A unified account of the Old English metrical line

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Abstract
This study describes the verse design of Old English poetry in terms of modern phonological theory, developing an analysis which allows all OE verse lines to be described in terms of single metrical design.

Old English poetry is typified by a single type of line of variable length, characterised by four metrical peaks. The variation evident in the lengths of OE metrical units has caused previous models to overgenerate acceptable verse forms or to develop complex typologies of dozens of acceptable forms. In this study, Metrical phonology and Optimality theory are used to highlight some aspects of the relationship between syntax, phonology and verse metrics in determining how sentences and phrases interact with the verse structure to create variation.

The main part of the study is a metrical model based on the results of a corpus analysis. The corpus is centred on the OE poems Genesis and Andreas, complemented by selected shorter poems. A template of a prototypical line is described based on a verse foot which contains three vocalic moras, and which can vary between 2 and 4 vocalic moras distributed across 1 to 4 syllables. Each standard line is shown to consist of four of these verse feet, leading to a line length which can vary between 8 and 16 vocalic moras. It is shown that the limited variation within the length of the verse foot causes the greater variation in the length of lines. The rare, longer ‘hypermetric’ line is also accounted for with a modified analysis. The study disentangles the verse foot, which is an abstract metrical structure, from the prosodic word, which is a phonological object upon which the verse foot is based, and with which it is often congruent. Separate sets of constraints are elaborated for creating prosodic words in OE, and for fitting them into verse feet and lines. The metrical model developed as a result of this analysis is supported by three smaller focused studies.

The constraints for creating prosodic words are defended with reference to compounds and derivational nouns, and are supported by a smaller study focusing on the metrical realisation of non-Germanic personal names in OE verse. Names of biblical origin are often longer than the OE prosodic word can accommodate. The supporting study on non-Germanic names demonstrates how long words with no obvious internal morphology in OE are adapted first to OE prosody and then to the verse structure. The solution for the metrical realisation of these names is shown to be patterned on derivational nouns.

The supporting study on compound numerals describes how phrases longer than a verse are accommodated by the verse design. It is shown that compound numerals, which consist of two or more numeral words (e.g. 777 – seofonhund and seofon and hundseofontig) are habitually rearranged within the text to meet the requirements of verse length and alliteration.

A further supporting study discusses the difference between the line length constraints controlling OE verse design and those for Old Norse and Old Saxon verse. Previous studies have often conflated these three closely related traditions into a single system. It is shown that despite their common characteristics, the verse design described in this study applies to all OE verse, but not to ON or OS.

Keywords: metrical phonology, Old English, Anglo-Saxon, syntax-phonology interface, accentual-syllabic, hypermetric, beowulf, optimality metrics, quantitative verse.

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A UNIFIED ACCOUNT OF THE OLD ENGLISH METRICAL LINE

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Andrew Cooper
For and because of Lena
Acknowledgements

When fate causes a formless stone to fall into a river, how many grains of sand must brush past it before it becomes a shapely pebble? And how much more must it be carved and polished by skilled artisans before it can be fitted into the inlaid boss of a brooch? Many significant and beloved relatives, friends, teachers, colleagues and classmates have had indirect but nevertheless essential influence on the formation of my mind, my interests and the education which eventually contributed to the completion of this project. It would be churlish to select individuals and otiose to attempt to list them all. No doubt an appropriate punishment can be found for my laxity in excluding them – nevertheless they are continually in my thoughts. Perhaps, perforce, a few of the shinier stones can be selected from the treasure-hoard for especial veneration.

My principal thanks must be to my supervisors. I consider myself fortunate in the extreme that the beginning of my academic career coincided with the peak of Nils-Lennart Johannesson’s. His enthusiasm for the project and confidence in my abilities was matched only by his encyclopaedic knowledge of the source material and his generosity of spirit. I was supported and directed in the early part of the project by Alan McMillion, who also first recommended that I apply for the doctoral programme at a time before I had considered an advanced degree. The influence which Tomas Riad has had on this project can hardly be overstated: a spirit of cheerful optimism pervaded our regular supervision sessions, punctuated only by his extremely precise and perceptive surgical strikes against the weak arguments, methodological dead ends, misunderstandings of basic terminology and misleading formulations with which I would unfeelingly plague him.

The English Department of Stockholm University provided as supportive and collegial a working environment as ever a chap could desire. I was fortunate to share my time as a doctoral student with an unusually large number of fellows in the same condition, both in the English department and in the other language departments. My classmates in the Special Doctoral School in Linguistics 2011–2012 all contributed both to my education in general and to the development of this text. These various brainboxes are shiny stones indeed and I look forward to seeing them rocket up the ranks of academia across the globe, a process which has already begun in earnest. All of us were supported and directed by the august council of linguists who made up the steering committee, captained by the inestimable Masha Koptjevskaja Tamm.

I was fortunate enough to be able to consult both Paul Kiparsky and Chris Golston during the early development of the project, and found their advice
on its direction invaluable. Earlier version of the text were weighed in the balance by Leena Kahlas-Tarkka and Patrik Bye, and their comments allowed for the final form to take shape. Beyza Björkman contributed much to the comprehensibility of the introduction, and Johan Sjöns provided a similar service for the Swedish summary.

You have probably already noticed that the following text contains at least one error. I put it there by accident, in defiance of the advice of the worthy personages named above. Take note, gentle reader, and take heart.
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## Abbreviations

### Languages and texts

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<th>Abbreviation</th>
<th>Text</th>
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<tbody>
<tr>
<td>And</td>
<td>Andreas</td>
</tr>
<tr>
<td>Beo</td>
<td>Beowulf</td>
</tr>
<tr>
<td>BT</td>
<td>Bosworth-Toller</td>
</tr>
<tr>
<td>Dan</td>
<td>Daniel</td>
</tr>
<tr>
<td>Gen</td>
<td>Genesis</td>
</tr>
<tr>
<td>Gmc</td>
<td>Common Germanic</td>
</tr>
<tr>
<td>Jud</td>
<td>Judith</td>
</tr>
<tr>
<td>ME</td>
<td>Middle English</td>
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<tr>
<td>OE</td>
<td>Old English</td>
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<tr>
<td>ON</td>
<td>Old Norse</td>
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<tr>
<td>OS</td>
<td>Old Saxon</td>
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<tr>
<td>PDE</td>
<td>Present Day English</td>
</tr>
<tr>
<td>Rhym</td>
<td>The Rhyming Poem</td>
</tr>
<tr>
<td>SGen</td>
<td>Old Saxon Genesis</td>
</tr>
<tr>
<td>Wan</td>
<td>Wanderer</td>
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### Grammatical Categories

<table>
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<tr>
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<tbody>
<tr>
<td>acc</td>
<td>accusative</td>
</tr>
<tr>
<td>dat</td>
<td>dative</td>
</tr>
<tr>
<td>gen</td>
<td>genitive</td>
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<tr>
<td>inst</td>
<td>instrumental</td>
</tr>
<tr>
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<td>nominative</td>
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<tr>
<td>pl</td>
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</tr>
<tr>
<td>pres</td>
<td>present</td>
</tr>
<tr>
<td>pret</td>
<td>preterite</td>
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<tr>
<td>sg</td>
<td>singular</td>
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### Phonological symbols

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<tr>
<td>C</td>
<td>consonant</td>
</tr>
<tr>
<td>V</td>
<td>vowel</td>
</tr>
<tr>
<td>H</td>
<td>heavy syllable</td>
</tr>
<tr>
<td>L</td>
<td>light syllable</td>
</tr>
<tr>
<td>σ</td>
<td>syllable</td>
</tr>
<tr>
<td>μ</td>
<td>vocalic mora</td>
</tr>
<tr>
<td>Σ</td>
<td>sum of moras</td>
</tr>
<tr>
<td>Φ</td>
<td>phonological foot</td>
</tr>
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### Metrical Notation

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>/</td>
<td>lift (primary)</td>
</tr>
<tr>
<td>\</td>
<td>half-lift (secondary)</td>
</tr>
<tr>
<td>x</td>
<td>metrical drop</td>
</tr>
<tr>
<td></td>
<td>caesura</td>
</tr>
<tr>
<td>!</td>
<td>breach of metrical template</td>
</tr>
<tr>
<td>P</td>
<td>prominent position without lexical stress</td>
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</table>
1 Introduction

All lines of Old English poetry show evidence of having a common underlying metrical structure marked by alliteration. Nevertheless, they also show great variation in the usual indicators of metrical structure: line length and the position of stresses. Exactly how that structure has been described over the past 150 years or so has depended on the objectives of the authors and the theoretical paradigms fashionable at various times of composition. The most influential description is a typology of verses categorised by sequences of stressed and unstressed positions, developed by Eduard Sievers for Germanic verse in general (e.g. 1968). While comprehensive, this system requires extensive modification when applied to continuous texts usually by increasing the number of autonomous metrical types and/or by explaining why some syllables should be considered extrametrical (as by Bliss, 1958 etc.).

Other metrical analyses have either explicitly accepted Sievers’ general assumptions and built upon them (e.g. Bliss, 1958; Cable, 1974; Kendall, 1991; Hutcheson, 1995; Momma, 1997; Bredehoft, 2005; Goering, 2016), or have used OE as a test case for a newly developed theory (e.g. Halle & Keyser, 1971; Getty, 2002; Fabb & Halle, 2008). Rarely, scholars have tried to produce a new model from scratch, sometimes with a statistical basis, with both limited scope and success (e.g. Hoover, 1985; Golston & Riad, 2003a, 2003b). The present study follows in the last two traditions, in that a quantitative analysis is used to organise the data and an Optimality Theory treatment with a basis in Metrical Phonology is used to create a model allowing for the production of all acceptable OE metrical lines.

