART [two.GEN hours.GEN] show
'the two-hour show'
- b. hin tveggja barna móðir
ART [two.GEN children.GEN] mother
'the mother of two children'

Even though *hinn* requires the presence of some (prenominal) modificational material, it is not strictly dependent on precisely one weakly inflected adjective. Setting aside a number of peculiarities, it essentially behaves like a determiner element in a high position (above numerals) that triggers the weak inflection on

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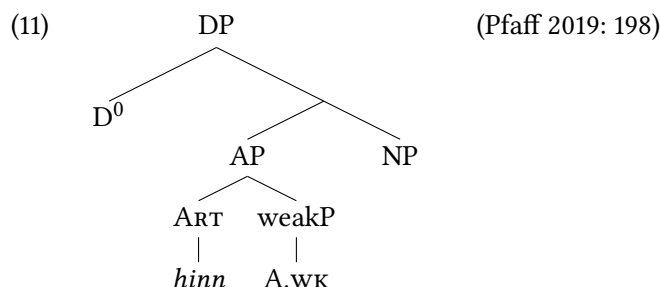
(adjectival) modifiers in its c-command domain. This is broadly the view that has emerged during the past 30 years or so (e.g. Magnússon 1984; Sigurðsson 1993, 2006; Pfaff 2009, 2014, 2015, 2017; Harðarson 2016, 2017; Ingason 2016). A rather simplified schematic can be rendered as follows:



In Old Icelandic, we find examples involving *(h)inn* + weak adjective that superficially look like the ones found in modern Icelandic, e.g. (10).

- (10) a. hinir íslensk-u menn b. hið röskvast-a fólk
 ART Icelandic-wk men ART bravest-wk people
 ‘the Icelanders’ ‘the most brave people’
 (Saga: Eyrbyggja saga) (OIce.715.541)

However, it has been argued that the syntax of Old Icelandic *(h)inn* is considerably different in that it is not a determiner in the extended nominal projection, but forms a narrow constituent with the weak adjective to the exclusion of the noun:



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In the following, we will make the case for this latter idea, providing evidence from various early Germanic languages for an article element that forms a unit with a weak adjective. We will first take a detailed look at Old Icelandic establishing the idea descriptively. After that we will examine the West Germanic languages, and finally, take a brief look at Gothic.

1.2 Sources

Unless otherwise stated, for all languages, example IDs are drawn from the *Noun Phrases in Early Germanic Languages* (NPEGL) database; for a comprehensive overview of NPEGL as a corpus resource, see Pfaff & Bouma (2023 [this volume]). NPEGL IDs are in the format Language.Number.Number, e.g. Olce.681.656 for an Old Icelandic example. The Old English (OE) portion of NPEGL consists of all nominals drawn from the *York–Toronto–Helsinki Corpus of Parsed Old English Prose* (YCOE, Taylor et al. 2003), of which at the time of writing circa 3,500 had been more richly annotated according to NPEGL guidelines. Old Saxon (OS) is represented in NPEGL by an exhaustive sample of nominals from the C manuscript of the *Heliand*, a 9th-century gospel harmony (see Walkden 2016). The Old Icelandic portion in NPEGL contains the texts in the *Icelandic Parsed Historical Corpus* (IcePaHC, Wallenberg et al. 2011), 1150–1350.

Additional material for Old Icelandic is drawn from the *Saga Corpus*.⁷ For OE and Old High German (OHG) it was also necessary to supplement the material in NPEGL with other sources. NPEGL does not contain OE poetic sources, and these were investigated using the *York–Helsinki Parsed Corpus of Old English Poetry* (YCOEP, Pintzuk & Plug 2001). For OHG, examples are drawn from the *Referenzkorpus Altdeutsch 1.1* (ReA, Donhauser et al. 2018), part of the *Deutsch Diachron Digital* (DDD) megaproject; the ANNIS search interface⁸ was used to retrieve them.

2 The adjectival article (*h*)*inn* in Old Icelandic

Contrary to first appearances, there are good reasons to assume that (*h*)*inn* is not a regular article element in Old Icelandic, i.e. a determiner occupying an immediate position in the extended nominal projection (pace Roehrs & Sapp 2004; Faarlund 2004, 2007, 2009; Laake 2007; Lohndal 2007). Instead, it has long since

⁷<https://malheildir.arnastofnun.is/?mode=forn#>.

⁸<https://korpling.german.hu-berlin.de/annis3/ddd>.

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been suggested that it actually is an element of the adjectival constituent⁹ with *(h)inn* + A forming a unit to the exclusion of the noun (for instance Nygaard 1905; Lundebj 1965; Perridon 1996; Skrzypek 2009, 2010; Perridon & Sleeman 2011; Stroh-Wollin 2009, 2015; Börjars & Payne 2016; Börjars et al. 2016; *Gelenkartikel* ('linking article') in Heinrichs 1954; Himmelmann 1997; *attributive article* in Rießler 2016; *adjectival complementizer* in Pfaff 2019). In this subsection, we will summarize some arguments in support of the view that it is a narrow component of the adjectival phrase, and show that it is *(h)inn* together with a weakly inflected adjective that constitutes an AP.

2.1 "Bare" weak adjectives in Old Icelandic

The first relevant observation is that there is an intimate relationship between *(h)inn* and weak adjectives. Stroh-Wollin (2009: 7) notes that "*(h)inn* seems to be just a formal element preceding adjectives with so called weak inflection", and Börjars & Payne (2016: 3) state that "*(h)inn* allows the weak A to function as an ADJ". In other words, *(h)inn* only occurs when immediately followed by exactly one weakly inflected adjective, which could not act as a "proper" adjective on its own. This goes hand in hand with the observation that bare weak adjectives are virtually absent in Old Icelandic, or at least highly exceptional. Here the qualifier "bare" can, in principle, be understood to indicate that the adjective is not preceded by anything; but we will use it in the sense "weak adjective specifically not preceded by *(h)inn*" (thus weak adjectives only preceded by a demonstrative will also count as "bare").

Notice that some bare weak adjectives are attested; those constitute a closed class and may be referred to as "functional" adjectives: determiner-like adjectives, ordinal numerals, and certain superlatives.¹⁰ This is also the case at earlier stages: Perridon (1996) identifies five attestations of bare weak adjectives in the runic corpus, and they all qualify as functional under the characterization just given.¹¹ On the other hand, bare weak "lexical" adjectives (with descriptive content) are basically non-existent in the oldest texts. Thus the big picture that emerges if we

⁹Of course, the older authors did not talk about "constituents" or "AP", etc., but they clearly express the general idea, e.g. Nygaard (1905: 48): "Den foranstillede artikel er adjektivisk" ('The preposed article is adjectival').

¹⁰E.g. *sami* 'same', *fyrsti* 'first', *þriði* 'third', *næsti* 'next', etc. Note, however, that even these usually occur with preceding *(h)inn*. Thus the generalization is not that functional adjectives are (always) "bare", but that they *can* more easily occur without preceding *(h)inn*.

¹¹Those five adjectives are: *æningi/æninga* 'only-one', *bæzti* 'best', *fyrsta* 'first', *þriðia* 'third'. In addition, he mentions *ungu (uku)* 'young'. However, Stroh-Wollin (2012) argues against interpreting *uku* as weak adjective, and suggests instead that it has to be read as a name.

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abstract away from the “noise” is that bare weak adjectives without preceding *(h)inn* are essentially non-existent.

Traditionally, weak inflection is associated with definiteness, but as will be shown in the next subsection, adjectives do not automatically occur weakly inflected when accompanied by definite elements (like demonstratives and possessives), and they are not found in vocatives, names and name-like expressions – differently from modern Icelandic. Likewise, the modern Icelandic standard pattern (A.WK N-DEF), see fn. 4, is virtually absent from the older Icelandic. Pfaff (2019: 179–184) shows that in the *Saga Corpus* this pattern occurs 11 times, and in IcePaHC (texts from 12th–16th centuries) we find 10 occurrences at most; two examples are shown in (12) (from Pfaff 2019: 180).

- | | | |
|------|--|---|
| (12) | a. þriðja nótt-in
third night-DEF
‘the third night’
(IcePaHC: 1475 aevintyri) | b. rauðfleckkóttu uxa-nn
red-speckled ox-DEF
‘the red-speckled ox’
(Saga: Vopnfríðinga saga) |
|------|--|---|

Fifteen out of this small set of 21 attestations involve functional adjectives in the sense above. At the same time, there are 140 cases where the weak adjective is, in addition, preceded by *(h)inn* (ART A.WK N-DEF),¹² and several thousand cases where the weak adjective is only preceded by *(h)inn* without the suffixed article present (ART A.WK N). This staggering numerical discrepancy between Old Icelandic and modern Icelandic indicates a number of syntactic differences concerning the status of weak adjectives, the adjectival article and the nominal (suffixed) article. Relevantly, we see once more that bare weak adjectives are extremely rare in Old Icelandic even if a potential source of definiteness marking is present, unless the adjective is also preceded by *(h)inn*.

Taking Börjars & Payne (2016) one step further, Pfaff (2019) therefore suggests that weak adjectives are “defective”, or “incomplete” APs, as it were, and that *(h)inn* is an “adjectival complementizer” that, by merging with a weak adjective,

¹²Incidentally, the fact that various constellations of “double definiteness” (where the nominal and the adjectival article cooccur) are considerably more frequent than examples like (12) also suggests that weak adjectives are dependent on *(h)inn*, but do not necessarily interact with the nominal article (-DEF), as in (i).

- | | | |
|-----|---|--|
| (i) | a. hin litlu hús-in
ART little houses-DEF
‘the little houses’
(OIce.681.656) | b. tré-ð hið mikla
tree-DEF ART big
‘the big tree’
(Saga: Gunnlaugs saga) |
|-----|---|--|

produces a “complete” adjectival phrase: [_{xAP} (h)inn [_{weakP} A.WK]]. In the following, we will refer to the unit of these two elements (h)inn + A.WK as *weak sequence*.

2.2 Weak sequences and strong adjectives

2.2.1 Adnominal contexts

Upon a closer look at the occurrence of adjectival elements in Old Icelandic, we discern a recurrent distributional pattern: there are slots or (syntactic) contexts where we either find a weak sequence or a strongly inflected adjective – but negligibly rarely (or not at all) a bare weak adjective. Below, some prominent such contexts are given: adjectives following a pronominal possessive (13)–(14), adjectives following a demonstrative (15)–(16), and adjectives in noun phrases used as a direct address (~ vocative) (17)–(18).

(13) POSS + ART + A.WK:

- a. minn **hinn** best-i vin
my ART best-WK friend
‘my best friend’ (Saga: Íslendinga þættir)
- b. hans **ina** björt-u frægð
his ART illustrious-WK fame
‘his illustrious fame’ (OIce.100.538)
- c. gullhring sínum **hinum** góð-a
goldring POSS ART good-WK
‘his good gold ring’ (Saga: Harðar saga)
- d. karfi hans **hinn** stór-i
ship his ART big-WK
‘his big ship’ (OIce.488.876)

(14) POSS + A.STR:

- a. sinni fullkomin-**ni** vináttu
POSS complete-STR friendship
‘his complete friendship’ (Saga: Sturlunga saga)
- b. vors heilag-s föður
our holy-STR father
‘(of) our holy father’ (OIce.558.908)

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- c. öxi sína forn-a
axe POSS old-STR
'his old axe' (Saga: Sturlunga saga)
- d. brauð vort yfirveranleg-t
bread our spiritual-STR
'out spirital bread' (OIce.923.674)

(15) **DEM + ART + A.WK:**

- a. þann hinn digr-a mann
DEM ART stout-WK man
'that stout man' (Saga: Heimskringla)
- b. þessi hin söm-u orð
DEM ART same-WK words
'these (very) same words' (Saga: Fljótsdæla saga)
- c. þau hin spakleg-u fræði
DEM ART sagacious-WK lore
'that sagacious lore' (OIce.239.056)

(16) **DEM + A.STR:**

- a. þann helg-an dóm
DEM holy-STR relic
'that holy relic' (OIce.729.539)
- b. þessi vond-ur svikari
DEM evil-STR traitor
'this evil traitor' (Saga: Íslendinga þættir)
- c. þeim norræn-um manni
DEM Nordic-STR man
'that Norse man' (Saga: Fóstbræðra saga)

(17) **VOCATIVE: ART + A.WK:**

- a. hann beiðist svo oft friðar af yður, inn mildast-i konungur
he demands so often peace of you ART mildest-WK king
'he asked you for peace so often, mildest king' (OIce.657.127)
- b. Heyr þú, hinn ung-i maður, rís upp
listen you ART young-WK man stand up
'Listen (to me), young man, stand up!' (OIce.707.561)

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(18) VOCATIVE + A.STR:

- a. Ér, góð-ar konur, bölvíð eigi
 ye good-STR women curse not
 ‘Don’t curse, (you) good women.’ (OIce.358.860)
- b. Minn virðugleg-ur herra Jón erkibiskup, eg kæri fyrir yður
 my gracious-STR lord Jón archbishop I charge before you
 upp á Sighvat Hálfðanarson
 against Sighvat Hálfðanarson
 ‘My gracious lord archbishop Jón, I bring (these) charges against
 Sighvat Hálfðanarson before you.’ (OIce.339.778)

Observations like these suggest two things: firstly, the fact that strong adjectives and weak sequences essentially occur in the same environments can be taken to mean that both instantiate the same syntactic object (category), viz. AP. In particular, it strongly corroborates the notion that *(h)inn* really is a component of the AP, rather than simply a definite (nominal) article. Secondly, even though both *(h)inn* and the weak inflection are somehow related to semantic definiteness, the distribution cannot (entirely) be governed by semantics, otherwise the occurrence of strongly inflected adjectives in these contexts would be completely unexpected. Based on the extant material, it is not obvious how to determine whether there is a (systematic) semantic difference in use between the two in examples such as the above, or to what extent a difference would be related to definiteness.

In contrast, in modern Icelandic (and modern Scandinavian more generally), the distribution of adjectival inflection is rather rigidly governed by definiteness: weak adjectives (not weak sequences) occur in definite contexts, strong adjectives elsewhere (see esp. Pfaff 2017). Thus contexts such as the above simply involve a bare weak adjective in modern Icelandic, cf. (19)–(21).¹³

¹³Two further contexts could be mentioned: (i) adjectives occurring in (fixed) name-like expressions, e.g. ‘the holy spirit’ (both constellations below are attested several times in IcePaHC: 1150.HOMILIUBOK):

- | | |
|--|--------------------------------------|
| (i) a. hinn heilag-i andi
ART holy-wk spirit | b. heilag-ur andi
holy-STR spirit |
|--|--------------------------------------|

Here modern Icelandic uses the standard pattern: *heilag-i andi-nn*.

(ii) a reviewer points out that our claim on distribution is backed up by a rare pattern in Old Swedish where a strong adjective precedes a definite noun (*luct hæraznæmpð-in* ‘closed.STR jury-DEF’). This alternates with “double definiteness” cases, see fn. 12, and is in contrast to the

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- (19) a. minn góð-i / *-ur vinur
my good-WK / -STR friend
b. minn (*hinn) best-i vinur
my ART best-WK friend
- (20) a. þessi vondi-i / *-ur svikari
DEM evil-WK / -STR traitor
b. þann (*hinn) digr-a mann
DEM ART stout-WK man
- (21) a. kær-u / ágæt-u gestir
dear-WK / good-WK guests
b. Quo vadis, laus-i greinir?
quo vadis free-WK article
'Whither goest thou, free article?'

Pronominal possessives “trigger” the weak inflection on a following adjective; the strong inflection is ruled out in this context, and so is the occurrence of *hinn* in a post-possessive position, cf. (19). The same can be said about demonstratives, cf. (20). Bare weak adjectives also occur in direct addresses and can thus be said to have a vocative function in these contexts; this applies not merely to adjectives conventionally used in addressings, cf. (21a), but to any adjective occurring in an address noun phrase (cf. (21b), which is the title of a talk given in 2012).