The study of the metrical structure of the verse is a central topic in Old English studies and has a long but fairly homogenous history. Most models of analysis mentioned in the previous paragraph are based on typologies of acceptable arrangements of stressed and unstressed syllables. These typologies are usually very complex as they concentrate on listing acceptable abstractions, such as stress contours, but do not investigate the underlying factors which distinguish acceptable metrical structures from unacceptable ones. Bredehoft

---

1 Stockwell & Minkova (1997) provide a thorough chronological summary up to the date of publication.
(2005) notes that “the work involved in revising established prosodical theories is complex and, as it seems, never-ending, with absolutely necessary adjustments and refinements always just around the corner” (2005, p. 3). This need for constant tinkering is an indication that the underlying causes of metrical variation in OE have not yet been discovered.

The association between metrical prominence and primary lexical stress is an underlying assumption of almost all studies in this field (§2.3), something which inevitably leads to complicating factors, since four metrical prominences are expected in each line, but lines with less than four primary stresses are quite common. Recently, however, a second approach has gained ground, which associates the metrical structures of the verse with the phonological structures of OE in general. These studies have highlighted an association between the verse foot, as a principal metrical structure, and the prosodic word, a phonological structure (starting with Russom, 1987). The present study follows in this newer tradition while incorporating a quantitative constraint to measure variation in the length of the verse foot and therefore of the metrical line.

What is the point of developing metrical models? To support linguistic studies of metrical texts, highest amongst the possible objectives must be included the following goals:

1. organising data,
2. identifying underlying structures,
3. reflecting the internal operations of the language function,
4. supporting further studies in the interaction of metre with other aspects of language, such as syntax.

The most significant earlier studies (Sievers, 1893; Pope, 1942; Bliss, 1958) dealt only with the first two of these points. Occasionally the third has been attempted (e.g. by Getty, 2002). Momma (1997) and Bredehoft (2005) went some way to addressing specific aspects of interaction between metre and morphosyntax, while a study by Pintzuk (2001) concluded that an investigation into the limits of metrical constraints in interaction with syntax was necessary.

The metrical model developed in the present study is designed to accommodate all four of these above-mentioned goals and particularly identifying the underlying metrical structures and developing of a model which is compatible with current theory.
1.1 Poetry as an object of study

In modern literature, poetry can be seen as being introspective, personal and culturally marginal (Schwartz, Goble, English, & Bailey, 2006). In ancient cultures, where the ability to read was very limited, spoken recited poetry was one of the major literary forms. In Anglo-Saxon England, poetry was often read in public and could be considered the dominant literary form (Whitelock, 1951; Alexander, 1983). Nevertheless, poetry in any language represents a stylised form of spoken language, and is often rather marginal in the text record. In OE, poetry represents a small proportion of the total body of texts but represents most of the actual literature in the sense of narratives intended to convey cultural ideas from an author to a reader or listener. This gives this particular genre a special status identified by contradictions; it is culturally important but poorly represented in the text record. It is intentionally euphonic but stylistically deviant. It is a claim of the present study that the euphony causes the deviance.

The analysis presented herein attempts to provide a simple but comprehensive analysis of Old English poetic metre. A template for line-building is proposed based on a single prototype of an idealised verse line, along with a small set of modifications. This template is expressed in terms of modern metrical phonological theory and deviations from the prototype are shown to be caused by the interaction of constraints relating to syntax and lexical choice. It is shown that the requirements of the poetic form, described in terms of metrical constraints, interact with other aspects of the language to create a very complex set of surface structures which cause, amongst other things, word order phenomena which are markedly different from those in prose.

The differences between the surface word order features in poetry and those in prose are generally viewed as a prima facie reason not to include poetic texts when conducting studies designed to make generalisations about OE word order. Van Kemenade’s claim that “word order in poetry is very different from that in prose… therefore, poetry cannot be considered a reliable source of information on the standard of OE” (1987, p. 4) is typical. Prose presumably reflects the standard forms of language more closely than poetry in every respect. In poetry, the communicative function of language is mediated by other functions, particularly euphony and a desire to induce affect. Poetry is therefore identified by the frequent occurrence of phonological effects or features which are suppressed in prose.

Eduard Sievers (1850–1932) and some subsequent scholars have operated with the assumption that the typical features of the poetry of the ancient Germanic languages represent aspects of single unified tradition. Studies based
on this assumption require that shared features are emphasised as core theoretical elements. This is especially true of the apparent relationship between alliteration and stress. Features which are not shared are disregarded or sidelined. For example, it is easily observable that lines in Old Norse are short and orderly, while lines in Old Saxon verse are often long and unwieldy, with OE somewhere in-between. This difference has not been viewed as an important factor and therefore previous studies have avoided addressing line length, despite the usual importance of line length in the metrical systems of the world (Fabb & Halle, 2008; Aroui & Arleo, 2009). This choice can be interpreted as an assumption that the recorded forms of Germanic verse still operate under the same phonological rules as the earliest ancestral form. This study does not accept that assumption, and focuses only on OE forms, until chapter 7, in which the model is applied to Old Norse and Old Saxon lines.

Attempts to refine or replace Sievers’ typological analysis have almost all relied on Beowulf alone as a data source (Stockwell & Minkova, 1997; McCully, 2000). This focus represents a significant weakness, since Beowulf represents only around 10% of OE poetry, and some syntactic, phonological and metrical features are better reflected in other poems with different sorts of subject matter. Sievers (1893) used Beowulf as one of his main sources for developing his analysis, so it should not be surprising that Sievers-type analyses work best on Beowulf, and cause some difficulties when applied to other poems. Furthermore, Beowulf has been so heavily studied in recent decades that new insights are unlikely to be revealed by continuing to analyse it. Most studies of Old English metre deal only with Beowulf, so in a larger corpus of OE, some features occur which do not appear in Beowulf. The present study identifies two marginal word classes which have not been investigated in detail before (e.g. §§5, 6). Conversely, some features have been over-investigated with marginal returns (§2.2). Beowulf is excluded from the corpus in the present study to shift focus onto other important sources of metrical evidence in OE.

The model proposed here allows for the broad variation in line length in actual texts to be explained and motivated in terms of metrical complexity. The model also incorporates features which accounts for the distribution of stressed and unstressed syllables, and the phonological quantity of those syllables. Several analytical perspectives are combined, which inform a set of mutually supporting studies which investigate aspects of the alliteration, metre, phonology and some aspects of the syntax of a representative corpus of Old English poetic texts from various genres and periods. This model allows for a similar proportion of lines of OE verse to be analysed as with previous models, but with a single flexible metrical template rather than many.
1.2 Vowel quantity controls line length

The metrical analysis I propose uses a binary branching structure which produces a verse line of four quantitative verse feet of variable length. These feet have an unmarked length of three vocalic moras, which can be modified to two or four vocalic moras at a cost to metrical complexity. These moras can be spread across one and four syllables. Within the foot, one syllable is most prominent and functions as the prosodic head of the verse foot. This structure is adduced from quantitative and qualitative data collected from a corpus of over 7000 lines of OE poetry.

The main finding concerning the metrical phonology of the verse presented in the present study is that the variation in the lengths of OE verse lines can be explained in terms of variation in the lengths of the verse feet. This measurement constraint is supported by evidence from a corpus analysis. There is an ambiguity in OE phonology concerning the weight of those syllables which comprise a short nucleus, such as that found in *se* ‘the’, followed by a short coda, such as in *sel* ‘hall’. Some scholars regard syllables with a short nucleus and a short coda as light, while others view them as heavy. Syllables with a long coda, e.g. *seld* ‘seat’ are universally regarded as heavy (§2.1.4). In the analysis presented in the present study, the metrical quantity of the vowels alone are counted for determining line lengths, codas are disregarded. In the present study *se*, *sel* and *seld* are therefore all counted as light for metrical purposes. This is a controversial claim in the light of what is known about OE phonology, and much evidence must be presented to defend it. The corollary claim, that all syllables with a long nucleus, e.g. *sēl* ‘good’, are heavy, is uncontroversial.

The vowel quantity analysis inherited from Golston & Riad (1997, 1998, 2003a, 2003b) remains controversial because of its deviation from the usual means of measuring English syllable weight, in which there is a light/heavy distinction influenced both by the length of the nucleus and the presence of a coda. The controversy is mitigated by the fact that several studies of OE phonology have shown that there is a difference between syllables with a short vowel and a coda with a single segment, and those with a short vowel and a complex coda (§2.1.4).

The metrical analysis is complemented by two corpus-driven studies of two word sub-classes which exhibit low flexibility in the verse translation of *Genesis*. A study of the metrical features of longer non-Germanic names demonstrates how the line building constraints affect longer strings of syllables without an obvious internal morphology. A study of compound numerals shows
how coordinated phrases can be rearranged according to metrical requirements. These two studies support the basic findings of the metrical analysis and contributed to fine-tuning of the model.

To address how broad an application this model can have, a comparative analysis of two small corpora of early Old Norse and Old Saxon verse using the same method as the main study was conducted. It is shown that while this analysis effectively addresses line length variation in poems from the OE tradition, it excludes Old Norse and Old Saxon verse traditions.

1.3 Objective and research questions

Research questions for the main project:

1. What is the underlying metrical structure of the Old English verse line?
   a. Can a model for prototypical lines be developed?
   b. Can the model incorporate the variation that exists in the corpus, but not allow illicit forms?

2. How can the diversity of the metrical features of the Old English verse line be described using current phonological theory?
   a. How can lines with differing lengths be described with a single analysis?
   b. How can standard and hypermetrical lines be incorporated into a model?
   c. Can the analysis be made more efficient than a Sievers typology?

3. To what extent can a model developed for Old English metrics be used to describe the metrics of other medieval Germanic verse traditions?

Research questions for corpus-driven sections

4. What can the structure of compound numerals in Genesis tell us about how metrical constraints and syntactic constraints interact?

5. What can the metrical status of non-Germanic names tell us about the unmarked phonological structure of Old English words and verses?
1.4 Chapter descriptions

2. Background and Literature Review
This chapter provides a literature review, as well as general background on the Old English language and the study of verse as it will be applied to the studies in chapters 4, 5, 6 and 7. A detailed description of the features of Old English verse is presented derived from this background material. When it is shown that these theories cannot be adapted to the present study in their entirety, the major problems with these theories are highlighted.

3. Method and Materials
This chapter introduces the corpus of verse texts upon which the present study is based. Results derived from statistical analyses of the syllables and vocalic moras of the lines of this corpus are presented. A set of generalisations from this analysis follows which serves to complement those drawn from the literature review.

4. Analysis
This chapter describes the method by which the features of line length, stress position and verse types are to be treated, and suggests that the typological categories adduced by historical theories can be explained with an analysis of the line based on vocalic mora count. An explanation is presented of the default metrical line, based on the statistical analyses, which informs the following chapters.

Supporting Studies
Chapters 5, 6 and 7 address particular additional research questions which arose during the metrical analysis.

5. Compound Numerals in Genesis
This chapter is the first of two which address lexical items with low flexibility in translation. Long numerals in Genesis are often broken and moved around in the same way as other long syntactic constructions such as noun phrases, although this does not happen with numerals in the prose. The strategies for how these numerals are rearranged reveal the relative ranking for alliterative, metrical and syntactic constraints which can then be applied to other word classes.

6. Non-Germanic Names
This chapter is the second which addresses lexical items with low flexibility in translation. Non-Germanic names differ from Germanic names in that they can be three syllables in length or longer without having internal morphological structure. How these long strings of syllables are inserted into the available verse structures reveals some otherwise elusive features of the verse foot
and solves the existing problem of the variable metrical stress patterns of common nouns with derivational suffixes.

7. Old Norse and Old Saxon verse with this analysis
This chapter repeats the process of quantitative analysis conducted for the OE corpus on two smaller corpora, one with samples from the Old Icelandic fornyrðislag form and another with a similar number of lines from two Old Saxon poems. It is demonstrated that the analysis presented for OE in the previous chapters is not suitable for the metrical structures present in these two distinct verse traditions. Existing analyses are shown to account satisfactorily for their metrical structures.

8. Conclusion
This chapter explains the scope of application of the theoretical approach presented in the present study along with a summary of its shortcomings.
2 Background & Literature Review

Most previous studies in OE metrics have converged on a single objective, to describe as many lines of verse as possible using as few analytical categories as is reasonable. They differ primarily in how many categories they consider reasonable. This chapter assesses the problems which are caused by a system based on categories, particularly those which rely on syllable counts and stress alternation. These problems are considered from the point of view of the interaction between metrical structure and other aspects of natural language production. The discussion concludes by identifying a small number of significant analyses which investigate aspects of the OE metrical system within the terms of current phonological theory. These include the line length model of Golston & Riad (2003b) and the word-foot theory of Russom (1987 et seqq.), which inform the core of the metrical analysis given in chapter 4.

The earliest grammars of OE focused on morphology and phonology and used poems for their source material.2 Sievers, however, suggested that poetic data should not be considered reliable for grammatical study (Sievers, 1885, p. iii). The verse corpus is far smaller than that of the prose, and so only the most commonplace constructions are found in sufficient volume to make reasonably defensible generalisations. These confounding factors have led to poetic data being abandoned by grammarians of OE in the 20th and 21st centuries, in favour of grammars based upon the standard written form of West Saxon prose (Hogg, 1992). In the present study, generalisations concerning the phonology of OE are taken mainly from Campbell’s Old English Grammar (1959), supplemented when necessary with specific studies.

The earliest modern scholars of Old English, such as George Hickes (1642–1715), were trained in the quantitative paradigm used in Latin and Greek poetry. In classical verse, the metre is generated by alternating patterns of light and heavy syllables3 and Hickes tried to apply such an analysis to OE. This approach did not influence later studies, principally because it failed to take into account the main indication of the metrical structure in OE lines, the alliteration. A quantitative analysis in the classical mode is further hindered by

2 A brief early history of these studies is provided by Stockwell and Minkova (1997), a more substantial overview by Fulk (1992).
3 A thorough treatment is presented in Bennett (1899).
the fact that the length of the lines in even a modest selection of OE poetry
varies substantially regardless of the method used to measure them. Neverthe-
less, since at least Sievers (1887), quantitative elements have been included
into an ACCENTUAL-SYLLABIC analysis, so that accent (indicated by allitera-
tion), syllable count, and the quantity of the syllables all contribute to the
structure of the line. The system most associated with Sievers is based on syl-
labile count and stress and postulates a set of acceptable prototype verses. An
alternative approach, most associated with Andreas Heusler (e.g. 1891), is
based on musical beats and has been less influential than that of Sievers. All
significant studies of OE poetry fit into one of these approaches either in their
generalisations or their conclusions. The assumptions of these two main theo-
ries has in many ways constrained the analyses conducted during the 20th cen-
tury. Mitchell notes that “critics are prone to place too much faith in whatever
metrical theory they happen to accept” (Mitchell, 1985, p. 987). This is com-
pounded by the fact that in these analyses, the texts used to establish the analy-
isis are often the same as those used to test it, so that the author attempts to
demonstrate the validity of a theory by comparing it to the same material upon
which it has been based.

The scope and assumptions of any study rely ultimately on what that study
intends to achieve. Hickes, for example, was working within a theological par-
adigm and his objective was to present Anglo-Saxon culture in a favourable
light, rather than to provide a reliable analysis which could be used by other
studies. Sievers’ analysis was designed to categorise unruly data. Bliss’s stated
objective was to apply Sievers system to Beowulf “with an open mind, and to
derive a system of scansion” (Bliss, 1962, p. v), presumably for its own sake.
Fulk’s was to “identify metrical variation” (Fulk, 1992, p. 1) in OE verse over
time. Naturally, these different objectives lead to different types of investiga-
tions which focus on different aspects of the verse, and come to different con-
clusions. The purpose of the present study is to develop an analysis of the
metrical structure of the verse line which is compatible with analyses designed
to deal with other linguistic features, especially syntax. This background chap-
ter therefore deals principally with identifying the strengths and weaknesses
of previous studies from this perspective.

2.1 Alliteration and line structure

The great majority of Old English verse lines feature alliteration as the main
indicator of metrical structure. Alliteration refers to the repeated use of the
same syllabic onsets within the line. The present study assumes, along with
all modern studies, that the most salient indicator of the structure of OE verse
is alliteration, and that alliteration marks the heads of feet. Some, such as
Hoover (1985) argue that alliteration should be considered before all other
factors, which is a stronger claim than is made in this section. Rask (1817) established that there are four theoretical points in every line which must be observed. The exact nature of these points and how they are controlled in the views of different scholars is discussed in later sections of this chapter, and in detail by Fulk (1992) and Stockwell and Minkova (1997). It is usual to suggest that these points must be occupied by a stressed syllable, as in example 1. This assumption is critiqued later in this chapter. Some generalisations are, however, uncontroversial. In example one, a prototypical alliterative line of OE verse is shown to highlight these generalisations.

1. fōonds fācne, | fōlcestede gumena  
   ‘by the enemy’s deceit, | the dwelling-place of men’

In example 1, the first three words alliterate on <⟨f⟩>. A vertical line is included in the present study to indicate the CAESURA, which is a theoretical division in the line usually indicated in editions by an extended space. Two PROMINENT syllables must occur on either side of the caesura. These syllables occupy strong metrical positions. The prominent position after the caesura controls the alliteration and is referred to as the PRIMARY ALLITERATION POSITION in the present study. The syllable occupying this position is marked in example 1 in bold face. In each line, at least one of the two prominent positions before the caesura must alliterate with the primary alliteration position. The final prominent position may not alliterate with the primary position. The pattern shown in example 1, where two items in the a-verse alliterate with the first foot in the b-verse (double alliteration) occurs on 49.11% of lines in Beowulf (Hoover, 1985, p. 55). Conversely, 50.35% of a-verses have single alliteration, with a few outliers featuring triple or no alliteration. In contrast to this even split, Bredehoft (2005) claims that double alliteration is either “generally mandatory” at 90% of lines, or “quasi-mandatory” at 75% of lines, with particular exceptions being associated with stress conditions (Bredehoft, 2005, p. 30). This disparity is presumably based on a difference of opinion about the sort of words which can take alliteration (§§2.2, 4.3).

In the present study, alliteration is associated with metrical prominence, which is usually and prototypically associated with stress (Selkirk, 1980). On the whole, the question of which onsets may alliterate is uncontroversial as OE

\[4\] Crossed or transverse alliteration, where this minimal pattern is met and further alliteration is added, is infrequent and assumed in the current study to be ornamental rather than systematic (Lehmann & Tabusa, 1958; Terasawa, 2011; Baker, 2012).
has a fairly phonetic script and limited consonantal mutation. There are, however, some ambiguous examples. In almost every case, alliteration falls on stressed syllables, the nature of which are discussed in the following subsections.

2.1.1 Concerning stress and prominence

Early studies established the structure of the line as dependent on stressed syllables, Wackernagel (1892) proposed a verse with “two stressed syllables and an unlimited number of weakly stressed syllables” (cited in Stockwell & Minkova, 1997, p. 55). Every lexical word has a stressed syllable, which functions as the head of a prosodic word. Prototypical lexical word classes include names, nouns and adjectives. The function words such as prepositions, pronouns and articles, which occur alongside them, are prosodic clitics on their nearest prosodic head. There is also an intermediate class of words, including verbs and adverbs which are addressed below (§§ 2.2, 4.3.5). In the great majority of OE lines, alliteration coincides with words which carry lexical stress. An alternative way of distributing stresses is by assigning stress to positions. Some studies (including Bliss, 1962) advocate positional stress under certain circumstances to maintain the metrical structure of lines where function words appear to occupy prominent positions.