2.2.2 Predicative contexts

As an initial observation, notice that, typically (but not exclusively) in predicative position, adnominal weak sequences involving a superlative adjective yield a so-called absolute/indefinite superlative (also known as “elative”) interpretation: no actual comparison is involved and the superlative does not indicate the unique extreme, but merely a high degree on a scale established by the property denoted by the adjective, cf. (22).

- (22) a. Þúríður var hin vitrasta kona
Þúríður was ART wise.SUPL.WK woman
'Þúríður was a very wise woman.' (Saga: Fljótsdæla saga)
(NOT: 'the wisest woman among all women out of a given group')

modern Icelandic standard pattern. The pattern A.STR N-DEF is also found in Old Icelandic; see Pfaff (2019) for discussion and a quantitative comparison of those patterns.

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- b. Hann var hið mesta illmenni
he was ART big.SUPL.WK villain
'He was the greatest villain (i.e. a very bad person).'
- c. Skildu þeir með hinni mestu vináttu
departed they with ART great.SUPL.WK friendship
'They departed with great friendship.' (OIce.260.119)

Weak sequences of that kind also occur in predicative position on their own (23), which includes coordination structures, cf. (23e).¹⁴

- (23) a. Gunnar var hinn reiðasti
Gunnar was ART angry.SUPL.WK
'Gunnar was very angry.' (Saga: Brennu Njáls saga)
- b. Trausti var hinn kátasti
Trausti was ART cheerful.SUPL.WK
'Trausti was very cheerful.' (Saga: Víglunda saga)
- c. konungur var hinn glaðasti
king was ART glad.SUPL.WK
'the king was very glad' (Saga: Bárðar saga Snæfellsáss)
- d. hvorirtveggju voru hinir óðustu
each.of.two were ART frantic.SUPL.WK
'both were extremely furious' (Saga: Eyrbyggja saga)
- e. Jarl var hinn reiðasti og hinn erfiðasti lengi
jarl was ART angry.SUPL.WK and ART difficult.SUPL.WK long
'The Jarl was very angry and (very) irritable for a long time.'
- f. compare with (23a): Bolli [...] var mjög reiður
Bolli was very angry.STR
'Bolli was very angry.' (Saga: Laxdæla saga)

The crucial point to observe here, other than the elative interpretation itself, is that the weak sequence merely denotes a property, just like any adjective in predicative position – such as the strong AP in (23f). In other words, examples

¹⁴Notice also (23d), which would violate the uniqueness condition if the superlative did have its comparative meaning/use in this example.

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like these suggest that weak sequences (can) have a simple adjectival interpretation. So in addition to the distributional evidence discussed in Section 2.2.1, we also have a semantic perspective corroborating the view that weak sequences are, in fact, APs.

Comparing (22) and (23), it would seem as though weak sequences involving individual level (IL) properties (*wise, popular, ...*) occur adnominally, and weak sequences involving stage level (SL) properties (*angry, glad, furious, ...*) can occur on their own. While we have not found any examples involving SL adjectives in adnominal contexts like (22) so far, weak sequences involving IL predicates are occasionally found in predicative position, especially, so it seems, when coordinated with a strong AP, cf. (24). Maybe a better clue is given by (22b)–(22c) where the adjective involved is non-intersective, i.e. it does not denote a separate property, but its interpretation is dependent on the property denoted by the noun. In other words, here *great* denotes a degree on a scale indicating *villain-ness* or *friendly-ness*, rather than an independent property *great-ness*. So the weaker generalization might be that, minimally, the adjective involved in cases like (23) must be predicative (i.e. of type <e,t>).

Finally, it should be mentioned that weak sequences can be coordinated with “proper” APs headed by a strongly inflected adjective in predicative position, as in (24).

- (24) a. Var það lið [AP hið fríðasta] og [AP vopnað allvel]
 was that army ART fine.SUPL.WK and armed.STR all.well
 ‘That army was very fine (= consisting of fine men) and extremely well armed.’ (Saga: Egils saga Skallagrímssonar)
- b. hann var [AP hinn vasklegasti] og [AP fullur af ofurkappi]
 he was ART brave.SUPL.WK and full.STR of over-eagerness
 ‘he was very brave and full of over-eagerness’
 (Saga: Þórðar saga hreðu)

Under the premise that only like categories can be coordinated, this would be the definite argument in favour of the idea that weak sequences are APs rather than (possibly elliptical) NPs (or DPs). However, coordination is not an absolutely perfect criterion; notably, predicative categories are more flexible in that respect – after all, predicative NP & AP coordinations are well-known (“she is [a linguist] and [proud of it]”). Therefore, examples like these should rather be seen in conjunction with the other observations, as cumulative evidence. But there are further observations from coordination to be discussed in Section 2.3.

2.3 Multiple adjectives (and adjectival<-like> modifiers)

Various observations from the distribution of bare weak adjectives, weak sequences, and strong adjectives suggest that weak sequences in many crucial respects behave like strong adjectives, and hence should be treated alike, viz. as APs. The particular suggestion is that *(h)inn* should be construed as an adjectival article in a narrow sense, i.e. as a component of AP rather than a definite article in the (extended) nominal projection (DP). A natural expectation following from that conclusion is that, in cases of adjectival stacking, i.e. in noun phrases comprising more than one adjective, we should find an adjectival article with every individual adjective, similarly to the phenomenon known as *Determiner Spreading*, e.g. in Modern Greek (25).

- (25) a. **to** megalo **to** kokkino to vivlio
 ART big ART red the book
 ‘The big red book’ (Alexiadou & Wilder 1998: 303)
- b. to vivlio **to** kokkino **to** megalo
 c. **to** megalo to vivlio **to** kokkino
 d. **to** kokkino to vivlio **to** megalo

However, adjectival stacking in the narrow sense is extremely rare in Old Icelandic, also with strong adjectives. What at first glance may look like multiple adjectives can usually be broken down into a quantificational element (such as *many*) or some kind of functional adjective (e.g. *other*), or both, alongside the actual (lexical) adjective (see also Bech 2017), as in (26).¹⁵

- (26) margir aðrir göfugir menn
 many other noble men
 ‘many other noble men’ (Saga: Svarfdæla saga)

¹⁵One strategy occasionally used to accommodate multiple (strong) adjectives is for the noun to be “flanked” on both sides (which actually may involve functional adjectives and cardinal quantifiers), as in (i) (see also Bech et al. 2023 [this volume]).

- | | |
|---|---|
| (i) a. einn ungur maður fátækur
one young man poor
(OIce.008.041) | c. góðir menn margir
good men many
(Saga: Ljósvefninga saga) |
| b. svörtu merhrossi góðu
black mare good
(Saga: Eyrbyggja saga) | d. mörgum manni öðrum
many.a man other
(Saga: Sturlunga saga) |

2.3.1 Adjectival coordination: occurrence per adjective

Usually, when the noun phrase comprises more than one adjective, those are coordinated. Most commonly, this is a matter of two (or more) strong adjectives, but there are also cases of strong adjectives and weak sequences being coordinated, in both orders, which ties in with the observations made in the previous subsection. Most relevantly, there are also several cases of two weak sequences being coordinated, some examples are given in (27) (see also Pfaff 2019: 192–193; fn. 36).

- (27) a. **hinn** hraustasti og **hinn** vaskasti drengur
 ART energetic.SUPL og ART brave.SUPL lad
 ‘the most energetic and bravest young man’
 (Saga: Gunnlaugs saga ormstungu)
- b. **inn** sanni og **inn** eilífi drottinsdagur
 ART true and ART eternal Lord’s.day
 ‘the true and eternal day of the Lord’ (OIce.704.345)
- c. **hinir** bestu menn og **hinir** vitrustu
 ART best.SUPL men and ART wise.SUPL
 ‘the best and wisest men’ (Saga: Heimskringla)
- d. Þú **hið** arga og **hið** illa kvikindi
 you ART vile and ART evil creature
 ‘you vile and evil creature’ (Saga: Flóamanna saga)
- e. Hálfðan **hinn** mildi og **hinn** matarilli
 Hálfðan ART mild and ART meat.stingy
 ‘Hálfðan the Mild and Meat-stingy’ (Saga: Heimskringla)

Many instances of this structure are found in predicative noun phrases, but also in argumental noun phrases, vocative noun phrases, and even appositive nominals constituting an epithet with a proper name. One crucial observation linking back to the issue raised in the introduction of this subsection is that the adjectival article (*h*)*inn* is repeated with every adjective/adjectival conjunct. In other words, examples like these are another strong indication that (*h*)*inn* really belongs with the AP, but the same point can be made more clearly, cf. (28).

- (28) a. fé það **hið** mikla og **hið** góða
 money DEM ART big/much and ART good
 ‘that handsome amount of money’ (Saga: Brennu Njáls saga)

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- b. skaða þann hinn mikla og hinn illa
 damage DEM ART extensive and ART bad
 ‘that extensive and bad damage’ (Saga: Brennu Njáls saga)
- c. þeim hinum smám og hinum fám skipum
 DEM ART small and ART few ships
 ‘those few small ships’ (Saga: Sturlunga saga)

As was already shown in (15), weak sequences often occur in noun phrases headed by a demonstrative. In cases involving adjectival coordination structures, we find that the demonstrative occurs once per noun phrase, but *(h)inn* occurs once per adjective.¹⁶ This iterates the point that ART belongs more closely with the adjective rather than with the noun phrase, and once more corroborates the idea that ART forms a constituent with a weak adjective (= AP) to the exclusion of the noun.

2.3.2 Numerals

Cardinal quantifiers (*many, few, ...*) are treated as adjectives in Old Icelandic insofar as they display a strong/weak alternation, they can be coordinated with regular adjectives as is illustrated in (28c), and consequently, they occur with *(h)inn*. In contrast, cardinal numerals, which otherwise behave rather similarly in terms of semantics and syntax, cannot be construed as adjectival elements in the same way as shown by Pfaff (2019: 192–193). Apart from the fact that numerals do not inflect weakly and are not attested in adjectival coordination structures, there are no attestations of ART + numeral, either; not in isolation, and especially not as an intervening element between *(h)inn* and A.wk. The latter would be a natural expectation on the assumption that *(h)inn* were a regular (noun phrase) determiner (cf. Cinque 2005), and, as already illustrated in the introduction, this is exactly what we find in modern Icelandic, cf. (7b)–(7c).

¹⁶For comparison: in modern Icelandic, both demonstratives and ART occur once per noun phrase, and what is coordinated are bare weak adjectives:

- (i) a. hinn einfaldi og augljósi sannleikur
 ART simple and obvious truth
 ‘the simple and obvious truth’
- b. þessi mikilhæfi og fjölgáfaði strákur
 DEM talented and highly.intelligent boy
 ‘this talented and highly intelligent boy’

2.3.3 The “third-greatest” piece of evidence

It is not only numerals that cannot intervene between *(h)inn* and A.WK; in fact, nothing can occur in that intermediate position, not even adverbial/degree elements – again, which is what we do find in modern Icelandic, cf. (6) and (8). This is yet another indication that there is an intimate relationship between *(h)inn* and a weakly inflected adjective. We will finally have a brief look at a handful of rather peculiar cases that make the same point from a slightly different angle. First, recall the examples in (5), one of which is repeated in (29).

- (29) *hið þriðj-a mest-a bankagjaldþrot í sögunni*
 ART third-WK greatest-WK bankruptcy in history.DEF

As already mentioned, this cannot be considered adjectival stacking in the proper sense because the first element (*þriðja*) modifies the following adjective, rather than the noun, cf. fn. 5. But what matters in the present context is that all adjectives following ART are weakly inflected. Now consider a corresponding example from Old Icelandic in (30).

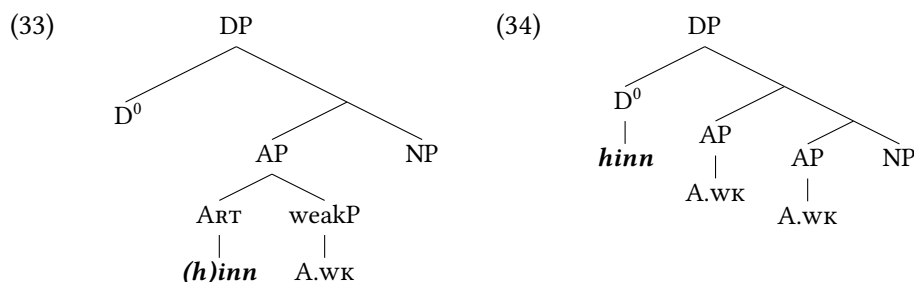
- (30) *hann var hinn þriðj-i mest-ur lögmaður á Íslandi*
 he was ART third-WK greatest-STR lawyer on Iceland
 ‘he was the third-greatest lawyer in Iceland’ (Saga: Brennu-Njáls saga)

Here, the following superlative adjective occurs strongly inflected; notice that this is not a defect on behalf of that element, which regularly occurs weakly inflected when immediately preceded by *(h)inn* (e.g. *inn mest-i höfðingi* ‘ART greatest-WK chieftain’). Consider furthermore that we do not find strongly inflected adjectives immediately preceded by *(h)inn*, nor do we find more than one weakly inflected adjective following *(h)inn*. On the rare occasion that another adjective follows *(h)inn* + A.WK, it is strongly inflected:

- (31) *hinn þriðj-i sek-ur maður*
 ART third-WK guilty/condemned-STR man
 ‘the third guilty man; the third one of those guilty’ (Saga: Sturlunga saga)
- (32) *ins himnesk-a vors heilag-s föður*
 ART heavenly-WK our holy-STR father
 ‘our heavenly holy father’ (OIce.558.908)

On the reasonable assumption that ART (featurally) interacts with the weak inflection one way or another (see Pfaff 2017, 2019: 198), we can infer that ART has scope only over one adjective in Old Icelandic, cf. (33), but over all adjectives between it and the noun in modern Icelandic, cf. (34).

9 Adjectival articles in early Germanic



2.4 Summary

In this section, we have provided various pieces of evidence to the claim that ART is narrowly associated with the adjective (= is a part of AP) to the exclusion of the noun in Old Icelandic. We have pointed out distributional, semantic, and morphological properties all supporting that claim. Also by comparison, we have seen that ART has a rather different status in Old Icelandic and modern Icelandic.

3 An adjectival article in West Germanic

Cognates of *(h)inn* with the status of an article are not found outside the North Germanic languages. The early West Germanic languages do exhibit reflexes of Proto-Germanic **jainaz* (as does Gothic), but these have retained the semantics of a distal deictic demonstrative up until the present day. Perhaps because of this fact, it is not generally thought that an adjectival article can be found in West Germanic. Heinrichs (1954: 30–37) proposes that the demonstrative can function as a *Gelenkpartikel* ('linking particle'), and adduces examples from early West Germanic languages, but his treatment is not systematic, and has had little influence on subsequent work.¹⁷

In this section, we make the case that West Germanic indeed shows evidence of an adjectival article. We begin in Section 3.1 with a brief discussion of the literature on articles in the early West Germanic languages, as the dating of the emergence of definite and indefinite articles, and DP structure in general, is disputed. Subsequently we discuss the different strands of evidence that lead us to suggest that the early West Germanic languages might have had adjectival articles after all. Our empirical focus is on the three West Germanic languages attested in the first millennium CE: Old English (OE), Old High German (OHG), and Old Saxon (OS).

¹⁷ A notable exception is Allen (2006), which we discuss in Section 3.1.1.

3.1 Evidence for an adjectival article in early West Germanic

Recent research on OE and OHG suggests that grammaticalization of demonstratives as definite articles was more advanced at this earlier stage than previously thought (Wood 2007b; Crisma 2011; Sommerer 2018; Allen 2019; Flick 2020). In the most extensive study of article emergence in the history of English to date, using prose evidence, Sommerer (2018: 312) concludes that “the form *se* takes up article function from early Old English onwards”, and increases dramatically in frequency during the period. Crisma (2011) shows that the use of historically demonstrative forms is higher in prose than in (putatively early) poetic texts, and proposes that the definite article in English was already established by the time of the “Alfredian” prose of the second half of the 9th century. Similarly, Flick (2020: 207) reaches the conclusion that the development of the definite article has already progressed substantially by early OHG.¹⁸ This raises a problem for any proposal suggesting that demonstratives also grammaticalized as adjectival articles: how are we to distinguish definite articles from adjectival articles?