In the present study the prosodic word is one of the most important components of the metrical theory, as its prototypical structure determines the prototypical structure of the verse foot. In turn, the verse foot is the main component of the verse line. It is argued in chapter 4 that although metrically prominent syllables are usually stressed, and that the prosodic word and the verse foot are usually congruent, OE verse design is characterised by mismatches between the prosodic structures and their equivalent metrical structures.

2.1.2 Primary and secondary stress

The nature of primary stress and the relative stress status of other syllables depends on a set of definitions derived from textual, metrical and reconstructive evidence, most of which is uncontroversial. According to Campbell, stress

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3 In most cases, alliteration is transparent as in example 1. However, it should be noted that velar ð[e] [g] alliterates with palatal ð[e] [j]—sometimes written with <e> especially for non-Germanic names, that the combination <eg> [j] does not alliterate with other words with initial <e>, and that h-dropping (or insertion) can occur so that items beginning with ~h~ can alliterate with items beginning with vowels, particularly in non-Germanic names. Any vowel may alliterate with any other in what is sometimes called zero-onset alliteration. Some of these conditions are discussed in greater detail later in the present study (§6).

is found on the first syllable of all lexical words, with the exception of those words prefixed with ge- and those verbs with prefixes derived from prepositional adverbs (Mitchell, 1978, 1985). He notes further that initial stress on nouns with the same prefixes can be found, although it is often evident that the prefix is unstressed (Campbell, 1959, p. 31). On the basis of his own studies, Riad reformulates as follows “Germanic main-stress invariably goes on the initial syllable of the root. The locus of main-stress is thus determined on morphological grounds, which means that there is no need to refer to previous prosodic structure in assigning main-stress; all we need is a stem morpheme, a content word” (1992, p. 52). These definitions address the conditions for identifying primary stress.

Primary stress in OE is associated with the root syllables of words from certain lexical categories. These may be categorised as NOMINALS, and include names, nouns, adjectives and the adverbs derived from them, numbers (but not quantifiers) and verbs in the infinitive (Bliss, 1962). Secondary stress is a stress in a polysyllabic word which is subordinated to a primary stress in the same word. In OE words, primary stress is initial and cannot follow a secondary stress. Secondary stress occurs only as the result of compounding, or as the result of affixation under certain circumstances.\(^7\) The secondary stress in dithematic compounds (compounds formed of two nominals) is usually easy to identify as it falls on the root syllable of the second component, as in example 2.

2. \[\text{nīd-bebod}\]

‘need’ + ‘command’ = ‘mandate’

In example 2, the first component \text{nīd-} carries a primary stress. The second component \text{-bebod} comprises a prefix, which is unstressed, and a root syllable which in this word’s uncompounded form has primary stress, but in a compound becomes secondary stress. It should be noted in this context that sec-

\(^7\) There is a well-established distinction between compound nouns and compound names. Bredehoft (2005) notes that the second element of compound names “have secondary stress only when inflected” (2005, p. 19). See section 4.3.1.

\(^8\) The marks used to annotate metre and prosody in many publications are similar and have a common source. To ensure that they are distinguished in this study, stress is marked with dots according to three categories, based on Halle & Keyser’s (1971) notation. These are one point . for unstress, two : for secondary stress and three \[\text{ڭ}\] for primary stress.

\(^9\) This example is taken from Bosworth Toller (1898). In BT, morpheme breaks in compounds are marked with a hyphen, which remains. Long vowels are marked with an acute accent which is here replaced with a macron, as throughout.
Secondary stress is a phonological phenomenon with both a demonstrable existence in English and in other languages, and a real function in contrasting different linguistic objects (in Modern English, typically congruent with the phonological phrase), with identical segmental forms but differing morphology or syntax. In poetry, the relationship between secondary stress and its association with metrical prominence has been a matter of some controversy, considering the frequency of compound nouns in OE poetry.

Compound nouns have been considered the “chief poetic effect of early Germanic verse” (Fulk, 1992, p. 254). Any theory of OE verse design has to take into account their structure and influence on the metre. According to Campbell, dithematic nominal compounds include a main stress on the first element and a secondary stress on the second, if “both the elements retained full semantic force” (Campbell, 1959, p. 34). In the case of obscure compounds, in which Campbell includes nouns with productive derivational affixes themselves derived from nouns, such as *-scripe*, a secondary stress is retained only on the second element if that element is disyllabic.

Bliss shows little patience with Sievers’ idea of secondary stress. He gives the example of the *-ing* suffix in the common noun *æþeling* and the family name *Scefing*. He notes that there is a conflict in that the secondary stress in *æþeling manig* (Beowulf 1112b, 2A1b in Bliss’s metrical notation) needs to be recognised to fulfil the required stresses in the verse. This is a result of the fact that first syllable of *manig* ‘many’ cannot be the head of a foot in Bliss’s system as it is a quantifier and so does not have a primary stress. He also notes that the same suffix in *Oft Scyld Scefing* (Beowulf 4a, 2C1a) cannot be stressed because it would “be metrically objectionable” (Bliss 1962, p. 25). This is presumably because it would have four stresses and therefore could not be made to fit any of the accessible templates because. “The secondary stress on the second element in a compound, however, is never thus ignored, apart from proper names whose composition is less consciously recognised… on metrical grounds, indeed, there is no need to assume any degree of stress on *-ing* in *æþeling manig*” (1962, p. 25). What Bliss does not explicitly say is that there is never a metrical need for an *-ing* suffix to be considered stressed except in

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10 For example, the question *Is the vacuum cleaner there?* is ambiguous dependent on whether the stress in *cleaner* is primary or secondary. If the stress is primary, the questioner is asking whether the *vacuum* is *more clean* (free from matter) in one area, if the stress is secondary, the questioner is asking if the *vacuum cleaner*, which is a compound noun in this case, is there. Kingdon (1958) provides a list of such examples, as do many other later authors.

11 Campbell uses “half-stress” (1959, p. 34).

12 The *-ing* suffix is usually translated as ‘son of’ or ‘originating from’ (Bosworth-Toller), and indicates a family relationship from direct descent, to whatever degree. *Æþeling* derives from *æþel* ‘noble’, and can mean ‘royal prince’, but in poetry is generally used to refer to anyone of the warrior class. *Scefing* is a family name and simply indicates “descended from Scef.”
an intermediate position, such as when followed by an inflectional affix. Bliss’s solution is to split the secondary stress category by demoting the ‘ignorable’ syllables to tertiary stress. He accepts the weakness of this claim, noting that there is a “possibility that tertiary stress may in fact prove to be equivalent to lack of stress” (1962, p. 25). Bliss occasionally relies on a concept of tertiary stress to explain the effect of the demoted secondary stress on his theory (1962, 1981), but tertiary stress is not a significant feature of the present study. Nevertheless, secondary stress is an important factor in determining the alliteration patterns and foot structure which inform the metrical analysis in chapter 4, as well as being essential for the non-Germanic names study in chapter 6, and the key to understanding the importance of polysyllabic words in OE metre.

Primary stress is essential for most analytical systems for OE verse design, and secondary stress is significant for filling in the gaps left by those systems. In the present study, which is based on the equivalence between the prosodic word and the metrical foot, the distinction between primary and secondary stress is not a fundamental part of the analysis.

2.1.3 Foot structure

The relationship between syllables with primary stress and syllables with other values is determined by the structure of the prosodic word in the sense used by Selkirk (1986). In OE, the primary stress culminates with the first root syllable of lexical words (Riad, 1992), which conforms with a cross-linguistic preference for having the stress near the edge of constituents, and for initial stress (Kager, 1999). It has been argued that stress placement is quantity sensitive, as stress and heaviness prototypically coincide (Campbell, 1959; Keyser, 1969). Most importantly for foot building, rhythmic alternation between stressed and unstressed syllables causes the peaks of prominence to be distributed at regular intervals, so that adjacent strong syllables (clashes) and long strings of unstressed syllables (lapses) are avoided.

The foot structure described in the present study is based ultimately on Hayes (1995). Hayes describes a theory of metrical stress which is broadly compatible with generative theory and allows for the building of feet with both rhythmic and quantitative properties. Legitimate feet can be accounted for, as can deviant and degenerate feet, with a set of criteria for determining metrical complexity. The principle purpose of Hayes’s analysis is to produce metrical rules for the prose structure of languages. Nevertheless, it can be adapted to verse, which can be considered stylised or formalised representations of the metrical structures which occur in spoken language. This informs the foot building constraints described in the analysis in chapter 4.
2.1.4 The value of light and heavy syllables

All poetic systems rely ultimately on the phonology of the language in which they originated, and the metrical system of OE verse depends ultimately on its syllabic structure. Each syllable comprises a nucleus, which in OE must be a vowel or a diphthong.\(^{13}\) If a syllable ends with a vowel or diphthong, it is an open syllable. A closed syllable ends with a consonant. Syllables can be distinguished by moraic weight. Most OE syllables are heavy, and are represented by two units of phonological weight, \textit{moras} (\(\mu\)), while some are light and comprise only one mora (Hyman, 1985; Hayes, 1989). In OE, vowels or diphthongs can be short, in which case they have one mora (\(1\mu\)), or long with two moras (\(2\mu\)).\(^{14}\)

The length of vowels is sometimes marked by a macron or accent marker in manuscripts, and in edited texts these distinctions are standardised. In the present study, all vowels are marked with a macron if they are long, and are left unmarked where they are short, as in the following minimal pairs, taken from Bosworth & Toller (1898).\(^{15}\)

3. \(\textit{wine} – \text{friend,} \quad \textit{wine} – \text{division;}\)
   \(\textit{ham} – \text{enclosed field,} \quad \textit{ham} – \text{home.}\)

OE features both long and short versions of its vowels and diphthongs, and a long nucleus means a heavy syllable, while syllables with short vowels or diphthongs can be either light or heavy, depending on the presence of a coda. Like Lass (1994), the present study uses the distinction short/long for vowels, diphthongs and consonants, and light/heavy for syllables. McCawley defines the mora as, “something of which a long syllable consists of two and a short syllable consists of one” (1968, p. 57), which is sufficient for the purposes of this analysis.