We will henceforth refer to what was historically the distal demonstrative as DEM, without prejudice as to its categorical status, except where more specificity is required in particular contexts. The distributional diagnostics presented in the following subsections are intended to isolate contexts in which DEM can be neither a definite article nor a demonstrative.

In Section 3.1.1 we discuss patterns of co-occurrence of DEM and possessives. Section 3.1.2 discusses the use of DEM postnominally, and Section 3.1.3 presents its use in vocative contexts.

3.1.1 Possessives and DEM

In Present-day English (PDE), and in many other languages for which it is widely assumed that the article is the head of DP, prenominal possessives may not co-occur with articles: **the my book*, **my the book*, **Mary’s the book*, **the Mary’s book*. Evidence for the co-occurrence of DEM and possessives has therefore played a role in the debate around DP status in OE: Wood (2007b: §4) summarizes the findings. Evidence of DEM preceding the possessive is not particularly striking or problematic for the DP hypothesis, since similar structures are attested for PDE (e.g. *this(,) my book*), and are usually analysed as close apposition. Another potential approach sketched by Wood (2007b) is to view such structures as involving adjectival possessors in the sense of Lyons (1986, 1999), parallel to Italian

^{18a}Die Funktionsanalyse von *dēr* hat gezeigt, dass die Entwicklung des Definitartikels schon im frühen Althochdeutschen weit fortgeschritten ist.”

9 *Adjectival articles in early Germanic*

il mio libro ‘the my book’.¹⁹ Either way, such examples are of no relevance to the adjectival article hypothesis.

The opposite order, in which the possessive precedes DEM, as in (35) – henceforth the POSS DEM construction (cf. Sommerer 2018) – is more interesting.

- (35) a. **his þam** ecan Fæder
 his DEM.DAT.SG eternal.DAT.SG.WK father.DAT.SG
 ‘his eternal Father’ (OEng.813.633; Ælfric’s Homilies Supplemental)
- b. **his þæs** clænan lifes
 his DEM.GEN.SG clean.GEN.SG.WK life.GEN.SG
 ‘his clean life’ (OEng.269.358; Gregory’s Dialogues, C)
- c. **min** se swetesta sunnan
 my.NOM.SG.STR DEM.NOM.SG sweet.SUPL.NOM.SG.WK sun
 scima
 shine.NOM.SG
 ‘my sweetest sunshine’ (YCOEP; cocynew,117.164.1165)

Such examples, which occur relatively frequently depending on the text (see the figures in Table 1 of Allen 2006: 153), share two features which are of particular importance for the adjectival article hypothesis. First, they are only found with the historically distal DEM and not with the proximal (Allen 2006: 158), suggesting that we are dealing with a grammaticalized form. Secondly, and crucially, they always occur with an adjective: that is, there are no examples of POSS DEM followed immediately by the noun.²⁰

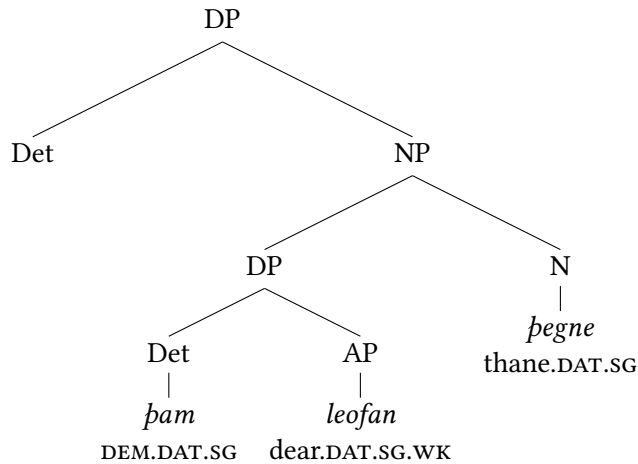
Wood (2007b: 182) claims that, in examples such as (35), DEM occupies D and the possessive is in Spec,DP. While such a structure allows co-occurrence of POSS DEM, it fails to predict the exclusive co-occurrence of this construction with a weak adjective. An alternative analysis is presented by Allen (2006: 158–159), who suggests that “adjective phrases, like noun phrases, have a slot for a determiner”. The tree structure she proposes is given in (36) (with glosses added).

¹⁹See also Demske (2001) on OE and OHG examples.

²⁰For discussion and dismissal of potential counterexamples see Wood (2007a). Allen (2006: 156) identifies just two apparent counterexamples to this generalization, observing that both are from very late manuscripts, which casts doubt on their authenticity.

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(36)



What is striking about this tree is that – modulo labels – the structure is exactly the same as the one proposed by Pfaff (2019) for Old Icelandic on similar but independent grounds (see (11) above).

The construction is found both in prose and in poetry (see (35c)). To be sure, there is variation across and within the early West Germanic languages as to the occurrence of the POSS DEM construction. Starting with English itself, it is essentially restricted to the OE period: by the early 12th century it was no longer a productively-used possibility (Allen 2006: 161–164). Within OE, too, there was variation, and in this context it is interesting to compare the C text of Gregory’s *Dialogues* – which plausibly dates to the 9th century²¹ – with the revised H text of the 10th–11th centuries (Yerkes 2002: §10; Allen 2006: 164; Wood 2007b: 180–181). There are sixteen examples of the POSS DEM construction in C where the relevant DP is also found in H (the manuscripts do not overlap in their entirety). In all sixteen cases, the reviser has made changes, and in eleven of them the DEM has been deleted. Regardless of whether this is evidence of a diachronic change in progress or simply of inter-individual variation, it is clear that the construction was not consistently found across OE texts, hence not consistently preferred by writers of OE.

Turning to OS, the POSS DEM construction is not found at all in prenominal position. In fact, the only place that the construction shows up in NPEGL is in the set phrase in (37).

²¹The manuscript itself is from the second half of the 11th century, but the translation it contains has been associated with Bishop Wærferth of Worcester, working during the reign of King Alfred in the second half of the 9th century.

9 Adjectival articles in early Germanic

- (37) fro min thie guodo
 lord.NOM.SG my.NOM.SG.STR DEM.NOM.SG good.NOM.SG.WK
 ‘my good lord’ (OSax.115.210)

In all, this phrase occurs a further six times in manuscript C of the *Heliand*, each time with exactly the same wording. It also occurs twice in the OS *Genesis* (not included in NPEGL). It could moreover be analysed as a case of apposition. Thus the evidence from the POSS DEM construction for an adjectival article in OS is hardly overwhelming – though other sources of evidence point in the same direction.

OHG shows a similar lack of evidence for this construction. Searching the OHG texts in the *Referenzkorpus Altdeutsch* (ReA) for a possessive immediately followed by DEM only yields two relevant examples, (38), both from Otfrid’s 9th-century *Evangelienbuch*.²²

- (38) a. Drúhtin min ther gúato
 lord.NOM.SG my.NOM.SG.STR DEM.NOM.SG good.NOM.SG.WK
 ‘my good lord’ (ReA; O_Otfr.Ev.3.7)
- b. Múater sin thiu gúata
 mother.NOM.SG his.REFL.NOM.SG.STR DEM.NOM.SG good.NOM.SG.WK
 ‘his good mother’ (ReA; O_Otfr.Ev.4.32)

The first example differs only by one word from the OS example in (37). Moreover, in both examples the final adjective is part of a rhyming couplet (rhyming with *gimúato* ‘benevolently’ in (38a) and with *scówota* ‘viewed’ in (38b)), so one might suspect that the choice of this construction may have been motivated primarily by metrical considerations. Still, insofar as this construction is not simply a case of apposition, the commonalities between OE, OS and OHG may be taken to indicate that the construction was an inherited one, even if it was formulaic and unproductive for the authors of the OHG and OS texts that we have at our disposal.

3.1.2 Postnominal adjectives

For OS, element order in nominals is also an indication that we are dealing with an adjectival article. There is some flexibility with regard to the position of elements within OS nominals, but when it comes to DEM elements – our focus here

²²The following ANNIS query was used: *posLemma* = "DPOS" & *posLemma* = "DD" & #1.#2. Examples were then filtered manually.

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– the possibilities are extremely restricted. By far the most common pattern has DEM initial within the nominal phrase, as in modern West Germanic languages: NPEGL has well over two thousand examples of this type. There are, however, a minority of instances in which DEM follows a common noun: 33 in total in the NPEGL database.²³ In every one of them, DEM is formally distal, and immediately followed by a weak adjective. Examples are given in (39).

- (39) a. **suerdu** **thiu** **scarpon**
 sword.INS.SG DEM.INS.SG sharp.INS.SG.WK
 ‘(the) sharp sword’ (OSax.622.918)
- b. **himile** **them** **hohon**
 heaven.DAT.SG DEM.DAT.SG high.DAT.SG.WK
 ‘(the) high heaven’ (OSax.471.220)
- c. **nadra** **thiu** **feha**
 snake.NOM.SG DEM.NOM.SG colourful.NOM.SG.WK
 ‘(the) colourful snake’ (OSax.429.338)

This construction is not restricted to set phrases, but occurs with a variety of nouns and adjectives, as the examples in (39) show.²⁴ The fact that postnominal DEM in OS is restricted to this construction strongly suggests that we are not dealing with a normal demonstrative or article here.

A related observation is that the converse also holds: just as postnominal DEM is only possible when immediately followed by a weak adjective, so too are postnominal weak adjectives in OS only possible when immediately preceded by DEM. To all intents and purposes, the two words function as a unit.²⁵ Adjectives that follow the noun (regardless of whether there is a prenominal DEM or not) otherwise must be strong. The sequence DEM plus weak adjective thus appears to have the same distributional properties as strong adjectives on their own, as argued in Section 2.2.1 for Old Icelandic.

²³This includes the seven instances of ‘lord my the good’ discussed in Section 3.1.1.

²⁴There are also twelve examples of a proper noun followed by an adjective; since this is possible in PDE titles such as *Alfred the Great*, it is less comparatively striking.

²⁵There are in fact a handful of exceptions to this, all involving the elements *selbo* ‘self’ (an intensifier, as in ‘God himself’) and *eno* ‘only/alone’. The -o ending on these functional elements is formally (masculine) weak. However, *selbo* and *eno* in this context seem to serve as focus particles rather than prototypical adjectives, and are found interchangeably with the strong forms *self* and *en*. For these reasons we do not consider them counterexamples to our general claim.

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In OE prose, too, the generalization seems to hold that DEM is never postnominal unless followed by a weak adjective.²⁶ Examples of the construction are given in (40).

- (40) a. geallancoðe þa readan
 gall-disease.ACC.SG DEM.ACC.SG red.ACC.SG.WK
 ‘(the) red gall disease’ (OEng.284.604; Leechbook)
- b. wermod se hara
 wormwood.ACC.SG DEM.NOM.SG old.NOM.SG.WK
 ‘(the) old wormwood’ (OEng.550.650; Lacnunga)
- c. hælend se Nadzarenisca
 saviour.NOM.SG DEM.NOM.SG Nazarene.WK
 ‘the Nazarene saviour’ (OEng.278.039; Vercelli Homilies)

Such examples are not hugely common, but then again postnominal adjectives are extremely uncommon in OE prose in general: over 96% of unmodified adjectives in the YCOE are prenominal (Bech et al. 2023 [this volume]), with the majority of the rare postnominal adjectives involving specific collocations or structures; one such is the phrase *God ælmihtig* ‘God almighty’ and variants on it, which Crisma (1999) argues involves movement of N to D.

The constraint operative in OS that postnominal adjectives must either be strong or be immediately preceded by DEM seems to hold in OE too. In the more richly annotated NPEGL subsample of OE prose, there is only a single postnominal weak adjective, found in example (41). All of the other 58 examples of postnominal adjectives in this sample are strong, including five more instances of *God ælmihtig*.

²⁶The following search was used: *(NP* iDoms N/N*) AND (NP* iDoms D*) AND (N/N* precedes D*)*. Two examples were retrieved, one of which (conicodA,Nic_[A]:15.2.4.313) is a misannotation. The other is *garsecg ðone* ‘ocean DEM’ (coalex,Alex:31.3.393), for which it is possible to analyse *ðone* as a variant form of the temporal adverb *ðonne*. By contrast, the reversed search with *(D* precedes N/N*)* returns over 80,000 hits. A problem with using the YCOE to search for the postnominal DEM plus weak adjective construction, however, is that all instances of it have been annotated as involving NP-internal apposition. This makes it difficult to distinguish between the construction we are interested in and other, more prototypical cases of apposition (e.g. those in which there is manuscript punctuation between the two phrases). The query *(NP* iDoms NP*PRN*) AND (NP*PRN* iDoms D*)* retrieves all instances, but very many irrelevant examples besides, even when it is further specified that only examples containing adjectives should be included.

- (41) God elmihtiga
 God.NOM.SG almighty.NOM.SG.WK
 ‘God almighty’ (OEng.448.299; Chronicle, E)

Evidently little can be concluded from this example, especially since it is attested very late, in the Chronicle entry for 1085, by which point the distinction between strong and weak adjectives may already have been starting to blur.²⁷

More examples of postnominal DEM are found in OE poetry, but here the picture is not as clear as in OS. Examples of postnominal DEM plus weak adjective sequences from the YCOEP (Pintzuk & Plug 2001) are given in (42).

- (42) a. sele þam hean
 hall.DAT.SG DEM.DAT.SG high.DAT.SG.WK
 ‘(the) high hall’ (YCOEP; cobeowul,23.710.598;
 there are three more identical examples)
- b. beorh þone hean
 mountain.ACC.SG DEM.ACC.SG high.ACC.SG.WK
 ‘(the) high mountain’ (YCOEP; cobeowul,95.3093.249)
- c. mægðhad se micla
 maidenhood.NOM.SG DEM.NOM.SG great.NOM.SG.WK
 ‘great maidenhood’ (YCOEP; cochrist,5.82.56)
- d. wyrd seo mære
 fate.NOM.SG DEM.NOM.SG great.NOM.SG.WK
 ‘great Fate’ (YCOEP; coexeter,136.99.92)
- e. salwonges bearm þone bradan
 field.GEN.SG bosom.ACC.SG DEM.ACC.SG broad.ACC.SG.WK
 ‘the field’s broad bosom’ (YCOEP; coriddle,181.1.29)

However, there are also a handful of other postnominal demonstratives without weak adjectives, including proximal demonstratives.²⁸ Moreover, postnominal weak adjectives in poetry do not need to be immediately preceded by DEM, as examples like (43) show.

²⁷We are grateful to a reviewer for pointing this out.

²⁸Concretely, there are fourteen such examples. A search for $(NP^* iDoms N/N^*)$ AND $(NP^* iDoms D^*)$ AND $(N/N^* precedes D^*)$ in the YCOEP yields 32 examples in total. 18 of these involve DEM plus weak adjective, the expected type. The other 14 include six examples of a distal determiner alone, all of them *þone* and all from Beowulf. Seven involve postnominal proximal demonstratives alone from various texts, and there is one misannotation. A further search for $(NP^* iDoms NP^* PRN^*)$ AND $(NP^* PRN^* iDoms D^*)$ in the YCOEP yields a handful of other potentially relevant examples of DEM plus weak adjective.

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- (43) se maga geonga
 DEM.NOM.SG kinsman.NOM.SG young.NOM.SG.WK
 ‘the young kinsman’ (YCOEP; cobeowul,83.2673.2189)

The evidence from postnominal ordering in OE provides further evidence for adjectival article behaviour of DEM, then, though occasional problematic examples are also found.

In OHG, the evidence is variable. Among the larger OHG texts, the postnominal DEM plus weak adjective construction is only robustly attested in Otfrid’s *Evangelienbuch*.²⁹ Examples are given in (44).

- (44) a. Múater thiū gúata
 mother.NOM.SG DEM.NOM.SG good.NOM.SG.WK
 ‘(the) good mother’ (ReA; O_Otfr.Ev.1.15)
- b. kúningin thia ríchun
 queen.NOM.SG DEM.NOM.SG rich.NOM.SG.WK
 ‘(the) rich queen’ (ReA; O_Otfr.Ev.1.3)
- c. Gímma thiū wíza
 gem.NOM.SG DEM.NOM.SG white.NOM.SG.WK
 ‘(the) white gem’ (ReA; O_Otfr.Ev.1.5)
- d. gótes drut ther máro
 God.GEN.SG friend.NOM.SG DEM.NOM.SG great.NOM.SG.WK
 ‘God’s great friend’ (ReA; O_Otfr.Ev.2.7)

Caution is needed here, since, as with the examples from Otfrid in Section 3.1.1, the adjective very often participates in a rhyming couplet. However, there are numerous such examples, and it is unlikely that Otfrid is drawing on an ungrammatical construction, even if it was marginal outside poetic usage. Examples are also found in other, smaller OHG texts, as in (45).

- (45) a. uuíroh daz rota
 incense.NOM.SG DEM.NOM.SG red.NOM.SG.WK
 ‘(the) red incense’ (ReA; BR1_BaslerRezept1)
- b. uuíroh daz uuizza
 incense.NOM.SG DEM.NOM.SG white.NOM.SG.WK
 ‘(the) white incense’ (ReA; BR1_BaslerRezept1)

²⁹The following query was used: *posLemma* = "DD" & *posLemma* = "NA" & *posLemma* = "ADf" & #2.#1 & #1.#3; examples were then filtered manually.

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- c. engila dê skônun
 angels.NOM.PL DEM.NOM.PL beautiful.NOM.PL.WK
 ‘(the) beautiful angels’ (ReA; G_Georgslied_Tschirch)

Since these examples are found in early (8th- and 9th-century) texts written in different OHG scribal dialects, the most plausible hypothesis is that we are dealing with something that is a relic feature, if not synchronically fully productive.

3.1.3 Vocatives

In prototypical DP languages, such as PDE and Italian, vocatives are a context in which the DP layer may be absent, with vocatives surfacing as bare NPs (e.g. Longobardi 1994: 626–627, note 20). This stance receives support from the fact that, in English and Italian, both definite and indefinite articles are ungrammatical in vocatives, cf. (46).

- (46) a. ?*I ragazzi, venite qui!
 the boys come here
 ‘Come here, (the) boys!’ (Italian; Longobardi 1994: 626)
 b. *Un/Qualche ragazzo, vieni qui!
 a/some boy come here
 ‘Come here, (a/some) boy!’ (Italian; Longobardi 1994: 627)
 c. *The boys, come here!
 d. *A/some boy, come here!
 e. *This/that boy, come here!

In PDE, demonstratives are also excluded from vocatives: see (46e).³⁰ This suggests, in fact, the stronger hypothesis that DP *must* be absent in vocatives – though Longobardi (1994: 626–627, note 20) is cautious about this, noting that there are varieties in which at least definite articles seem to be acceptable in vocatives. He therefore suggests that the ungrammaticality of (certain) D elements in vocatives may be due to a semantic incompatibility. Under either theory, it is instructive to consider the predictions for adjectival articles. Under the adjectival

³⁰Longobardi (1994: note 20) observes that demonstratives are permitted in vocatives in “literary Italian”. Similarly, Cindy Allen (p.c.) points out that definite articles are possible – if dispreferred – in appositions to vocatives in Present-day English, such as “O Lord, the maker of all things”. Due to the nature of our evidence it is not always possible to rule out appositive status, especially for postnominal sequences of DEM plus adjective, and especially since it is difficult to define and delimit what apposition actually is. As a result, the diagnostic discussed in this section is perhaps not as strong as those laid out in the previous sections.

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article theory, DEM is not part of the DP layer of the nominal, and its function is as a pure categorizer. Thus, under both the semantic theory and the no-DP theory, the prediction is that DEM *qua* adjectival article should be unproblematic in vocatives.

For OS and OE, this prediction is borne out. Starting with OS, the examples in (47) illustrate.

- (47) a. Herro **thie** **guodo**
 lord.NOM.SG DEM.NOM.SG good.NOM.SG.WK
 ‘good lord’ (OSax.811.792)
- b. fro min **thie** **guodo**
 lord.NOM.SG my.NOM.SG.STR DEM.NOM.SG good.NOM.SG.WK
 ‘my good lord’ (OSax.115.210 = (37) above)

There are sixteen such examples in total in the OS portion of NPEGL.³¹ In all cases, DEM is formally distal and immediately followed by a weak adjective, as in the other examples of putative adjectival articles provided so far.³² In all cases, DEM is also postnominal, which as argued in Section 3.1.2 is a strong indication of adjectival article status in OS.

In OE, this construction is also very widespread: examples include (48a)–(48e).

- (48) a. Men **ða** **leofestan**
 men.NOM.PL DEM.NOM.PL dear.SUPL.NOM.PL.WK
 ‘Dearest men’ (OEng.586.608; Ælfric’s Lives of Saints, Christmas Sermon)
- b. min **se** **leofeste** sune
 my.NOM.SG.STR DEM.NOM.SG dear.SUPL.NOM.SG.WK son.NOM.SG
 ‘my dearest son’ (OEng.708.922; Alcuin)
- c. min **se** **leofa** magister
 my.NOM.SG.STR DEM.NOM.SG dear.NOM.SG.WK magister
 ‘my dear magister’ (OEng.640.906; Alexander’s Letter)

³¹Allen (2006: 160) discusses (47a) based on its inclusion in Heinrichs (1954), and suggests that its interpretation is appositional: ‘The Lord, the good one’. However, neither Heinrichs (1954) nor Allen (2006) mentions that the example is vocative, which makes this interpretation implausible.

³²The noun varies, but the adjective in all sixteen examples is ‘DEM good’, suggesting we may be dealing with a fossilized construction (though this inference is not on solid ground). Even if so, however, fossilized constructions by definition tell us something about a possibility that was once productive.

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- d. **þa** **leofestan** **broðor**
 DEM.NOM.PL dear.SUPL.NOM.PL.WK brothers.NOM.PL
 ‘dearest brothers’ (OEng.934.199; Bede)
- e. **min** **se** **halga** **Petrus**
 my.NOM.SG.STR DEM.NOM.SG holy.NOM.SG.WK Peter.NOM.SG
 ‘my holy Peter’ (OEng.496.724; Blickling Homilies)

The example in (48a) is a formula that is incredibly widespread, especially in sermons; according to Porck (2020), it is attested more than 200 times in OE homilies across a variety of manuscripts, and is the most common way for priests to begin their sermons. However, the construction is attested with a variety of adjectives and nouns. Both prenominal and postnominal sequences of DEM plus weak adjective are found. In OE poetry, we find eight additional examples, four of which are prenominal and four of which are postnominal.³³

Once more, all examples in both poetry and prose are formally distal, and all examples occur with an immediately following weak adjective. This suggests that in OE, too, the DEM element that shows up in vocatives is always an adjectival article (rather than a definite article or demonstrative).

A full investigation of vocatives in OHG is a desideratum for future work: existing resources such as the *Deutsch Diachron Digital* corpus do not make it possible to extract expressions with vocative function straightforwardly. Nevertheless, OHG also exhibits DEM plus weak adjective sequences in vocatives, e.g. (44c) in the previous section, repeated here as (49).

- (49) **Gímma** **thiu** **wíza**
 gem.NOM.SG DEM.NOM.SG white.NOM.SG.WK
 ‘(the) white gem’ (ReA; O_Otfr.Ev.1.5)

3.2 Summary of evidence

Table 1 summarizes the different pieces of evidence presented so far for adjectival articles in the early West Germanic languages.

In each case, crucially, it is the formally distal demonstrative that is found in these configurations, not the formally proximal demonstrative, and in each case there is a close connection between the DEM element and an immediately

³³The queries used for the YCOEP (Pintzuk & Plug 2001) were NP*-VOC* iDoms D* and (NP*-VOC* iDoms NP*PRN*) AND (NP*PRN* iDoms D*).

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Table 1: Evidence for adjectival articles in early West Germanic

Language	OE		OS	OHG	
	prose	poetry		Otfrid	other
POSS DEM (Sect. 3.1.1)	+	+	+	+	–
Postnominal DEM (Sect. 3.1.2)	+	+	+	+	+
Vocative DEM (Sect. 3.1.3)	+	+	+	+	??

following weak adjective. We take this to indicate that the early West Germanic languages had an adjectival article derived from the distal demonstrative.³⁴

More tentatively, we posit that this is a shared inheritance from Proto-West Germanic (at least). Strikingly, the evidence for adjectival articles is found in all three of the West Germanic languages attested in the first millennium; however, it is not distributed equally across texts. The empirical picture we have so far seems to suggest that it is found in early texts, such as the plausibly 9th-century OE C text of Gregory’s Dialogues and the 9th-century OHG *Evangelienbuch* of Otfrid, more than it is found in later texts. This is consistent with an interpretation in which the adjectival article is an inherited West Germanic feature that becomes archaic and dies out in the individual histories of the West Germanic languages.

4 An adjectival article in Gothic

Gothic, the Germanic language with the earliest substantial textual attestation, presents well-known problems when trying to draw inferences about its syntax:

³⁴Once a regular definite article has grammaticalized, one might expect the adjectival article to co-occur with it, simply on the grounds that nothing rules this out: the two “articles” are not in complementary distribution with each other, syntactically or semantically. For that matter, we might expect to see an indefinite article co-occurring with an adjectival article. There are a few scattered examples of this kind: see for instance (i), from OS.

(i) enon berge them hohon
a.DAT.SG mountain.DAT.SG DEM.DAT.SG high.DAT.SG.WK
‘a high mountain’ (OSax.406.580)

Heinrichs (1954) also remarks upon this example. However, we have not been able to find any comparable examples of co-occurrence in any of the early West Germanic texts we have looked at. We leave this mystery to future research.

the main text that we have at our disposal is a partial Bible translation, mostly of the New Testament, which remains very close to its Greek original (see Ratkus 2011: 21–39; Walkden 2014: 11–13; Miller 2019: 8–20 and references cited there).³⁵ For any syntactic feature observed in the Gothic Bible, the challenge to the analyst is therefore to establish whether it is truly a feature of Gothic or rather reflects a Greek original. Beyond this, moderately extensive Latin influence is also found in Gothic (see Falluomini 2015: chapter 5 and references cited there).

When the Gothic and the Greek original are in agreement, any conclusion about the syntactic properties of Gothic must be viewed with some scepticism. This is true, for instance, for any statement about null subjects: it can be shown that whether the subject in Greek is overt or null is by far the best predictor of whether the subject in Gothic is overt or null (Fertig 2000; Ferraresi 2005; Walkden 2014: chapter 5). In the case of article use, however, Gothic on the whole does not follow Greek usage. New Testament Greek, like Modern Greek, exhibits polydefiniteness (see Ramaglia 2008 and Leu 2007), as in (50).

- (50) hupo [tou pneumatos tou hagiou]
 by the.N.GEN.SG spirit.N.GEN.SG the.N.GEN.SG holy.N.GEN.SG
 ‘by the holy Spirit’ (Luke 2:26; Ratkus 2011: 139)

When rendering polydefinite constructions, the translator(s) of the Gothic Bible did not translate every Greek article using a distal demonstrative. Instead, “the translator, faced with the choice of eliminating one of the two determiners, chooses to delete the one before the noun while keeping the one preceding the adjective” (Ratkus 2011: 140), as in (51).³⁶

- (51) fram [ahmin þamma weihin]
 from spirit.M.DAT.SG that.M.DAT.SG holy.M.DAT.SG
 ‘by the holy Spirit’ (Luke 2:26; Ratkus 2011: 139)

In general, where the Gothic systematically deviates from the Greek, it is plausible that what is found in Gothic is a genuinely autochthonous construction. This is Ratkus’s conclusion for the rendering of polydefiniteness. It is then striking that the single demonstrative form that is translated overtly is not the one

³⁵The other major Gothic text, the *Skeireins*, is probably also a translation from Greek (Bennett 1960; Schäferdiek 1981).

³⁶There are a handful of examples where both articles are rendered in Gothic, e.g. Mark 1:27. These, however, are comparatively so rare that, in light of the fact that such examples follow the structure of the Greek, Ratkus (2011: 140) goes so far as to call this structure ungrammatical in Gothic.

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adjacent to the noun, but the one adjacent to the adjective. Of 151 examples containing a demonstrative, a weak adjective and a noun, 100 have the order DEM Adj.WK N, 47 have the order N DEM Adj.WK, and only four have the order DEM N Adj.WK (Ratkus 2011: 141). In 97% of examples, then, the demonstrative immediately precedes the weak adjective. Ratkus concludes that “[f]rom a philological point of view, the definite determiner and the adjective can perhaps be seen to form an indivisible unit” (2011: 141), noting that this has implications for the reconstruction of Germanic nominal syntax. Further examples are given in (52).

- (52) a. *hairdeis* *sa* *goda*
 shepherd.M.NOM.SG DEM.M.NOM.SG good.M.NOM.SG.WK
 ‘the good shepherd’
 (John 10:11; Greek: *ho poimēn ho kalos* ‘the shepherd the good’)
- b. *in fon* *þata* *unhvapnando*
 into fire.N.ACC.SG DEM.N.ACC.SG unquenchable.N.ACC.SG.WK
 ‘into the fire that shall never be quenched’
 (Mark 9:43; Greek: *eis to pur to asbeston* ‘into the fire the unquenchable’)

Ratkus (2011: chapter 5) goes on to develop an account in which an ‘artroid’ element, historically derived from the demonstrative, precedes weak adjectives in Gothic.³⁷ Ratkus’s artroid is a “‘fake’ determiner”, distinct in function from either a prototypical demonstrative or a prototypical article. This notion of artroid – in the context of its co-occurrence specifically with weak adjectives – is effectively the same as the notion of adjectival article that has been laid out in detail in Pfaff (2019) and in this chapter.

The Gothic data pose additional challenges in that weak adjectives need not be accompanied by an artroid/adjectival article, and occur without it in non-trivial numbers: Ratkus (2011: 141) counts 63 weak adjectives without a preceding DEM. This is unlike the situation in the other early Germanic languages, where it is normal for the two elements to occur together, as discussed in Section 3.1. Gothic weak adjectives also need not be definite: see in particular Ratkus (2018). However, that an adjectival article existed in Gothic – even if its use was not quite obligatory – seems to be a safe conclusion.

³⁷The term “artroid” is taken from the work of Albertas Rosinas on the Baltic languages; see Rosinas (2009: 85–93) and references cited there.

5 Summary and conclusion

We have shown in this paper that all five of the substantially attested early Germanic languages – Old Icelandic, Old English, Old High German, Old Saxon, and Gothic – display evidence for an adjectival article. In all five languages this element is grammaticalized from a demonstrative, forms a constituent with the weak adjective, and does not serve to mark definiteness.

From the perspective of comparative reconstruction, the obvious next step is to project these properties back to Proto-Germanic itself.³⁸ The major difference between North Germanic and the other branches, of course, is that the adjectival article (*h*)*inn* in North Germanic is a reflex of Proto-Germanic **jainaz*, whereas in East and West Germanic it is a reflex of Proto-Germanic **sa* (and its paradigm). This need not be fatal for a reconstruction of the adjectival article as a common Proto-Germanic feature, however. Rather, we are plausibly dealing with a single functional element whose morphophonological realization varies and changes within the Germanic family. In support of this, we know from the attested histories of the North Germanic languages that reflexes of **jainaz* and **sa* are in competition for other linking functions too (Stroh-Wollin 2009, 2015, 2020; Pfaff 2019), with the latter also appearing variably in a relative clause context (Wagener 2017; Sapp 2019). Thus we can reconstruct the underlying syntax of an adjectival article without committing ourselves to a particular morphophonological form. More needs to be said about the precise diachronic developments involved, of course, but this shared behaviour observed across all branches of Germanic makes continuity a more appealing scenario than independent innovation, on grounds of parsimony.