The generalisation that only open syllables with short nuclei may be considered light is congruent with the classical poetic traditions, and essential to the understanding of certain phonological changes in various stages of English. Nevertheless, there has long been a debate, on the grounds of evidence from other phonological changes, that syllables which have short nuclei and are closed by a single consonant should also be considered light in OE. Kager

\(^{13}\) Fulk (1992) deals with some circumstances in which consonants can be shown to form the nuclei of unstressed syllables in particular circumstances. This condition was deemed to be insignificant for the purposes of the present study.

\(^{14}\) Short diphthongs are typologically unusual and their existence has been questioned by Bauer (1956) and White (2015). These studies have not been influential in OE metrical analyses.

\(^{15}\) Some sources use a breve (i.e. \(\text{-\textae-}\)) to indicate a short vowel or light syllable. These are included in citations if the marking is significant, although in this study short vowels are unmarked.
notes that crosslinguistically, “CV syllables are universally light (monometric),” while CVV syllables are universally heavy (bimetric). The weight of a CVC syllable depends on whether or not its coda consonant is moraic. This varies from language to language” (Kager, 1999, p. 147). In classical verse, an open syllable with a short vowel counts as light, any other syllable counts as heavy (Dale, 1950). Perhaps because of the connection between the study of these languages and OE, it is usually accepted, particularly in metrical studies, that in OE all closed syllables are heavy (e.g. Bliss, 1962; Dresher & Lahiri, 1991; Hogg, 1992; Russom, 1998). Some studies have assumed or demonstrated some flexibility in the distinction between light and heavy syllables, most notably Campbell (1959), Lass (1986, 1994) and Lahiri (2000) who claim that VC syllables should be viewed as light. This disagreement is complemented by Minkova and Stockwell (1994) who demonstrate a certain amount of flexibility and declare that CVC syllables (i.e. those with a short vowel followed by a single consonant) can be either heavy or light in different phonological or historical circumstances. In polysyllabic words, the picture is even less clear.

The variation informs one of the main claims of the present study that for the purposes of determining line length, the weight contributed to the syllable by the segments in the coda should be disregarded. It should not be inferred, however, that this should apply to other genres of OE or phonological reconstruction. This way of measuring syllable weight is used in the metrical analysis presented in section 4.2.

2.1.5 Old English prosodic structure

The present study discusses the prosody of Old English in accordance with the prosodic hierarchy (Nespor & Vogel, 1986; Selkirk, 1986; Hayes, 1989). This hierarchy establishes four prosodic categories, shown below, with equivalent metrical structures. Kager notes that “every prosodic category in the hierarchy has as its head an element of the next-lower level category” (Kager, 1999, p. 146 *italics*). The most significant categories for the present study are the PROSODIC WORD and the PHONOLOGICAL FOOT, which are shown in the context of the prosodic hierarchy in Figure 1.

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16 Where C = consonant, V = vowel to the value of 1x. Some authors place an initial C to represent the onset, but none of the authors mentioned in this subsection use that C to indicate that the onset is used when calculating the weight of the syllable.
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Prosodic Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhP</td>
<td>Phonological Phrase</td>
</tr>
<tr>
<td>PrWd</td>
<td>Prosodic Word</td>
</tr>
<tr>
<td>φ</td>
<td>Phonological Foot</td>
</tr>
<tr>
<td>σ</td>
<td>Syllable</td>
</tr>
<tr>
<td>μ</td>
<td>Mora</td>
</tr>
</tbody>
</table>

Figure 1. Relevant levels of the Prosodic Hierarchy.

Figure 1 shows the available levels of the prosodic hierarchy and their equivalence in the verse terminology. The syllable and the mora represent the basic phonological building blocks of the language and are not subject to any abstraction within the metrical system. Structures larger than the Phonological Phrase include the INTONATION PHRASE and UTTERANCE, but these do not play a major part in the present study. This study focuses on verse design, but has to take prosody into account. Therefore it is essential that the Phonological FOOT, which is a prosodic structure, and the VERSE FOOT (VFT), which is a metrical unit, be distinguished. In the present study, it is argued that the Verse Foot is roughly equivalent to the Prosodic WORD, while the Metrical Position (m) is equivalent to the Phonological Foot. This confusion is a result of combining two separate analytical traditions with a shared origin.

In the present study, the structure of the prototypical verse foot is associated with the prototypical prosodic word. This is a similar finding to Russom’s (1998) word-foot theory, which is addressed later in this chapter. Russom notes that “the rhythms of Germanic words would have provided the basis for poetic rhythm … Germanic simplexes have a predominantly falling rhythm, with stress on the first syllable, the most convenient verse rhythms would be falling” (Russom, 1998, p. 12). If metre is dependent on a notion of the OE word, it is necessary to distinguish at least four possible definitions of the word in OE. The GRAPHOLOGICAL WORD is a textual object, identified in edited versions. The LEXICAL WORD is a word from an open class: NAMES, NOUNS, VERBS, ADJECTIVES and the ADVERBS derived from them, and NUMERALS. The corollary category is FUNCTION WORDS, which are graphological words, but not lexical words, and usually not prosodic words. Together, lexical words and function words encompass all free morphemes, and may be subject to affixation with bound morphemes. In the OT analysis presented in this section,
lexical words are considered congruent with Grammatical Words as described by Kager (1999). The Prosodic Word is a phonological category which is prototypically congruent with the grammatical word. The prosodic word is the structure which allows the root syllable of OE lexical words to contain a stress. OE roots must be one minimal PrWd in length (Halle & Keyser, 1971). The minimum size of a prosodic word is determined by the minimal size of the phonological foot, which in OE is 2μ (Selkirk, 1980; Hayes, 1980, 1995; McCarthy & Prince, 1996; S. Suzuki, 1996). This limits the minimum weight of lexical words, but not of function words, which may be only 1μ, such as the relative pronoun be. The maximum size of a PrWd is limited in OE poetry by the size of the verse, or half-line, which should contain two prominent positions. A single graphological word may only occupy a verse foot if it contains an internal, or secondary, stress. Secondary stress is described in terms of adjunction or subordination of a prosodic word to another within a phonological phrase (van Oostendorp, 2002; Ito & Mester, 2009) (§4.2).

The minimum length of 2μ can be in a single heavy syllable, as in sēl ‘good’ or spread across two light syllables, as in sele ‘sell’. In the analysis of verse, the relationship between heavy vowels and pairs of light vowels in OE verse dates back to before Sievers and was a fundamental part of his theory. Resolution is the means by which this relationship is addressed within the theory. Resolution allows for one short stressed syllable followed by one unstressed syllable of any length to be ‘counted’ (by whatever interpretation) as if it were a long stressed syllable. This equivalence is discussed at length in later sections.

2.1.6 Stress and Affixation

Although the association between roots and lexical stress is clear, Campbell’s generalisations on the stress conditions of prefixes (§2.1.1) are inadequate to deal with all instances found in the verse, and the status of suffixes is addressed differently by Bliss (1962), Hutcheson (1995) and Getty (2002) in their metrical models. In each case, suffixation interferes with core claims regarding the relation between primary stress and metrical prominence. To produce an analysis of the verse line which takes into account stress conditions, clear definitions of non-prototypical stress are required. Studies in the Sievers tradition, including Bliss (1962) and Kendall (1991), have concentrated some of their efforts on establishing these criteria. Because of the root-stress condition described in subsection 2.1.2, most affixes in OE are unstressed. Some affixes, however, evidently have some prominence shown by alliteration or

17 In some other traditions, grammatical word is a synonym for function word. In order to avoid this confusion, grammatical word is used in this study as a synonym for lexical word.
position. It has been proposed that derivational suffixes acquire secondary stress under certain phonological or morphological conditions such as when they are followed by inflectional suffixes (Bliss, 1962; Kendall, 1991). These conditions informed the text annotation process, and due to the need to establish the metrical structure of longer words, also informed the prosodic word formation constraints in subsection 4.3.4.

Suffixes are dealt with in more detail later in this chapter, and are easier to classify as they can be distinguished by being derivational or inflectional, as well as by phonological weight. Prefixes have different functions and different etymologies. Kendall (1991) classifies the prefixes in *Beowulf*, showing that some prefixes are never stressed, some are always stressed, and some are only stressed when affixed to nouns and adjectives, but not to verbs. This alternation was already well established by Campbell (1959). Starting with Kendall’s (1991) classification, Minkova (2008) deals with the prosodic features of prefixes in OE in more detail, using a greater range of verse sources. She establishes several categories of prefixes: stressed, unstressed and those which have a variable stress status depending on whether they are attached to a verb or a nominal. The analysis presented in section 4.3.4 deals with more prototypical word formation processes, particularly compounding, suffixation and borrowing. There appears to be no obvious relationship between the stress status of these prefixes and their syllabic weight; Minkova’s (2008) conclusion is that prefix stress is morphologically conditioned and the terms by which they can occupy prominent positions in the verse is dependent on diachronic factors, which determine whether the prefix is extrametrical or can be included in a separate prosodic word. Minkova’s (2008) account is strengthened by the fact that it deals with what she refers to as “stacked” prefixes, such as unforcūð, ‘not despicable’ where un- and for- are prefixes and cūð is the root, and in which alliteration falls on un-.