Abbreviations

ACC	accusative	INS	instrumental
ART	adjectival article (Old Icelandic)	M	masculine
DAT	dative	N	neuter
DEF	suffixed definite article	NOM	nominative
DEM	demonstrative	OE	Old English
DET	determiner	OHG	Old High German
GEN	genitive	OS	Old Saxon
IL	individual level	PDE	Present-day English

³⁸This is also the stance taken by Ratkus (2011: 249–250) with respect to his “artroid” element; for Ratkus, the emergence of the artroid in fact precedes the emergence of the strong-weak adjective distinction in Germanic.

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PL	plural	SL	stage level
POSS	possessive	STR	strong adjectival inflection
REFL	reflexive	SUPL	superlative
SG	singular	WK	weak adjectival inflection

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Chapter 10

Positional predicates in early Germanic

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This chapter addresses a class of adjectival modifiers that has received relatively little attention in the literature. Those modifiers, referred to here as *positional predicates*, differ from “regular” adjectives semantically, syntactically, and, at least in Germanic, morpho-syntactically. Their most outstanding syntactic property is that they precede determiners (prenominally) and combine with pronouns and proper names. On the semantic side, they do not simply modify the noun description, but denote a part–whole relation with respect to the NP referent. Starting out from modern Icelandic, Latin and Greek, I will show that items displaying the same deviant behaviour can also be identified in the early Germanic languages to varying degrees. The evidence across the Germanic languages, however, is not equally strong and we find variation, but the discussion suggests that the extant examples are remnants of a system (a class of modifiers/a special adjectival syntax) that must have been more widespread and productive in older stages of Germanic.

1 Introduction

In this chapter, I will discuss a class of adjectival modifiers that has received relatively little attention in the literature, and that will be referred to here as *positional predicates*.¹ Two examples from Icelandic are given in (1).

- (1) a. á norðanverðu nesinu
on northern peninsula.DEF
‘on the northern part of the peninsula’

¹Notable exceptions are Romero (1996) for Latin, and Pfaff (2015, 2017) for Icelandic; some relevant discussion is also found in Fischer (2001) and Grabski (2017) in the context of Old English adjective placement. The term “positional predicate” is adopted from Pfaff (2015, 2017).



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- b. á ofanverðri þessari öld
 on upper DEM century
 ‘in the latter part of this century’

As the discussion will show, positional predicates are adjectival elements even though they display a number of peculiarities that clearly set them apart from “regular” adjectives; as illustrated in (1), they denote a part–whole relationship and they may precede (definite) determiners.

This chapter primarily provides an overview and tries to establish the phenomenon by showing that positional predicates are a deviant class of adjectival modifiers and constitute a worthwhile object of investigation in their own right. Moreover, I will show that it is a topic relevant to the study of (comparative) early Germanic syntax. The discussion itself will draw on data from modern Icelandic and early Germanic languages, but also from Latin and Classical Greek. A secondary, but related purpose is to motivate a separate annotation label for positional predicates in the NPEGL database, as will be explained in Section 1.1.

The structure of this chapter is as follows: In Section 2, I discuss the phenomenon and the prototypical characteristics following the exposition in Pfaff (2015, 2017) on positional predicates in modern Icelandic. Section 3 is concerned with a number of general issues of interest. First, I summarize the account of “partitive adjectives” in Latin by Romero (1996) and discuss the so-called “predicative position” in Ancient Greek. It will transpire that there is a significant overlap between those partitive adjectives occurring in the predicative position (in Latin and Greek) and positional predicates, and that, to a significant extent, they can be treated as the same phenomenon. I then compare agreement vs. genitive constructions, the latter representing an alternative strategy and, presumably, a later development. Section 4 discusses relevant data from various early Germanic languages. I will illustrate their prototypical behaviour, and point out some language-specific deviations. Section 5 concludes.

1.1 Annotated corpora and the NPEGL database

One practical purpose of the project *Constraints on syntactic variation: noun phrases in early Germanic languages*² has been the creation of an annotated noun phrase database (NPEGL). While many annotated corpora (notably those that fed into NPEGL) use the label “Adjective” for a broad class of adjectival elements, the NPEGL annotation (see Pfaff & Bouma 2023 [this volume]) divides the class of

²Funded by the Research Council of Norway (grant no. 261847).

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modifiers into (i) adjectives (in a narrow sense), (ii) cardinal elements, and (iii) positional predicates. Since positional predicates are not an established class, this label needs to be motivated,³ which raises the following questions:

1. What are positional predicates in the first place?
2. Did they exist in the early Germanic languages? and if so:
3. Are they a relevant topic to the study of syntactic variation?

Originally, the term was used to describe a small class of modifiers in modern Icelandic that deviate from regular adjectives, syntactically and semantically, see Section 2. In the initial phase of the project, there was some evidence that we might also find items with a similar deviant behaviour in early Germanic languages. Since this is a phenomenon of potential interest to the project, a closer look at the issue was warranted. As a consequence, the annotation itself has been a part of the investigation into positional predicates in order to determine how widespread/frequent the phenomenon is in the first place. Since annotation is still in progress at the time of writing, no final results or definite numbers can be provided here. However, even though we may not find too many attestations in the extant texts, there are indications that it was a native phenomenon, not imported via scholarly translations from Greek or Latin, and, by extension, that it must have been a component of early Germanic syntax. Formulated more carefully, in all early Germanic languages, we find remnants of a presumably older system that must have been productive in Proto-Germanic and has survived through Old Norse into modern Icelandic.

As we will see, positional predicates are more versatile than regular adjectives in that they may occur in non-canonical adjective positions. For instance, they precede determiners, combine with pronouns and proper names, and, at least in Old English, they occur much more frequently and easily in postnominal position. Thus, not making a distinction amounts to missing out on potentially relevant insights. Notably, when examining adjective ordering/placement or the distribution of adjectival inflection, the results are, in all probability, more precise if positional predicates are treated as a separate class. At the same time, there are noticeable differences among the individual languages, and thus, positional predicates are clearly a topic relevant to the study of (word order) variation in early Germanic, and a separate annotation label is warranted.

³Initially, this chapter was meant to be an appendix to Pfaff & Bouma (2023 [this volume]), precisely for the purpose of elaborating on and motivating this label.

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In addition to NPEGL, the following corpora/sources have been consulted for examples:

1. *Perseus* (Classical Greek) = *Perseus*
<http://www.perseus.tufts.edu/hopper/collections>
2. *Project Wulfila* (Gothic/Biblical Greek) = *Wulfila*
<http://www.wulfila.be/gothic/>
3. *Referenzkorpus Altdeutsch 1.1* (Old High German) = *ReA*
<https://korpling.german.hu-berlin.de/annis3/ddd>
4. *Saga Corpus* (Old Icelandic) = *Saga*
<https://malheildir.arnastofnun.is/?mode=fornrit>
5. *Bosworth-Toller Anglo-Saxon Dictionary online* (Old English)
<https://bosworthtoller.com>

2 Characteristics and notable features

I will start out by looking at the properties of positional predicates in modern Icelandic, largely summarizing the exposition in Pfaff (2015, 2017). Next I will show that, based on the same criteria, cognates with rather similar properties can also be identified in the early Germanic languages.

2.1 Positional predicates in modern Icelandic

Pfaff (2015, 2017) characterizes positional predicates as expressing a temporal/spatial part-whole relation relative to the nominal referent; the respective noun denotes a temporal or spatial extension or a plurality, cf. (2).⁴

- (2) a. á **norðanverðri** eyjunni
on northern island.DEF
‘on the northern part of the island’
- b. á **ofanverðu** tímabilinu
on latter period.DEF
‘in the latter part of the period’

⁴Notice that the regular definite article in Icelandic is a bound morpheme occurring suffixed to the noun, and will be glossed as DEF. Note also that the glosses for the positional predicates themselves will be an approximation since there are no direct (lexical) equivalents in English.

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- c. í **miðri** borginni
in middle city.DEF
'in the middle part of the city'
- d. á **öndverðri** öldinni
on former century.DEF
'in the early part of the century'

Paraphrases involving the component “x-part of the N” are a useful first approximation, but in some cases, a more elaborate translation may be called for. Consider the examples in (3).

- (3) a. í **miðjum** áhorfendum
in middle spectators
'amidst/among/between the spectators'
- b. um **þveran** heiminn
about across world.DEF
'around/across the world'
- c. eftir **endilöngu** landinu
after along land.DEF
'from one part of the country to the other'

The paraphrases may often give the impression that positional predicates are simply elements of complex adverbial or prepositional expressions. This impression may be compounded by the fact that, in most cases, they do occur as part of an actual PP.⁵ Also the glosses themselves may be misleading insofar as they involve adverbs (*across*, *along*), nouns (*beginning*), and adjectives (*northern*) that, by themselves, not always fully convey the appropriate meaning; see fn. 4.

Crucially, however, like regular adjectives, positional predicates agree in case, number, and gender with their respective noun, cf. (4).

⁵However, in principle, they can occur in noun phrases not embedded under a preposition, e.g. as part of a subject or where the noun phrase itself is used as an adverbial expression:

- (i) a. **öndverður** veturinn var kaldur
beginning winter.DEF.NOM was cold
'the beginning of the winter (was cold)' ~ 'the winter in its early part (was cold)'
- b. **öndverðan** veturinn (kom hann heim)
beginning winter.DEF.ACC (came he home)
'at the beginning of the winter (he returned)' (adverbial accusative)

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- (4) a. *í miðj -um bænum*
in middle -M.DAT.SG town.DEF.DAT.SG (M)
b. *í mið -ri borginni*
in middle -F.DAT.SG city.DEF.DAT.SG (F)
c. *á miðj -u sumrinu*
in middle -N.DAT.SG summer.DEF.DAT.SG (N)
d. *um miðj -an mánuðinn*
about middle -M.ACC.SG month.DEF.ACC.SG (M)
e. *um mit -t hverfið*
around middle -N.ACC.SG neighbourhood.DEF.ACC.SG (N)

One striking feature of positional predicates is that they usually occur in definite noun phrases, and even if the noun is not overtly marked for definiteness, the interpretation is definite nonetheless (5).

- (5) a. *í miðjum bæ -num*
in middle town -DEF
'in the middle of the town'
b. *í miðjum bæ*
in middle town
'in the middle of the town'
'in the middle of a town'
'in a middle of the town'

In this context, it must be pointed out that “regular” adjectives in definite noun phrases occur in the so-called weak inflection (6).⁶

- (6) a. *í stór-a bæ-num*
in big-WK town-DEF
'in the big town'
b. *í falleg-a bæ-num*
in beautiful-WK town-DEF
'in the beautiful town'

Positional predicates, in contrast, consistently have strong inflection (7).

- (7) a. *í miðj-um bæ-num*
in middle-STR town-DEF
b. **í miðj-a bæ-num*
in middle-WK town-DEF

⁶While the strong inflection is largely a PIE heritage, the weak inflection is a Germanic innovation/phenomenon (the strong/weak distinction has survived into most modern Germanic languages). Traditionally, it has been associated with (the semantic expression/morphological marking of) definiteness, even though this is a simplification, both diachronically and e.g. for modern German (Ratkus 2011, Pfaff 2017, 2019, Rehn 2019, Petrova 2023 [this volume]).

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As an extension of the above observation that positional predicates combine with definite noun phrases, we find that positional predicates can also modify proper names and personal pronouns, as in (8).

- (8) a. á sunnanverðri Ítalíu
on southern.STR Italy
'in the southern part of Italy'
- b. Við sáu á og brú í henni miðri
we saw river and bridge in PRN.F.DAT.SG middle.F.DAT.SG.STR
'We saw a river and a bridge in the middle of it'

Notice that positional predicates follow the pronoun, as in (8b),⁷ whereas they *precede the noun* in the other examples discussed so far. This is the default situation in modern Icelandic – even though we may find postnominal occurrences as well, with no apparent difference in meaning (9).

- (9) a. að aftanverðu húsinu b. að húsinu aftanverðu
to back house.DEF to house.DEF back
'to/at the back of the house' 'to/at the back of the house'

Finally, positional predicates precede determiners like demonstratives, the freestanding article, pronominal possessives and quantifiers. This differs significantly from the position of “regular” adjectives (between determiner and noun), cf. (10).

- (10) a. á ofanverðri þessari öld
on latter DEM century
'in the latter part of this century'
- b. í miðri hinnu alþjóðlegu fjármálakreppu
in middle.STR ART international.WK financial.crisis
'halfway through the international financial crisis'
- c. meðan hún var í miðri sinni ræðu
while she was in middle her speech
'while she was giving her speech'
- d. í miðri allri þeirri pólitísku óróleika
in middle.STR all DEM political.WK unrest
'in the midst of all that political turmoil'

⁷Occasionally, positional predicates may be found preceding a pronoun. However, Einar Freyr Sigurðsson (p.c.) points out that the post-pronominal position is more natural (or the default).

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- e. í miðjum öllum öðrum leikmönnum
in middle all other players
'amidst all other players'

This position is not merely an option: they *cannot* follow a determiner (11).

- (11) *á þessari ofanverð-ri / ofanverð-u öld
on DEM latter-STR / latter-WK century

In (both Old and modern) Icelandic, positional predicates appear to form a closed class; i.e., there is only a small class of elements displaying the set of properties described above. The list in (12) is essentially an exhaustive(?) list.⁸

- (12) Positional predicates in (Old and modern) Icelandic: inventory

a. miður middle	f. neðanverður lower part	k. vestanverður western part
b. þver across, transverse	g. framanverður front part	l. austanverður eastern part
c. endilangur along	h. aftanverður back part	m. norðanverður northern part
d. öndverður former part	i. utanverður outer part	n. sunnanverður southern part
e. ofanverður latter/upper part	j. innanverður interior part	

This brief summary shows that the behaviour of this class of modifiers differs considerably from the behaviour of regular adjectives in terms of syntax, semantics and, at least partially, morphosyntax, which justifies treating them as a separate group.

2.2 Positional predicates in early Germanic

In Section (2.1), the following characteristics of positional predicates for modern Icelandic were identified, see (13).

⁸If it were not for the elements *miður*, *þver*, *endilangur*, they could also be construed as one morphological class; notice that the other elements are morphologically complex dividing into a locational component plus the suffix *-verð-*; cf. Engl. *(back)-ward(s)*; Germ. *(rück)-wärts*.

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- (13) (i) temporal/spatial part-whole relation
(noun denotes temporal/spatial extension or plurality),
(ii) agreement in case, number, gender with the rest of the noun phrase
(like “regular” adnominal adjective),
(iii) strong adjectival inflection
(in spite of occurring in definite contexts),
(iv) combining with definite noun phrases, incl. pronouns and proper names
(definite interpretation even when not overtly marked as definite),
(v) preceding (definite) determiners,
(vi) (default position: prenominal and post-pronominal),
(vii) (paraphrase by PP/adverbial expression).

Outside Icelandic, positional predicates are not found in the modern Germanic languages. However, based on the criteria discussed in Section 2.1, we can diagnose items in the early Germanic languages that appear to display the same properties. A brief illustration using the item ‘middle (part-of)’ is given in (14)–(18).