While in some other Germanic languages a prefix receives primary stress if it is separable from its stem (Minkova, 2008), prepositions which are homologous with prefixes occasionally occupy the same metrical positions as words which carry lexical stress. Most of the prefixes are sensitive to the word class of their stem, although some of the commonest are shown to be insensitive. The stress value of each of the morphologically sensitive prefixes is predicated on “whether they are monosyllabic or not, whether they are flanked by other provably weak syllables or not, and possibly on whether they are syntactically more preposition- or adverb-like” (Minkova, 2008, p. 26). This confounding factor has caused prefixes to be left out of the prosodic word formation constraints in subsection 4.3.4.
2.1.7 The Germanic Foot and comparable structures

The notion of the Germanic Foot from Dresher and Lahiri (1991) has informed the structure of the verse foot described later in the present study. Dresher and Lahiri's (1991) suggestion is that the Germanic foot comprises an extended phonological foot (\(\Phi\)), with 3\(\mu\) (including both nuclei and codas). The analysis presented in chapter 4 of the present study uses a similar structure for the V\(\Gamma\)t, but rather than being an extended metrical position (m), the V\(\Gamma\)t represents one full position (with 2 vocalic \(\mu\)) and one degenerate position (with 1\(\mu\)).

Dresher and Lahiri's (1991) notion of the prototypical structure of the OE prosodic word is demonstrated by phonological change in the history of English, particularly High Vowel Deletion (see e.g. Fisiač & Krygier, 1998; Lahiri, Riad, & Jacobs, 1999; Goldsmith, Riggle, & Yu, 2011). The Germanic foot is defined as a quantity-sensitive, left-to-right resolved moraic trochee. This prototype foot is quantity-sensitive because while the head of the foot must contain two moras, it is not required for them to belong to one syllable. It can be resolved if the left branch constitutes a sequence of two syllables, so long as the leftmost, most prominent syllable, is light (L X = H).\(^{19}\) It is moraic because moras are the basic unit rather than syllables, and a trochee, because the leftmost is prominent. This prominent position is marked by containing a stressed syllable and two moras. This allows unbranching feet with the forms [H], such as sel ‘good’, a branching equivalent [LL] hetə ‘hate’, and a heavy branching [LH] farəld ‘journey’.

Dresher and Lahiri (1991) assume that syllables with a short vowel followed by a single consonant are heavy. This distinction is necessary to address their main objective in determining the causes of particular sound changes. The most significant points for the present study are their observations that their concept of resolution does not occur in some lines of Beowulf, and that suspension of resolution occurs in the second component in a compound.

However, they also note that in one of their three examples, Hreþel cyning (Beo 2430b), resolution simply fails to take place in cyning. They attribute this to the relaxation of the two-mora requirement for non-initial feet at least in verse (Dresher & Lahiri, 1991, p. 263). The application of their method to verse texts is therefore tenuous. Nevertheless, the resolved moraic trochees they propose are shown in Figure 2 (adapted from Lahiri et al., 1999).

\(^{19}\) Where H is a heavy (2\(\mu\)) syllable, L is a light (1\(\mu\)) syllable, and X is a syllable of any weight.
Form \((/ \ x)\) or \((/ \ x)\)
\[
\begin{array}{c}
\mu \mu \mu (\mu) \\
\delta \delta \delta \delta \delta
\end{array}
\]
else, \((/ \ x)\) or \((/ \ x)\)
\[
\begin{array}{c}
\mu \mu (\mu) \\
\delta \delta \delta \delta \sigma
\end{array}
\]

Figure 2. Preferred and modified abstractions of the resolved moraic trochee.

In Figure 2, licit abstractions of the resolved moraic trochee are presented, representing the possible prosodic structures of unprefixd Old English words between one and three syllables, and between two and four moras. These structures are informed by Sievers' notion of the metrical structure of OE verse and in turn inform the preferred foot structures presented in chapter 4.

2.1.8 Line structure summary

The relationship between alliteration and metrical prominence is the first and most essential indicator of the structure of the OE verse line. The general observations are not controversial. The structure of the line is determined by the distribution of prominent positions which are the heads of verse feet, and are identified by the word classes which occupy those positions, and often are identified by alliteration.

The minimal size for the OE phonological foot is 2\(\mu\). This applies to free morphemes of all kinds, but does not necessarily apply to affixes (Minkova, 2008, p. 23). Minkova allows for the possibility that in the absence of other phonological material to which they can be prosodically attached, prefixes stand outside the foot and should be treated as extrametrical. The concept of a prosodic word with a default underlying size of three moras is one of the most important building blocks of the analysis in the present study. These observations on prosodic structure inform the development of the model of metrical structure presented in chapter 4.

2.2 Word Classes and prominence

In order to understand the distribution of prominent metrical positions within the verse line, scholars have frequently associated lexical classes with particular kinds of metrical behaviour. The metrical structure of line is thus determined by the lexical composition of its verses. Prominence in a metrical line in OE is closely related to stress, and stress in OE is assigned to particular
word classes. The metrical synthesis which has dominated 20th century study of OE relies on a distinction described by Kuhn (1933), in which all words in Germanic verse are classifiable into three categories based on word class and defined by stress conditions. These explain how syllables with particular stress conditions fit into metrical structures. The metrical structures comprise alternations between LIFTS, which are prototypically occupied by words with primary stress, and DROPS which occur adjacent to the lifts (Sievers, 1968). Stress is associated with groups of word classes. These groups are developed for Beowulf in Bliss (1962) as STRESSED ELEMENTS (Satzteile in Kuhn), PARTICLES (Satzpartikeln) and PROCLITICS (Satzteilpartikeln). None of these categories is self-explanatory. According to Bliss, “stressed elements bear a metrical stress irrespective of the position they occupy in the verse-clause: they include nouns, infinitives, participles, adjectives and certain adverbs” (1962, p. 6). Russom (1998) describes these as “clitics to a clause” (Russom, 1998, p. 54). Particles are an intermediate category which “stand either before or after the first stressed element” where they are unstressed (Bliss, 1962, p. 6). Elsewhere they gain stress by position. This category includes inflected verbs, conjunctions, and again “certain” pronouns and adverbs. The third category, proclitics, stand “immediately before the stressed element with which they are closely connected, and are then unstressed… if they are displaced they acquire a positional stress and are treated like stressed elements: they include prepositions, certain pronouns and articles” (Bliss, 1962, p. 6). Russom describes them as “clitics to a clausal subconstituent” (1998, p. 54). Russom’s definitions allow for a morphosyntactically motivated understanding of the phonological status of these two middle- and low-ranking categories, which earlier studies do not make explicit. In this reading, in non-prototypical lines, middle- and lower-ranking words acquire stress by being moved from their unmarked syntactic position.

Hutcheson (1992) reclassifies the three categories to four according to stressability, also without precise correlation between word classes and their stress status. Momma (1997) updates Kuhn’s three categories to ‘stressed’, ‘detached unstressed’ and ‘attached unstressed’ elements, which is much clearer and less technical. She emphasises that these categories apply only in context, and each individual item has to be judged according to its metrical environment. This reduces Kuhn’s categories to something more like collections of tendencies. However, Momma’s rationalisation of Kuhn’s categories is very useful in that she describes the items within the categories in terms of relative prominence within the foot, in accordance with Liberman and Prince (1977) and Selkirk (1980).

Momma (1997) further addresses minor issues with Bliss’s (1962) use of Kuhn’s categories, and highlights the weaknesses of the generalisations presented in Kuhn’s Laws. Modern studies have criticised the support for Kuhn’s
generalisations as circular, and too heavily dependent on *Beowulf* (Hoover, 1985; Mitchell, 1985). They are described as "descriptions only" by Schweet-
man (1993, p. 47), a great criticism in the 1990s, but no criticism at all in the
1930s, when description was the only objective. Even Kuhn (1933) found ex-
ceptions to the operations of his laws. Orton (1999) argues that the generalis-
sations described by Kuhn (1933) do not reflect a conscious composition strat-
egy but remnants of Common Germanic word order in conservative poetic for-
mulac, a common factor in oral poetry according to Rubin (1995). This is
consistent with Momma’s argument that OE poetry has its own rules of syn-
tax, a question which is discussed later in this chapter.

Within a Sievers-type analysis, alliteration is assigned to stressed syllables
which occur in positions near the beginning of the verse. Terasawa (2011)
expresses this in terms of strong and weak branching positions in the terms of
Liberman and Prince (1977), which influences the development of the model
presented in chapter 4. The preference for alliteration to fall on the noun rather
than the verb regardless of the order in which they appear is termed the ALLIT-
ERATIVE RULE OF PRECEDENCE by Terasawa (2011). This priority, along with
the categorisation issues identified by Kuhn (1933) and refined by Momma
(1997) inform the notion of lexical succession discussed in section 4.3.

Bliss (1962) does not give clearer motivation for using Kuhn’s categories, but
he gives a series of examples which may be considered instructive in distinc-
tion of particles from proclitics. “A sentence particle in the first dip of a
clause-initial half-line will sometimes alliterate. Often such alliteration in in-
cidental... superfluous with respect to the formal alliterative pattern of
the line” (Kendall, 1991, p. 33 original italics). This conclusion is driven by the
need to accommodate the fact that subordinating coordinators are not permi-
ted to occupy lifts in this theory, but sometimes alliterate. These exceptions
force the validity of the three categories to be questioned. In the present study,
these categories are treated as unnecessary groupings of word classes, which
are themselves well-established linguistic categories. The following subsec-
tions will highlight the dependence on analyses where primary stress is the
marker of metrical prominence, and identify the weakness in this approach.