(14) Old Icelandic

- a. í **miðju** héraði-nu
in middle.STR district-DEF
‘in the middle of the district’ (Saga, Vopnfirðinga saga)
b. að **miðjum** Noregi
towards middle.STR Norway
‘towards Mid-Norway’ (Saga, Egils saga Skallagrímssonar)

(15) Old English

- a. of **middre** þære bremelpyrnan
from middle.STR DEM bramble.bush
‘from the middle of the bramble bush’ (NPEGL, OEng.458.602)
b. on **middum** ðinum temple (Lat. in medio templo tui)
in middle.STR your temple
‘in the middle of your temple’ (<https://bosworthtoller.com/22789>)

(16) Gothic

- a. in **midjaim** laisarjam
in middle.STR teachers
‘in the midst of the doctors’ (Wulfila, Luke 2:46)

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- b. *pairh midja* Samarian jah Galeilaian
 through middle.STR Samaria and Galilee
 ‘through the midst of Samaria and Galilee’ (Wulfila, Luke 17:11)
- (17) Old High German
 - a. in *mítemo* iro ríngē
 in middle.STR their circle
 ‘in their midst’ (ReA, O_Otfr.Ev.4.19)
 - b. Untar *mitten* iú
 among middle.STR you (DAT.PL)
 ‘among your midst’ (ReA, T_Tat13)
- (18) Old Saxon
 - a. an *middian* dag
 on middle.STR day
 ‘in the middle of the day’ (NPEGL, OSax.444.216)
 - b. under iu *middeon*
 among you middle.STR (DAT.PL)
 ‘among your midst’ (NPEGL, OSax.367.476)

Apart from the fact that the items in question are etymologically related, these examples also display the syntactic peculiarities of positional predicates in modern Icelandic (preceding determiners, strong inflection in definite contexts, combining with pronouns, etc.). Thus they are suggestive evidence of the idea that positional predicates and/or something akin to a positional-predicate syntax may be found in early Germanic. Individual occurrences may not be overly frequent in the extant texts, and for some languages merely a handful of attestations have been identified (so far). But various examples suggest that the peculiarities are not merely the result of adaptation in the process of translation.⁹ The deeper implication of this observation is that we are looking at a phenomenon native to the early Germanic languages, and that, even where we only find few attestations, the respective examples can be viewed as remnants of an older system that must have been productive in Proto-Germanic.

However, before examining the data from early Germanic in more detail in Section 4, I will take a look at Latin and Ancient Greek, and discuss the syntax of positional predicates and alternatives to the agreement construction.

⁹See e.g. (15b), where the position of the possessive is postnominal in the Latin source (in parentheses), but prenominal in the Old English rendering; the noteworthy observation is here that the item *middum* precedes the possessive in the latter.

3 Positions and agreement

3.1 Latin and Greek: the “predicative” position

Romero (1996) examines the “partitive reading” of certain adjectives in Latin which she contrasts with a “restrictive reading”. Some examples are given in (Table 1).

Table 1: Please provide a caption Adapted from Romero (1996: 361)

	Restrictive reading	Partitive reading
<i>summus mons</i> (title of the article)	the highest mountain	the top of the mountain (= ‘the highest part of’)
<i>primo vere</i>	the first spring	at the beginning of the spring
<i>in ultima platea</i>	on the last square	at the end of the square
<i>in imo dolio</i>	in the deep jar	in the bottom of the jar
<i>in media insula</i>	in the middle island	in the middle of the island

As with the Icelandic examples in Section 2.1, the interpretation is definite, even though Latin does not, for the most part, give any overt cues in terms of definiteness marking or configuration. But we do find occurrences with proper names and pronouns; the examples in (19) are from Romero (1996: 364).

- (19)

a.

in **ultima** Phrygia

in final Phrygia

‘at the end of Phrygia’

b.

in **medios** eos

in middle them

‘in their midst’

Classical Greek, on the other hand, overtly distinguishes between two constellations, traditionally referred to as “attributive” and “predicative” position. It must be stressed that “predicative position” here is close to a technical term defined with reference to the article position.¹⁰ An adjective occurs in the attributive position if it is preceded by the definite article (either pre- or postnominally), but in the predicative position if it either precedes the article prenominally or occurs without article in postnominal position. With “regular” adjectives, this

¹⁰So it should not be confused with what may otherwise also qualify as a “predicative position” (e.g. the complement of a copula verb).

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terminology is straightforward, distinguishing attributes from (secondary) predicates (20).¹¹

- (20) a. Attributive position
ho agathos anēr or ho anēr ho agathos
the good man the man the good
‘the good man’
- b. Predicative position
agathos ho anēr or ho anēr agathos
good the man the man good
‘the man is good’ (or: ‘being good, the man ... did this or that’)

With certain other modifiers, however, this distinction directly correlates with the restrictive and partitive readings illustrated in (Table 1), cf. (21).

- (21) a. Attributive position
hē eschatē nēsos or hē nēsos hē eschatē
the outermost island the island the outermost
‘the outermost island (out of several islands)’ → restrictive reading
- b. Predicative position
eschatē hē nēsos or hē nēsos eschatē
outermost the island the island outermost
‘the outermost *part of* the island’ → partitive reading

Thus Greek overtly marks a structural distinction between the restrictive and partitive readings that is not normally visible in Latin. I will follow Romero in assuming that the underlying structure is the same: even though Latin does not have articles, adjectives with the partitive reading occur in the predicative position, but adjectives with the restrictive reading occur in the attributive position.

3.2 “Attributive” vs. “predicative” position in (Old) Icelandic?

It transpires that there is a significant overlap between “adjectives with a partitive reading”/“adjectives in the predicative position” and “positional predicates”. Some further clarification is in order, though. Notice that, although the class of adjectives that can occur with a partitive reading in Latin and Greek is subject

¹¹Examples (20) and (21) are taken from Bornemann & Risch (1978: 169–171), but comparable examples can be found in most grammars or textbooks of Ancient (= Classical or Biblical) Greek.

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to semantic restrictions – ordering adjectives (ordinal numerals or superlatives), adjectives that express a temporal/spatial dimension (*deep, high, low ...*) etc., it is not immediately clear that they constitute a closed class in the strict sense.

On the other hand, we have seen that positional predicates in Icelandic do form a closed class, and differently from Latin and Greek, they do not give rise to a restrictive/partitive ambiguity themselves. In order to produce such a contrast, different lexical items will have to be used (22).

- (22) a. Ordering adjective (superlative) → restrictive reading
 á nyrst-u eyju-nni
 on northern.SUPL-WK island-DEF
 ‘on the northernmost island (out of several islands)’
 b. Positional predicate → partitive reading
 á norðanverð-ri eyju-nni
 on northern-STR island-DEF
 ‘on the northernmost part of the island’

Due to the suffixal nature of the definite article in Icelandic, the two readings in (22) do not seem to visibly correlate with a structural distinction; the only apparent difference stems from the choice of a different lexical item. There is, however, a visible morphological distinction: the (restrictive) ordering adjective carries the weak inflection, cf. (22a), whereas the positional predicate is strongly inflected, cf. (22b), see (7).¹² Pfaff (2015, 2017) shows that this morphological difference in inflection does, in fact, correlate with a structural difference arguing that “adjectival inflection is a diagnostic for structural position”: weakly inflected adjectives occur in the c-command domain of the article, whereas the strongly inflected adjective is merged outside the projection comprising noun and definite article. This external position, in turn, can essentially be equated with the

¹²Notice the following example also involving an ordering adjective (comparative form):

- (i) á nyrð-ri eyjunni
 on northern-CMPR island.DEF
 ‘on the northern island (out of two islands); the island to the north’

Here, the ending *-ri* is the comparative morpheme and should not be confused with the formally identical feminine dative singular strong ending *-ri* in (22b). The comparative inflection in Icelandic is even more impoverished than the weak inflection, expressing no case distinctions and no gender/number distinctions other than neuter singular: *-ra* vs. the rest: *-ri*. Crucially, it does not alternate between two sets of endings, and in this sense, the distinction strong vs. weak cannot be meaningfully applied in the first place. Compare the positioning of the two modifiers ending in *-ri* in (24a): pre- vs. post-article (= predicative vs. attributive).

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predicative position, cf. (20b)–(21b), which also makes reference to the article position. An example illustrating this contrast even better is the following where a descriptive, predicative adjective occurs with a definite noun. Here, the weakly inflected adjective receives a restrictive interpretation, but the strongly inflected version of the same adjective receives an appositive interpretation (23).

- (23) a. Predicative adjective (weakly inflected) → restrictive reading
 full-i strákur-inn
 drunk-WK boy-DEF
 ‘the drunk boy’
 b. Predicative adjective (strongly inflected) → appositive reading
 full-ur strákur-inn
 drunk-STR boy-DEF
 ‘the boy, who happens to be drunk’ (Pfaff 2017: 300)

Even though not entirely identical, this contrast is comparable to the one observed with “regular” adjectives in attributive vs. predicative position in (20). The upshot is that the weak vs. strong inflection in these examples is indicative of a structural difference akin to the attributive vs. predicative position in Greek.

Of course, this structural difference is made visible if a freestanding determiner is present, as was already illustrated in (10): positional predicates precede determiners and are strongly inflected, while regular adjectives follow the determiner and are weakly inflected if the determiner is definite, cf. (10b) and (10d). Consider also the examples in (24) from Old Icelandic and Old English.

- (24) a. nær mið-ri hinni vestri byggð
 near middle-STR ART western.CMPR settlement
 ‘near the middle part of the western settlement’ (Saga, Landnámabók)
 b. in midd-re þære micl-an cirican
 in middle.STR DEM great-WK church
 ‘in the middle of the great church’ (NPEGL, OEng.803.266)

In (24a), the adjective preceding the freestanding article has a partitive reading (“middle part of”), while the one following the article has a restrictive reading (= “not the eastern settlement”). The same goes for (24b) where we see, once more, how strong vs. weak adjectival inflection correlates with the pre- vs. post-article position.

In short, even though positional predicates may be a closed class in Icelandic (and in the extant early Germanic languages), it can be shown that they have

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the same structural properties as adjectives occurring in the predicative position in Greek. Romero (1996) argues for Latin and Greek that this predicative position is a DP-external position, and Pfaff (2015, 2017) independently arrives at the same conclusion on the basis of Icelandic data, but largely for the same reasons. Technical details notwithstanding, we can state that occurring in this position is the single most important structural property of positional predicates, from which most other properties derive, and which sets them apart from “regular” adjectives.

For clarification, I point out that the term “positional predicate” as introduced in Section 2.1 strictly speaking conflates three distinct aspects:¹³

- (i) modifier with certain semantic properties that
- (ii) occurs in the predicative position and (as a consequence)
- (iii) has a partitive reading.

For the most part, I will look at these aspects in conjunction,¹⁴ but in Section 4.7, I will discuss the idea that the partitive interpretation may be one possibility of a larger spectrum of readings.

3.3 Agreement vs. dependent case

As already mentioned, cf. (4), one configurational key property of positional predicates is that, like regular adjectives, they agree in case, number and gender with the semantic head noun denoting the “source location”. But there is an obvious similarity to constructions involving a corresponding noun and dependency marking on the semantic head noun (cf. English *the middle of the city*).¹⁵ We can distinguish as in (25).

¹³In addition, the predicative position is associated with the strong inflection in Germanic, a phenomenon not applicable to Latin and Greek. Pfaff (2015, 2017) argues that the weak inflection is essentially definiteness concord indicating that the adjective is merged in the c-command domain of a definiteness feature in D⁰, which corresponds to the attributive position. With adjectives merged outside the definiteness domain (= predicative position), on the other hand, the weak inflection cannot be triggered, and by default, the adjective is strongly inflected.

¹⁴Point (i) expresses merely a semantic restriction for Latin and Greek, but for Germanic, the qualifier “with certain semantic properties” is tantamount to belonging to a closed class. It could be worthwhile studying that class as such, notably, the etymology of the items based on Proto-Germanic *-*verb-*, as was suggested by a reviewer; see Section 4.6. These originally had a directional meaning and were adjectival in nature, but have developed into adverbs in most Germanic languages (Germ.: *rück-wärt-s*; Engl. *back-ward-s*), except for Icelandic.

¹⁵Likewise, certain adverbs modifying a PP could be mentioned in this context; cf. German:

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- (25) a. in [_{DP} *middle*-AGR [the city]-AGR] (positional predicate)
 b. in [_{DP} (**the**) *middle* [_{DP} **the** city]-GEN] (corresponding noun)
 c. in [_{DP} (**the**) *middle* [_{PP} **of** **the** city] (corresponding noun)

Differently from a positional predicate, a corresponding noun does not constitute an agreement construction with the rest of the noun phrase, but instead establishes a second agreement domain. In particular, it takes the semantic head noun as a – PP or genitive DP – dependent, and may have its own article. Moreover, in languages with morphological gender marking, the noun may have a gender value different from the semantic head noun. These points are illustrated with the following Old High German example: the item *mitti* can either be an adjective (displaying adjectival inflection) or a feminine noun (displaying nominal inflection). In the former case, it agrees with the head noun, while in the latter case, it occurs with its own article and takes the semantic head noun as a genitive complement (26).

- (26) a. *mitti* + adjectival inflection
 in **mitt-an** thén uueizi
 in middle-M.ACC.SG.STR [DEM wheat]-M.ACC.SG
 ‘amidst the wheat’ (ReA T_Tat72)
 b. *mitti* + nominal inflection
 die **mítti-nâ** der-o bóum-o
 the middle-F.NOM.PL [DEM tree]-M.GEN.PL
 ‘the middle part(s) of the trees’ (ReA, N_Mart_Cap.I.14-37)

Obviously, it is useful to keep these points in mind in order to distinguish positional predicates from etymologically related nouns, but it also allows us to pay attention to subtler distinctions. Compare the examples in (27) from Classical Greek.

- (27) a. en **mesē** **tē** **polei**
 in middle.F.DAT.SG the.F.DAT.SG city.DAT.SG (f)
 (Perseus, Isokrates; To Philip, speech 5, Section 48)

-
- (i) a. mitten in der Stadt
 middle [_{PP} in the city]
 ‘in the middle of the city’

- (ii) oben auf dem Turm
 up [_{PP} on the tower]
 ‘at the top (part) of the tower’

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- b. en mesō tēs poleōs
 in middle.N.DAT.SG the.F.GEN.SG city.GEN.SG (f)
 (Perseus, Plutarch, Sertorius, chap. 18)
 both: ‘in the middle of the city’

Example (27a) shows a straightforward use of the positional predicate *mesos* ‘middle’ displaying agreement in (feminine) gender, case and number. Example (27b), on the other hand, involves the neuter singular form taking the semantic head noun as a genitive complement. In this latter case, it is not immediately clear whether *meson* should be construed as a genuine noun or a nominal use/nominalized version of the adjectival form.¹⁶ There is some variation between authors/genres; most notably, in the Greek of the New Testament, the use of the genitive construction appears to dominate, and at least the item *mesos* ‘middle’ is only found in the genitive construction. This will be of particular relevance for the discussion of Gothic.

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In Section 2.2, we saw that (etymologically related) items displaying (some of) the same syntactic peculiarities as in modern Icelandic, see Section 2.1 and (13i–v), can be found in all early Germanic languages. This is a strong indication that positional predicates and their properties really belong to the inventory of early Germanic syntax. At the same time, we also find various deviations and interesting variations among the attested languages. In this section, I will point out and discuss the most noticeable features/deviations for each language.

4.1 Old Icelandic

As illustrated in (12), we find the same items occurring as positional predicates in Old Icelandic and modern Icelandic. Some examples are given in (28).¹⁷

- (28) a. í öndverðu liði-nu
 in front.part.STR troops-DEF
 ‘in the foremost part of the army’ (NPEGL, OIce.803.935)

¹⁶Differently from Germanic, nominal and adjectival inflection are form-identical in Greek.

¹⁷The *Saga Corpus* contains a bit more than 500 relevant examples (queries based on the items in (12) together produce 637 hits, but among them, we find a small number of PPs without an overt noun). NPEGL contains 69 annotated instances (at the time of writing).

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- b. þú situr á austanverðu landi en vér á vestanverðu landi
you sit on eastern.STR land but we on western.STR land
'... in the eastern part / western part of the country'
(Saga, Hrafnkels saga Freysgoða)
- c. eftir endilöngum setaskála-num
after along.STR building-DEF
'from one end of the building to the other' (Saga, Eyrbyggja saga)
- d. ofanverðan þenna vetur
latter.STR this winter
'in the latter part of that winter' (NPEGL, OIce.548.527)

We find both pre- and postnominal occurrences, even though the prenominal position seems to be dominant, cf. (29).^{18,19}

- (29)
- a. of þvera götu-na
over across.STR road-DEF
'across the road' (NPEGL, OIce.902.814)
 - b. um á-na þvera
about river-DEF across.STR
'across the river' (Saga, Vatnsdæla saga)
 - c. á ofanverðum dögum Haralds Sigurðarsonar
on latter.STR days [Haraldur Sigurðarson]-GEN
'in the latter part of Harald Sigurðarson's days/in his latter days'
(Saga, Heimskringla)
 - d. á dögum Hákonar hins ríka öndverðum
on days [Hákon the mighty]-GEN beginning.STR
'in the early days of Hákon the mighty'

¹⁸*Saga Corpus*: 415 prenominal vs. 67 postnominal occurrences; NPEGL: 61 vs. 4.

¹⁹Notice that positional predicates are consistently strongly inflected even when following a definite noun, i.e. a noun carrying a suffixed definite article, cf. (29b). In contrast, "regular" adjectives are normally weakly inflected in this constellation:

- | | | |
|-----|---|--|
| (i) | <ul style="list-style-type: none"> a. í á-nni helg-u
in river-DEF holy-wk
'in the holy river'
(Saga, Heimskringla) | <ul style="list-style-type: none"> b. sverð-ið góð-a
sword-DEF good-wk
'the good sword'
(Saga, Gull-Þóris saga) |
|-----|---|--|

Thus, in Old Icelandic, inflection can be used as a diagnostic also in the postnominal position: weak inflection ~ attributive position, strong inflection ~ predicative position.

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(Saga, Egils saga Skallagrímssonar)

In the context of names and pronouns, there appear to be certain restrictions. We find both pre- and postnominal occurrences with place names, cf. (30a)–(30b), but only postnominal occurrences with names of persons, cf. (30c).

- (30) a. *yfir Borgarfjörð þveran*
over Borgarfjörður across.STR
‘across Borgarfjörður’ (Saga, Laxdæla saga)
- b. *á framanverðu Reykjanesi*
on front.part.STR Reykjanes
‘at the front part of the Reykjanes peninsula’ (Saga, Gull-Þóris saga)
- c. *Hann tvíhenti spjótið á Þóri miðjum*
he hurled spear.DEF on Þór middle.STR
‘He hurled the spear right at Þór’ (Saga, OIce.822.459)

Likewise, only post-pronominal occurrences are found (31).

- (31) a. *bóndinn féll um hann þveran*
yeoman.DEF fell about him across.STR
‘the yeoman fell over him’ (Saga, Brennu-Njáls saga)
- b. *Bolli skýtur að honum spjóti og kemur á hann miðjan*
Bolli shoots at him spear and comes on him middle.STR
~ ‘the spear hits him squarely’ (Saga, Íslendingaþættir)

Beyond that, positional predicates are rather versatile and may occur in unexpected constellations. For instance, in (32), the positional predicate appears to have been stranded, while the lower part of the noun phrase has been fronted to the clause-initial position.

- (32) *Þessa nótt hina sömu kom Mörður [ofanverða t]*
this night the same came Mörður latter-part.STR
‘Later that very same night, Mörður showed up’ (Saga, Brennu-Njáls saga)

In some cases, we find neuter forms of positional predicates, *de facto* acting as the head noun, in PPs without an overt noun, cf. (33).

- (33) *frá öndverðu til ofanverðs*
from former/lower.part.STR to latter/upper-part.STR
‘from top to bottom’ or ‘from beginning to end’

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In other words, the (singular) neuter forms have nominal uses, in addition to their more frequent ad-nominal use. However, this nominal use only appears to occur in the absence of a semantic head noun. Whenever there is a constituent denoting the source location, it is realized as the (semantic and) syntactic head noun, and the positional predicate agrees with that head noun in case, number and gender. In this respect, Old Icelandic behaves differently from the neuter forms of *meson* in Ancient Greek, cf. (27b), which may take the semantic head noun as a genitive complement. Judging from the examples examined here, Old Icelandic never takes genitival dependents.

4.2 Old English

In Old English, we find largely the same inventory of positional predicates as in (Old) Icelandic; some examples are given in (34).

- (34)
- a. on middre ðære sæ
in middle.STR DEM sea
'in the middle of the sea' (NPEGL, OEng.436.568)
 - b. on middum ðinum temple (Lat. in medio templo tui)
in middle.STR your temple
'in the middle of your temple' (<https://bosworthtoller.com/22789>)
 - c. þæt heafod foreweard
DEM head front.part.STR
'the front part of the head' (NPEGL, OEng.349.012)
 - d. genim hamorwyr & efenlastan nyðoweard
take wall.pellitory & herb.mercury nether.part.STR
'take the lower part of pellitory-of-the-wall and herb mercury
(= plant names)' (NPEGL, OEng.241.262)
 - e. on þam lande norþweardum
on DEM land northern.part.STR
'in the northern part of the land' (NPEGL: OEng.097.051)

Besides the item “middle (part of)”, we find a large class of complex items consisting of a locational component plus a morpheme *-weard-* (plus inflection) like *norþ-weard-*, cf. Icelandic *norðan-verð-*. Previous research on the position of adjectives in Old English has noted that those items in *-weard-* have some “adverbial interpretation” and occur more frequently in postnominal position than regular adjectives (especially Fischer 2001; Grabski 2017, 2020). Thus even in Old

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English, which otherwise displays a relatively rigid modifier ordering in general (see Bech et al. 2023 [this volume]), positional predicates are much more versatile than regular adjectives. At the time of writing, 213 positional predicates have been identified in the NPEGL database (annotation still in progress). This is a comparatively large number, and therefore, it is noteworthy that, so far, no occurrences with pronouns have been identified.

Also notice (34b), taken from Bosworth Toller's *Anglo-Saxon Dictionary online*, which in addition gives the Latin original that the Old English phrase is supposed to translate. The possessive occurs postnominally in the Latin, but prenominally in English; this is perhaps not very surprising given that possessives in Old English almost exclusively occur prenominally (see Bech et al. 2023 [this volume]). Yet it is noteworthy that, in accordance with our expectations, the adjective precedes that possessive.

Other deviations from Latin are even more revealing, for instance cases where the Latin text has a genitive dependent while the English translation uses an agreement construction. The examples in (35) (likewise taken from Bosworth-Toller's dictionary entry: *midd*) illustrate some such mismatches between Old English and the Latin source (bracketing indicates agreement in case, number, gender).

- (35) a. in middum wulfum
 in [middle.STR wolf]-DAT.PL
 ‘amidst the wolves’
 Lat. in medio luporum (→ wolf.GEN.PL)
- b. þurh midde ða ceastre
 through [middle.STR DEM camp]-ACC.SG
 ‘through the middle of the camp’
 Lat. per medium castrorum (→ camp.GEN.PL)
- c. On middum ðæm úrum wícum
 in [middle.STR DEM our camp]-DAT.PL
 ‘in the middle of our camps’
 Lat. in media castrorum (→ camp.GEN.PL)
- d. On middan ða wic
 in [middle.WK DEM camp]-ACC.SG
 ‘in the middle of the camp’
 Lat. in medio castrorum (→ camp.GEN.PL)

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These apparently systematic deviations are an indication that the construction is precisely not a scholarly translation from Latin, but a native phenomenon. As already seen in the previous subsection on Old Icelandic, Old English seems to prefer the agreement construction. However, in contrast to Icelandic, we find a handful of examples instantiating the genitive construction, as in (36).

- (36) a. on westewardum þisses middangeardes
in western.part.STR [DEM world]-GEN
'in the western part of this world' (NPEGL, OEng.078.130)
- b. wið middan þæs suðwages
at middle.WK [DEM south.wall]-GEN
'at the middle of the south wall' (NPEGL, OEng.540.709)

Except for the examples in (36), all positional predicates annotated in NPEGL occur in an agreement construction, which indicates that, albeit attested, the genitive construction seems to be dispreferred.

There is a more noticeable feature of positional predicates in Old English concerning adjectival inflection. As illustrated by (35d) and (36b), we find weak inflection where we otherwise expect the strong inflection according to (13-iii). Currently, we have 35 (out of 213) such weakly inflected positional predicates in the NPEGL database of Old English. This aspect has been noted before. Mitchell (1985: vol. I, 70) discusses exceptions regarding the distribution of adjectival inflection and the deviant behaviour of *midd* and elements ending in *-ward*-. Of course, positional predicates are deviant only from the point of view of "regular" adjectives, generally speaking, but Mitchell points out certain cases that are unexpected also from the perspective of positional predicates. We can distinguish three constellations (37)–(39).

(I) Predicative position – weak inflection

- (37) a. on ufeward-an þam geate
on upper.part-WK DEM gate
'in the upper part of the gate' (NPEGL, OEng.010.465)
- b. betwux þam eorode midd-an
among DEM troop middle-WK
'among the middle of the troop' (NPEGL, OEng.340.258)

(II) Attributive position – strong inflection

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- (38) a. þære midd-re nihte
 DEM middle-STR night
 ‘the mid-night’ (NPEGL, OEng.429.571)
- b. þone mid-ne sumor
 DEM middle-STR summer
 ‘the mid-summer’ (NPEGL, OEng.175.907)

(III) Attributive position – weak inflection

- (39) þam midd-an wintra
 DEM middle-WK winter
 ‘the mid-winter’ (NPEGL, OEng.697.340, OEng.685.076)

Constellations (I) and (II) are unexpected with respect to both regular adjectives and positional predicates; with a handful of relatively systematic exceptions, weak adjectives are usually restricted in their occurrence to (formally) definite contexts, which normally means when following a definite determiner.

Thus, while the elements in constellation (I) display the expected syntax (= the predicative position), the pre-determiner weak inflection is unexpected. Conversely, the post-determiner strong inflection is unaccounted for in constellation (II). Moreover, the attributive position is unexpected given that the elements in (38) still produce a partitive reading, not a restrictive one (see Section 3.1).

The latter issue can possibly be addressed by analyzing (II) as a mere surface phenomenon derived via determiner raising to a pre-adjectival position while the adjective itself occupies the predicative position all along (40).²⁰

- (40) [þære middre [_{DP} ~~þære~~ nihte]]

An analysis along those lines can thus account for the partitive reading with (II). However, constellation (III), which is what is expected for regular adjectives, poses a more serious problem – precisely because of the weak inflection, an analysis like (40) does not work here. All formal criteria indicate that *middan* in (39) genuinely occupies an attributive position. We should therefore expect a restrictive reading (~ ‘the middle one in a sequence of winters’), but we get a partitive reading (‘the middle part of the winter’).

Thus while Old English provides ample evidence for positional predicates, we also find “deviations” from the prototypical behaviour as characterized in (13),

²⁰In other words, rather than the relative article position, here the strong inflection could be taken as a diagnostic for the predicative position of the respective modifier. Still, this raises the question what motivates the determiner movement.

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notably in terms of adjectival inflection. Obviously, more research is called for, but, in all likelihood, such deviations are part of (later) English-internal developments. For one thing, the inflectional system shows first signs of disintegration already towards the end of the Old English period.²¹ But also more broad syntactic changes in the transition to Middle English, e.g. the emergence of the determiner system and an increasingly fixed word order, had an impact on adjective syntax in general, cf. Fischer (2004, 2006), and presumably on the behaviour of positional predicates.

4.3 Gothic

In Gothic, we find six relevant instances of the item *midjis* ‘middle’, all of which are given in (41) (ex. (41d) represents two occurrences).

- (41) a. in midjaim laisarjam
 in middle.STR teachers
 ‘in the midst of the doctors’ (Wulfila, Luke 2:46)
- b. ana midjai dulp
 at middle.STR feast
 ‘about the midst of the feast’ (Wulfila, John 7:14)
- c. þairh midja Samarian jah Galeilaian
 through middle.STR Samaria and Galilee
 ‘through the midst of Samaria and Galilee’ (Wulfila, Luke 17:11)
- d. þairh midjans ins
 through middle.STR them
 ‘through the midst of them’ (Wulfila, Luke 4:30; John, 8:59)
- e. in midjaim im
 in middle.STR them
 ‘in the midst of them; amongst them’ (Wulfila, Mark 9:36)

Even though none of these examples involves a determiner, they illustrate the characteristics of positional predicates in predicative position: the modifier is strongly inflected, it combines with proper names and pronouns and they fully

²¹ As a result, there is an increase of syncretism and a decrease in distinctions made between cases, but also between strong vs. weak inflection; thus it cannot always be unambiguously decided whether a given adjective is strongly or weakly inflected. Incidentally, this also applies to Old Saxon, see fn. 25. Thanks to George Walkden (p.c.) for pointing this out to me.

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agree in case, number (and gender), the noun denotes a temporal or spatial extension or plurality, and we get a partitive interpretation. Of course, based on only six “well-behaved” examples, not much can be said about variation and language-specific peculiarities, but it is worthwhile pointing out two observations of interest.

Firstly, out of three co-occurrences with a pronoun, the positional predicate precedes the pronoun three times, (41d) and (41e); that is 100%. Recall that, in Old Icelandic, positional predicates *never* occur pre-pronominally, and as will be seen in the following section(s), the same applies to Old High German and Old Saxon (with one counterexample). Thus if the post-pronominal position is otherwise the default across Germanic, even three instances might be sufficient to indicate that Gothic differs from the other Germanic languages, at least in that respect.

However, one permanent problem with Gothic is the question to what degree it reflects the Greek rather than the native syntax (see Ratkus 2011 for a thorough discussion); the pre-pronominal position could, in principle, be such a reflection. It is therefore revealing to take a look at the Greek source text; (42) illustrates the relevant passages underlying the Gothic translations in (41).²²

- (42) a. en mesō tōn didaskalōn
 in middle.N.DAT.SG [the teacher]-M.GEN.PL
- b. tēs heortēs mesousēs (F.GEN.SG)
 the feast in.middle.being
- c. dia meson samareīās
 through middle.N.ACC.SG Samaria.F.GEN.SG
- d. dia mesou autōn
 through middle.N.GEN.SG they.GEN.PL
- e. en mesō autōn
 in middle.N.DAT.SG they.GEN.PL

Strictly speaking, the Greek examples show a pre-pronominal position, cf. (42d) and (42e), but upon closer inspection, we discern a systematic mismatch between Greek and Gothic. Even though Classical Greek does have positional predicates occurring in an agreement construction/the predicative position as was discussed in Section 3.1, cf. (21b) and (27a), Biblical Greek seems to prefer a genitive construction, as in (27b). With the exception of (42b),²³ the Greek examples in (42) involve a nominalized adjective (based on the neuter singular)

²²The Greek text is taken from *Project Wulfila* (<http://www.wulfila.be/gothic/>), which relies on the Streitberg edition of the Gothic/Greek New Testament.

²³Note that this example is different at any rate; it actually involves a participle form of a verb ‘be-in-the-middle’ and the whole phrase is a so-called *genitivus absolutus*, a small clause construction with an adverbial function.

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that takes the noun/pronoun as a genitive dependent. In spite of this, the Gothic translations in (41) all use the agreement construction. This, in turn, is a strong indication that the partitive agreement construction found with positional predicates is a native phenomenon and a productive pattern of the Gothic syntax, and precisely not a borrowing from Greek – which would, in principle, be a plausible source.

Similarly to Old Icelandic, cf. (33), in Gothic, we find four cases without an overt noun where the modifier itself is used nominally (43).

- (43) in **midjaim**
 in middle.DAT.PL
 ‘in(to) the middle/midst’ (Wulfla, Luke 2:35, 5:9, 6:8; Mark 14:60)

There are no instances of the adjectival form taking a genitival dependent. However, differently from Old Icelandic, Gothic has a morphologically distinct (feminine) noun *miduma* that occurs six times, of which four times with a genitive dependent (44).

- (44) in **midumai** wulfe (en mesō lukōn)
 in middle wolf.GEN.PL in middle.NEUT.DAT.SG wolf.GEN.PL
 ‘amidst wolves’ (Wulfla, Luke 10:3)

Setting aside nominal uses as in (43), the adjectival form *midjis* only occurs in agreement constructions, while the noun *miduma* can take the (semantic) head noun only as a genitival dependent. In Greek, on the other hand, the adjectival form occurs both in agreement constructions and with genitival dependents; notice that both *midjis* in (43) and *miduma* translate the neuter adjectival forms (*meson*) in the Greek text.