2.2.1 The metrical status of particles
In order to problematise a Sievers-type analysis of OE verse, a small selection
of the word classes analysed in later parts of the present study (§4.3) are con-
sidered here according to their description by Bliss (1962), Kendall (1991)
and Momma (1997). Alliteration and prominence prototypically coincide with
nominals, while free functional morphemes appear to alliterate only rarely.
Bliss’s particles include inflected verbs (lexical, auxiliary and copular), sub-
donors, and pronouns in various inflections. The proclitics are prepositions

32
and conjunctions. Bliss further notes that there are particles, especially in verses, which alliterate in the first stressed position and are followed only by the stressed element upon which they are cliticised. These particles are all finite verbs not included in the list of auxiliaries. Here, he acknowledges “the finite verb must be stressed, even though it is not displaced from its normal position as a particle” (1962, p. 13). Neither a defence nor an explanation is presented, these counterexamples are simply to be ignored.

Fulk (1992) takes issue with the stress value of finite verbs given in Bliss, and notes “Bliss’s argument that many finite verbs… should not be stressed… is more difficult to justify when the verb alliterates… [t]his is perhaps the most controversial aspect of Bliss’s system” (1992, p. 59). A few examples follow showing the difficulty of establishing the status of these middle-ranking words. A problem arises, however, when trying to determine the preferred syntactic position of the verb, and how displacement is to be detected. Syntactic analyses of OE word order (e.g. Pintzuk, 1999; Johannesson, 2010) incorporate into their models the observation that the verb can appear in a variety of positions within the surface structure of OE indicative prose clauses. Verb-secondness is common but not necessarily preferred. With verbs and also with adverbs which frequently serve as sentence-level adjuncts, there are so many possible unmarked positions in the clause it is difficult to tell whether displacement has occurred.

Among the particles are included auxiliary verbs which are syntactically dependent on other verbs, but do not always occur together in OE, either in main clauses or auxiliary clauses (Mitchell, 1985; Pintzuk & Taylor, 2004; Johannesson, 2010). Bliss’s (1962) auxiliaries are modal: willan, sculan, magan, motan and durran, perfective habban and the pseudo-copula weorþan. An additional category of quasi-auxiliaries is postulated, wutun, onginman, hatan, letan and myntan. Cuman and gewitan are added to this category “when construed with a dependent infinitive” (1962, p. 9). Some of these are also used as independent verbs. Hoover (1985) is damning. In his view, Bliss “spends fifteen tortuous pages… on the stress of finite verbs and concludes, for example, that ‘As far as the auxiliary and quasi-auxiliary verbs are concerned, alliteration is only be to be taken as evidence that the verb is stressed when the stress is absolutely required by the meter’” (1985, p. 25). This conflation of wayward categories is one of several examples in Sieversian models where the connection between alliteration and primary stress is given primacy over confounding counterexamples by recourse to ad hoc solutions, and represents a considerable weakness in their core assumptions.

19 An exception is Beowulf 2717b seah on enta geweorc “looked upon the work of giants”, where there are two. I return to this example in subsection 4.3.7.
The status of certain non-elicl function words, such as subordinators, is also a key question if stress is to be the only indicator of metrical prominence as in Sievers-type systems. Lehmann and Tabusa (1958) argue that *op detach* 'until' should be considered to alliterate, which Sievers did not allow. They cite Beowulf 1740a, *op detach him on innam* | *op detach semninga* (Bliss, 1962) | 3E1, Kendale A (la) | E1 (III)), amongst those lines in which it would be obtuse to deny that *op detach* alliterates, as it occupies the strong position in the a-verse. They note also that there are cases where *op detach* does not affect alliteration or lift patterns such as Beowulf 644, *sige folca swæg* | *op detach semninga* (Bliss, 1962) | 1b; Kendale E1 (III) | C (I). As a subordinating conjunction, *op detach* only occurs clause-initially, so there is no question of its being displaced. This variable status for middle-ranking words occurs throughout the corpus, and is discussed in more detail in subsection 4.3.5. The divergence between the type classification in Bliss’s and Kendale’s system is an indication of the fractal nature of typologies when dealing with non-prototypical examples.

### 2.2.2 Certain adverbs and their uncertain metrical status

The ambiguous status of adverbs in previous studies requires a clear distinction. Bliss assigns “certain adverbs” (Bliss, 1962, p. 6) to the stressed elements category and other adverbs to the particles category. Subsequent authors have interpreted this distinction differently. For the purposes of this study a clear distinction was deemed to be necessary to distinguish those adverbs which behave metrically like adjectives, and those which do not.

Adverbs which are derived from adjectives by affixation retain their root stress and thus are categorised as stressed elements. This is confirmed in Bliss’s example of heavy verses, such as Beowulf 18b, *blæd wíde sprang*,23 where *wíde* is derived from the adjective *wíd*. However, in the same list, *éac* is included as an example of a stressed element in a heavy verse *líf éac geseceap* ‘life also’ [he] created *Beo 97b*.24 Bosworth-Toller (1898), has several definitions for *éac*, one of which is an adverb, but it cannot be considered the same type of adverb as *wíde*, which has an adjectival stem. This line is additionally troublesome, because it is quite clear from context that *gesceap* here is an inflected verb, the past singular of *gescyppan*, which should be considered a particle, not the noun *gesceap* ‘creation’. Klaeber (1922) and Jack (1994) concur on this point. It is impossible to imagine that Bliss was not aware of this, and yet he chose to use them as examples, not of stressed positions in context but

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20 Note that I follow most modern editors by considering *op detach* a single graphological word.
21 *'until within him | an amount of pride'. In OE, <f> and <y> are allographs.
22 *'victorious people’s noise | unij suddenly...’
23 *'glory widely spread’
24 *'life also created’
stressed elements as a category. What is more, this is immediately after giving the definitions. Even the most generous reader is forced to consider that there is some confusion in the determination of the status of particle. For the purposes of clarity, the present study classifies separates derivational adverbs and monomorphemic adverbs. Derivational adverbs are classified as having the same stress status as the word class from which are derived, and all monomorphemic adverbs as a separate category.

Some adverbs are either monomorphemic themselves, or are compounds of two or more monomorphemic adverbs, or so obscure in origin that they could not reasonably be analysed into non-adverb morphemes. These words belong to a word class which is fairly large, but does not admit new items readily. Kendall lists these non-derived adverbs from Beowulf as having “weak semantic force”, according to his terminology (1991, p. 33). These are complemented by the following exceptions, in which an adverb occupies the alliterating position in a b-verse.

4. a. nacod æt næde | swā hyt nō sceolde  
   b. nean ond feorran | þā nū hafast  
   c. þrītig þegna | panon eфт gewāt  
   d. nǣnig heora þohne | þæt he panon sceolde

Once the pattern of the alliteration has been established by comparing the a- and b-verses, it is impossible to deny, in at least example 4c, that the primary alliteration position is occupied by the common adverb þanon. Example 4d is perhaps more troublesome as there are three possible alliterating onsets in the a-verse, and two possible candidates for the alliterating position in the b-verse. Kendall (1991) puts the stress on þanon instead of þæt, even though þæt comes first, and neither word is displaced. Kendall’s analysis does not provide a strong defence for this choice. One assumes that in 4d, Kendall requires either the alliteration on þæt is to be considered incidental, or that þanon as an adverb should be considered more prominent for other reasons (§4.3.5).

The type of confusion shown in these middle-ranking words encouraged the development of a separate set of prosodic lexical categories in the present study, which is described in section 4.3. The distinction between the adjective-

25 ‘naked in battle | as it never should’
26 ‘[which] from near and far | you now have’
27 ‘thirty thanes | thence after departed’
28 ‘none of them thought | that he thence would…’
like DERIVED ADVERBS and the idiosyncratic COMMON ADVERBS used in the present study is discussed in the same section.

2.3 OE Verse Design

Verse design, in the terms of Jakobson (1960), is the underlying set of principles which create verse instances. Old English verse texts may be considered collections of examples of verse instance. From these instances, verse design can be induced. Following Fabb (2015), the present study begins with the assumption that in OE the basic metrical unit is the long line. This represents a deviation from the earlier assumption that the structure is built up of verses, or half-lines, which has informed almost all the studies mentioned in this chapter. There are some recent exceptions, however. Creed (2004) notes that “Received wisdom has it that the Beowulf poet put together his poem halfline by halfline… we can begin to understand how the poet composed his tale, clause by clause, only if we turn our attention to the whole lines in which he told the story” (Creed, 2004, p. 214). Despite the attraction of this viewpoint for considering how poets composed verse, this perspective has not had a significant influence on the study of OE metre in the abstract.

A typical general introductory text for OE will include a brief treatment of the typical features of the verse, usually accompanied by an example line of 8 syllables, as a prototype, as in example 5, taken from Mitchell and Robinson (1999, p. 161), with stress marking added.

5. rād and rǣdde, | rincum tǣhte

This example features a line composed of four verse feet, each of which is a syllabic trochee. A verse comprising two trochees is considered the most common and least marked arrangement of stresses. The notion that the verse must consist of a minimum of four syllables, the FOUR-POSITION PRINCIPLE, is a significant metrical requirement, dating to the earliest descriptions; these positions are usually associated with syllables (Stockwell & Minkova, 1997; Terasawa, 2016; Minkova, 2003). In example 5, a pattern is shown where stressed and unstressed syllables alternate, and this has been taken to be an important metrical principle as well. The arrangements of stressed and unstressed syllables have been described by Sievers (1893 et seqq.) as belonging to five acceptable sequences which underlie each verse (or half-line). These are ordered by frequency as A–E (§2.3.2). The principal effort of the study of

29 ‘rode and counselled, | taught the soldiers’
OE verse within the Sievers paradigm by e.g. Bliss (1958, 1962), Kendall (1991) and others has been to refine and reorder the categories of these verses with reference to the formulaic phrases these prototypes represent.