4.4 Old High German

A query in ANNIS yields 79 matches for the lemma *mitti* ‘middle’. In 49 cases, these can straightforwardly be diagnosed as positional predicates; some examples are given in (45).

- (45) a. in mittemo seuue
 in middle.STR sea
 ‘in the midst of the sea’ (ReAT_Tat81)
 b. únder mîttēn díen planetis
 under middle.STR DEM planets
 ‘amidst the planets’ (ReA, N_Mart_Cap.I.14-37)

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- c. in mittan thén uueizi
in middle.STR DEM wheat
‘amidst the wheat’ (ReAT_Tat72)
- d. in míttemo iro ríngē
in middle.STR their circle
‘in their midst’ (ReAO_Otfr.Ev.4.19)
- e. duruh den Fredthantes uuingarton mittan
through DEM Fredant’s vineyard middle.M.ACC.SG.STR
‘(right) through the middle of Fredant’s vineyard’
(ReA, WM2_Wuerzburger_Markbeschreibung_2)
- f. in mittan Moin
in middle.STR Main
‘in the middle (part) of the (river) Main’
(ReA, WM2_Wuerzburger_Markbeschreibung_2)

In 36 of these cases, *mitti* occurs prenominally, and we find four postnominal occurrences, e.g. (45e). However, with nouns denoting (place) names, only prenominal occurrences are found, e.g. (45f). In addition, we find nine occurrences with pronouns, as in (46), one of which in pre-pronominal position, cf. (46c).

- (46) a. untar sie mitte
among them middle.M.ACC.PL.STR
‘into/between their midst’ (ReA, T_Tat120)
- b. in dhir mitteru
in you.SG middle.F.DAT.SG.STR
‘right inside you’ (ReA, I_DeFide_3)
- c. Untar mitten íu
among middle.DAT.PL.STR you.PL
‘amongst you’ (ReA, T_Tat13)

As was already shown for Old Icelandic and Gothic, we also find nominal uses of the item *mitti*, i.e. without a semantic head noun, in prepositional phrases (47).

- (47) arstant inti gistant in mitten
raise and stand in middle.STR
‘raise and stand in the middle’ (ReA, T_Tat69)

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Moreover, however, we find examples where *mitti* occurs with a genitive dependent (48), and here we have to distinguish between two cases: in (48a) and (48b), *mitti* occurs with a strong adjectival ending, whereas in (48c), it occurs with a nominal ending; the latter has to be construed as an instance of a feminine (in-stem) noun *mitti*; the additional feminine article *die* is another indication of nounhood of *mitti* in this example (cf. Section 3.3). Here, the inflection definitively disambiguates and distinguishes the *nominal use* of an adjective from an actual *noun*, even though the two happen to have the same nominative singular form: *mitti*.

- (48) a. untar mîttēn thes sēlben dages
 under middle.STR [DEM same day]-GEN
 ‘during the same day’ (ReA, O_Otfr.Ev.5.11)
- b. thar bin ih in mîttēn iro
 there am I in middle.STR they.GEN
 ‘there I am in their midst’ (ReA, T_Tat98)
- c. die mîtti-nâ der-o bôum-o
 DEM middle-F.NOM.PL [DEM tree]-M.GEN.PL
 ‘the middle part(s) of the trees’ (ReA, N_Mart_Cap.I.14-37)

In Gothic, the two can be distinguished more easily: *midjis* vs. *miduma*. Differently from Gothic, however, where only the latter takes a genitive dependent, in Old High German, also the adjectival forms *can* take a genitive dependent, cf. (48a) and (48b), besides occurring in the agreement construction as in (45) and (46).

4.5 Old Saxon

In Old Saxon, we find the examples presented in (49).

- (49) a. an middian dag
 on middle.STR day
 ‘in the middle of the day’ (NPEGL, OSax.444.216, OSax.075.303)
- b. middi dag
 middle.STR day
 ‘(the) middle of the day; mid-day’ (NPEGL, OSax.869.882)
- c. under iu middeon (DAT.PL)
 among you middle.STR
 ‘amongst you’ (NPEGL, OSax.367.476)

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- d. an herdan sten ovanwardan
 on hard.STR stone upper.part.STR
 ‘on the upper part of the hard stone’ (NPEGL, OSax.914.974)

These few examples do not convey much that has not already been addressed. Note that we only have agreement constructions, no genitival dependents. It is, however, worthwhile dwelling for a moment on the item *ovan-verd-* in (49d).

4.6 The component **-werþ-*

We have already seen several cognates of the type LOCATION + **-werþ-* + STR, cf. Old Norse *ofan-verð-* and Old English *ufe-weard-*. In Old High German, we also find etymologically corresponding forms/items comprising the component *-vert-*, cf. (50), but it is not clear that they are relevant in the present discussion.

- (50) a. inuúertes sint sie ráze uúolua
 inwardly are they furious wolves
 ‘inwardly, they are furious wolves’ (ReA, T_Tat41)
- b. ci thesemo antuuerden libe
 to DEM present.WK life
 ‘to this present life’ (ReA, WK_Weissenburger_Katechismus)

Example (50a) involves a fossilized genitive *-es* and is used adverbially (cf. modern German items in *-wärt-s*). The item *antwort* in (50b),²⁴ meaning ‘current, present’, is weakly inflected and occurs in the attributive position. In all likelihood, it has to be construed as a “regular” (non-subjective) adjective, rather than a positional predicate. Thus it is not a counterexample or problematic case in the same way as constellation (III) is for the examples discussed for Old English, cf. (39). At the same time, it does not support anything. More generally, we do not seem to have positive evidence that items in *-vert* were used as positional predicates in Old High German.

Therefore, *ovan-verd-an* in (49d) is a valuable hint that positional predicates of this type also existed in continental West Germanic, even though attestations are much scarcer than in Old Norse and Old English. ANNIS annotates *ovanverdan* as adverb; when viewed as an isolated case, this decision may be justified, but when viewed in the context of comparable examples from Old Norse and Old English discussed in previous subsections, even this single example can be seen

²⁴Etymologically, it corresponds to Icelandic *önd-verður* ‘former/front-part, beginning’.

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as part of a larger pattern, complying with the syntax of positional predicates as characterized here.²⁵

4.7 Beyond partitivity: *self*

The discussion so far has shown that all the early Germanic languages provide evidence for the existence of positional predicates as described in Section 2.1 to varying degrees. More precisely, we have looked at cognates of “middle” and compound adjectives in **-verb-*. Of course, the mere attestation of these items is not decisive; what matters most is that they manifest the (“deviant”) syntactic properties (13i–v), notably, occurrence in the predicative position and partitive interpretation. The partitive interpretation had been independently argued for by Romero (1996) concerning Latin and Classical Greek. Still, we might ask the question whether the partitive reading is the primary or canonical interpretation of the predicative position, or just one special case. For one thing, positional predicates in Old English can be viewed as a subclass of a large group of adjectives with an “adverbial reading,”²⁶ cf. Fischer (2001), Grabski (2017, 2020). In the same vein, the (Old) Icelandic items *þver* ‘across’ and *endilangur* ‘along; from part to the other’, cf. (3), do not immediately strike one as partitive elements even though, morphosyntactically, they pattern like all the other positional predicates. In either case, this could be part of a language-specific development, e.g. as an instance of broadening or narrowing the range of interpretations; evidence from the other early Germanic languages is too scarce to be helpful in that matter.

Apart from that, however, there is another observation of interest, which should be mentioned since I have made reference to evidence from Greek. Practically every textbook or grammar on Ancient Greek uses the example in (51) when illustrating the two positions of adjectives.

- | | |
|------------------------------|---|
| (51) a. Attributive position | b. Predicative position |
| ho autos basileus | autos ho basileus |
| the SELF king | SELF the king |
| ‘the same king’ | ‘the king himself / in person’; ‘even the king’ |

²⁵In this vein, the ending *-an* can be analyzed as strong, masculine, accusative singular (compare the prenominal adjective *herd-an*). However, it should also be mentioned that certain inflectional endings – especially *-an* – are ambiguous/syncretic. It is not even always clear whether *-an* stands for strong or weak inflection, or whether it is rather some sort of general-purpose or default inflection. Thanks to George Walkden (p.c.) for pointing this out to me; see fn. 21.

²⁶I thank Olga Fischer (p.c.) for pointing this out to me.

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When occurring in the attributive position, the item *autos*, here simply glossed as SELF, expresses an identity/sameness relation corresponding to English (*the*) *same* (= ‘same’-reading). However, when occurring in the predicative position, it rather acts as a focus modifier emphasizing the referent in some sense and largely overlaps in usage with English *him-/herself* (= ‘self’-reading). When viewed in isolation, this ambiguity could be seen as a quirk of (Ancient) Greek. However, when we take into account the bigger cross-Germanic picture, we find the same distinction involving the same item *self* (52).

- | | |
|---|---|
| (52) a. Attributive position
(German)
der selb-e König
the SELF-WK king
‘the same king’ | b. Predicative position
(Icelandic)
sjálf-ur konungur-inn
SELF-STR king-DEF
‘the king himself’, ‘even the king’ |
|---|---|

In modern German, we visibly only find the ‘same’-reading of *self* (weakly inflected), while in Old Norse and modern Icelandic, only the ‘self’-reading is found (strongly inflected).²⁷ However, we do find subtle remnants of the same systematic alternation, also within one and the same language, at least in early West Germanic; compare the a- vs. b-examples in (53)–(55).

- (53) Old High German
- | | |
|---|---|
| a. demu selb-in tage
DEM SELF-WK day (attributive: ‘the same’)
‘the same day’ (ReA, B_14) | b. selb-emu dhemu gotes sune
SELF-STR DEM God’s son (predicative: ‘himself’)
‘the son of God himself’ (ReA, I_DeFide_4) |
|---|---|
- (54) Old Saxon
- | |
|--|
| a. thia selv-un tid
DEM SELF-WK time (attributive: ‘the same’)
‘the same time’ (NPEGL, OSax.522.758) |
|--|

²⁷The ‘self’-reading of *self* as such is found in modern German, in which case, however, the item *selbst/selber* is not inflected. In North Germanic, the lexical item *sam-* = ‘same’ has been in use since early on, and replaced the use of *self* in the ‘same’-reading.

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- b. thie heland self
DEM saviour SELF.STR (predicative: ‘himself’)
‘the saviour himself’ (NPEGL, OSax.048.265)
- (55) Old English
 - a. þæt sylf-e land
DEM SELF-WK land (attributive: ‘the same’)
‘the same land’ (NPEGL, OEng.614.076)
 - b. þone hælend silf-ne
DEM saviour SELF-STR (predicative ‘himself’)
‘the saviour himself’ (NPEGL, OEng.527.762)

At any rate, on the ‘self’-reading, the item *self* behaves like a positional predicate with respect to points (ii)–(v) above (i.e. modulo partitive interpretation) in several early Germanic languages: it occurs in the predicative position (DP-externally), and is strongly inflected.²⁸

In other words, in spite of being a relatively small class compared to regular adjectives, positional predicates may still be part of a larger phenomenon involving other modifiers in non-standard positions with a nonstandard interpretation. The non-standard position in all cases is the predicative position, but the non-standard interpretation is not always partitive. The commonality observable is thus primarily a syntactic property. Even though attestations are scarce in several cases, the big picture that emerges from the discussion in this section is that this syntactic property is likely to have been a feature of early Germanic.

5 Summary and outlook

The discussion has shown that positional predicates are a class of modifiers with a number of peculiar properties that set them apart from “regular” adjectives. One goal has been to establish this class, i.e. to show that they constitute a worthwhile object of investigation in their own right, and that the phenomenon is relevant to early Germanic syntax. We have established the following prototypical properties:

- (i) Positional predicates express a temporal/spatial part–whole relation, and they typically combine with nouns denoting temporal/spatial extensions or pluralities.

²⁸Gothic is an exception insofar as all occurrences of the item *self*, regardless of use or meaning, appear to be weakly inflected.

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- (ii) They agree with their head noun/the rest of the noun phrase in case, number, and gender.
- (iii) Especially relevant for Germanic: they display the strong adjectival inflection, even though they occur in contexts where, at least at a surface glance, the strong inflection is unexpected:
- (iv) They occur in definite noun phrases, and combine with pronouns and proper names; even when not overtly marked as definite, there is an underlying definite interpretation.
- (v) They precede determiners (when present), such as demonstratives, articles, and possessives \Leftrightarrow occurrence in the predicative position.

Point (v) is indicative of the “predicative position” in Ancient Greek, where the same phenomenon (modulo adjectival inflection) is found. The construction is also found in Latin even though it is not equally visible due to the lack of an article. We have seen for Greek, Latin and some Germanic languages that, occasionally, a genitive construction is used. However, we have likewise observed instances where a (Gothic, Old English) translation uses the agreement construction instead of a genitive construction used in the (Greek, Latin) original. This is a subtle, but important hint that the agreement construction/positional predicate in the predicative position is part of the native Germanic syntax, and not imported via scholarly translations. By extension, we may infer that the syntax of positional predicates is older than the extant texts.

Besides all the commonalities among the early Germanic languages, we have also observed some variation and deviation from the expected behaviour, presumably, as a result of language-specific developments. There is for instance some variation in relative positions, and co-occurrences; positional predicates occur pre-pronominally in Gothic, but post-pronominally in virtually all other attested cases, while they do not appear to co-occur with pronouns in Old English at all. We have also seen various degrees to which a genitive construction is used as an alternative to the agreement construction.

In all likelihood, there are more details and questions that remain to be addressed, and, at a more general level, we can add the following questions:

- (i) On the assumption that the syntactic peculiarities pertaining to positional predicates/the predicative are native to Germanic, Greek and Latin, is this a syntactic property inherited from a common source (PIE), or did it develop independently?

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- (ii) How widespread is this phenomenon outside Germanic, Greek and Latin – or, for that matter, outside Indo-European?

I leave these issues to further investigation.

Abbreviations

ACC	accusative	N	neuter
ART	freestanding article	NOM	nominative
CMPR	comparative	PIE	Proto-Indo-European
DAT	dative	PL	plural
DEF	suffixed definite article	PRN	pronoun
F	feminine	SG	singular
GEN	genitive	STR	strong inflection
Lat.	Latin	SUPL	superlative
M	masculine	WK	weak inflection

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Noun phrases in early Germanic languages

On the premise that syntactic variation is constrained by factors that may not always be immediately obvious, this volume explores various perspectives on the nominal syntax in the early Germanic languages and the syntactic diversity they display. The fact that these languages are relatively well attested and documented allows for individual cases studies as well as comparative studies. Due to their well-observable common ancestry at the time of their earliest attestations, they moreover permit close-up comparative investigations into closely related languages. Besides the purely empirical aspects, the volume also explores the methodological side of diagnosing, classifying and documenting the details of syntactic diversity. The volume starts with a description by Alexander Pfaff and Gerlouw Bouma of the principles underlying the Noun Phrases in Early Germanic Languages (NPEGL) database, before Alexander Pfaff presents the Patternization method for measuring syntactic diversity. Kristin Bech, Hannah Booth, Kersti Börjars, Tine Breban, Svetlana Petrova, and George Walkden carry out a pilot study of noun phrase variation in Old English, Old High German, Old Icelandic, and Old Saxon. Kristin Bech then considers the development of Old English noun phrases with quantifiers meaning ‘many’. Alexandra Rehn’s study is concerned with the inflection of stacked adjectives in Old High German and Alemannic. Old High German is also the topic of Svetlana Petrova’s study, which looks at inflectional patterns of attributive adjectives. With Hannah Booth’s contribution we move to Old Icelandic and the use of the proprial article as a topic management device. Juliane Tiemann investigates adjective position in Old Norwegian. Alexander Pfaff and George Walkden then take a broader view of adjectival articles in early Germanic, before Alexander Pfaff rounds off the volume with a study of a peculiar class of adjectives, the so-called positional predicates, which occur across the early Germanic languages.