The stress criteria were built on earlier attempts to describe the metre in terms of quantity. For Rask (1817), “Verselinernes længde er ikke her saa nøje bestemt... det eneste som i Angellsaksisken har Indflydelse paa Versemalet synes... at være de lange eller betone de Stavelser... med enhver ad disse følger gjerne en eller to korte undertiden flere” (1817, p. 112). Conybeare (1826) argues with Rask’s rather tighter system, voicing his suspicion that “the good barbarians were content if their verse had rhythm enough to be sung, and alliteration enough to strike the ear” (1826, p. xv), and suggests only an underlying series of beats. The argument that the verse design is mainly impressionistic and based on a simple underlying pattern is a tempting one, and has informed studies by Heusler (1891), Pope (1942), Creed (1966), and in my view partially underlies that of Halle and Keyser (1971). The theories of verse design which predate and inform the present study are principally based around the relationship between alliteration, metrical prominence and word classes, following an analysis originally developed by Sievers (1893).

2.3.1 Sievers’ model is thorough but limiting

All studies of Old Germanic metrical systems ultimately rely on the work of Eduard Sievers (1850–1932). On most questions on the subject it is not necessary to look further back than Sievers, and on some he can be said to have had the last word, later scholars in the field are relegated to trimming and polishing his theories to account for minor variations in the data. By reviving interest in Sievers’ system, Bliss created a lasting tradition of trying to square the circle of applying a Sievers-Bliss typology to a mass of unruly data, while attempting to refine the theory to make it more accurate or efficient. The most successful development of the theory is by Cable, who reformulates the types as variations of an underlying stress contour (e.g. 1970, 1971a, 1971b, 1972, 1974, 1991). This approach has also inspired further studies. Fulk (1992) observes “that the considerable majority of recent metrical studies have employed [Bliss’s] system does not mean that it is correct... the most convenient of its advantages is its allowance of very little ambiguity of classification, coupled with great subtlety and variety of classificatory types. This latter quality

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30 “The length of the verse line is not particularly strictly established... the only thing which influences the Anglo-Saxon metrical forms seems to be the long or stressed syllables... these are accompanied by one or two short [syllables] and occasionally several [more].” my translation.
is at points taken to extremes, so that the system is in some respects hyperanalytic” (1992, p. 54). Fulk nevertheless relies heavily on Bliss’s system for his own analysis.

Sievers’ system is based around a typology comprising five acceptable verse types which represent stress contours, orders of stressed and unstressed positions. This analysis has resisted much critique, but the underlying assumptions have remained the central theme in modern study, mainly through the lens of Bliss’s treatment of Beowulf which refined and developed the theory. Stockwell (2002) notes that most modern theorists, “profess to be fully Sieversian in all but rather minor details” (2002, p. 241). It is certainly necessary to account both for Sievers’ findings and his generalisations. Such a dominant and apparently useful theory cannot be dealt with lightly.

Critics of Sievers (e.g. Russom, 1998; Golston & Riad, 2003b) have noted that his analysis leans too heavily on resolution and anacrusis to explain the fact that most lines do not have 8 syllables. Resolution is the means by which two syllables can be counted as one for metrical purposes under certain prosodic circumstances, a process which can also be suspended under other prosodic circumstances. Anacrusis is the means by which unstressed syllables to the left of a prosodic head can be discounted for metrical purposes. Both of these processes are governed by complex rules, and in the opinion of the critics amounts to ignoring syllables in order to crowbar deviant lines into the typology. The problems caused by these metrical functions inform the reorderings of the typology which underlie many of the metrical studies of OE from the 20th century (e.g. Bliss, 1958; Kendall, 1991; Hutcheson, 1995).

It is rarer that critics question the value and purpose of the typology. This project does not comment on the validity of the Sievers types as a descriptive formula but questions the psycholinguistic likelihood of their being used in composition. In addition, the use of mixed metres, particularly metres which are combined arbitrarily, is not found in ancient verse forms. In classical verse, the caesura is used to divide a line into two equal half lines, with a very small number of possible variables which deal with deviance from this generalisation, such as allowing a single syllable of anacrusis after the caesura (Dale, 1950). Nevertheless, it is essential to deal with the principal assumptions and conclusions of Sievers not only to gain a sound understanding of the sort of variation his system describes but also to identify its strengths and weaknesses in relation to specific research goals.

Circularity is a regrettable part of Sieversian study but one which some scholars within the tradition recognise and attempt to address. Circular reasoning is a logical fallacy which begins with conclusions which allow the observations to be made in a way which demonstrates that the conclusions are true. All
studies start with assumptions, and often those assumptions inform both the hypotheses and the conclusions, but so long as those assumptions are justified, this does not necessarily weaken the argumentation. Fulk (1992) argues that it is not necessarily a bad thing for an argument to be circular so long as the circle is large enough to accommodate enough evidence. I cannot agree. A large circular argument is distracting and impressive enough to look less ridiculous than a small one, but a formal fallacy cannot be changed by the scope of the argument. A study which is designed to demonstrate that Sievers’ typology is correct by accepting its assumptions and applying it to Beowulf will always succeed. All the scholar is doing is repeating the final part of Sievers’ analysis, without going through the presumably painstaking initial phases in which he consulted in great detail the texts which were available to him in order to make his generalisations. This does not, of course, mean that the observations or conclusions are unsound, only that the argument structure is invalid. This circularity occurs anew whenever authors attempt to justify Sievers’ analysis by reference to Beowulf.

Sievers-like systems account for variations within the line, but do so inefficiently and without being readily reducible to a small set of principles. This both makes the analysis difficult to incorporate into studies based on other analytical methodologies and invites a re-examination of its underlying assumptions. In the present study, some of the features of a Sievers-like typology are shown to be preferences generated by emergent properties dependent on a basic set of linguistic operations. The following two subsections address the two key problems when attempting to adapt Sievers typology to studies within a generative framework.

2.3.2 Sievers’ Five Types do not describe unacceptability

Sievers’ Five Types system is a method by which the acceptable forms of verse lines may be categorised. However, the system does not have any overarching theoretical grounding, nor are there any criteria for what makes an arrangement of syllables unacceptable as an OE verse. Following Rask (1817), Sievers establishes the four prominent syllables as permanent anchors of the line, which then allow the line to be divided, “the standard half-line falls into four, more rarely five, glieder. Two of these are given special emphasis and raised above the rest of the verse”, the syllables of the rest of the verse “receive only weak emphasis” (1968, p. 271). These weak sections are “grammatically and metrically unstressed or unaccented... forming light depressions or falls in the verse” (1968, p. 271). Generally, the lifts are stressed and the drops

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31 Translations of Sievers’ hebung and senkung differ. Lift and drop, from Bliss (1962), are more common and used throughout the present study. Bessinger and Kahrl (1968), from whose
are unstressed, however the notion of secondary stress cannot be ignored. “If a grammatical secondary stress stands alone in a two-part foot next to a rise, it is overshadowed by it and functions as a fall” (1968, p. 271), the corollary being that a secondary stress adjacent only to unstressed syllables should occupy a lift. Sievers further asserts that “the syllable bearing secondary stress is felt as a kind of weaker rise in contrast to the unstressed fall” (Sievers, 1968, p. 271), but the cautious tone of this expression should be considered a speculation or an opinion rather than a principle underlying his categorisation. Considering this, the prototypes are shown in Table 1 below. They are given in order of how frequently they occur, according to Sievers’ statistics.

Table 1. Sievers’ Five Types (adapted from Sievers, 1968, p. 272).

<table>
<thead>
<tr>
<th>Type</th>
<th>Stress Pattern</th>
<th>Metrical feet (approximation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>/ x / x</td>
<td>trochee: trochee</td>
</tr>
<tr>
<td>B</td>
<td>x / x /</td>
<td>iamb: iamb</td>
</tr>
<tr>
<td>C</td>
<td>x / / x</td>
<td>iamb: trochee</td>
</tr>
<tr>
<td>D</td>
<td>/ : / \ x</td>
<td>stress: antibacchius</td>
</tr>
<tr>
<td></td>
<td>/ : / x \</td>
<td>stress: cretic</td>
</tr>
<tr>
<td>E</td>
<td>/ \ x /</td>
<td>antibacchius: stress</td>
</tr>
<tr>
<td></td>
<td>/ x \ /</td>
<td>cretic: stress</td>
</tr>
</tbody>
</table>

In Table 1, five abstract prototypes of verse structures are presented, two of which have subtypes. The colon here represents a foot boundary within the verse, while primary stress is represented by a forward slash /, secondary stress by a back slash \, unstress by an x. For Sievers, only primary stress may constitute a lift, but two adjacent drops can be distinguished if one features secondary stress. According to this theory, each foot must contain a primary stress. If a foot only contains a primary stress (no unstress), then the adjacent foot within the verse must contain a secondary stress as well as a primary stress and unstress.

The stress patterns shown in Table 1 allow for a distinction to be made between types with two equally sized feet; A, B and C (pattern 2+2) and unequal feet D (pattern 1+3) and E (3+1). Unequal feet have a secondary stress. These shown a preference for binarity. There is also a preference for clash avoidance.

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32 The approximate translation into Greek metrical feet is for ease of reference, and to show distinctions, rather than a theoretically defensible set of definitions. The heavy/light distinction for which this foot analysis was developed is not really applicable to Germanic verse.
shown in A and B, the commonest types. Bredehoft (2005) notes that the left-headed A, D, and E verses show a greater incidence of double alliteration than the right-headed B and C verses. The order suggests that binarity, left-headedness and clash avoidance are preferred, but relatively little about how they interact. These categories for acceptable verses have an important status in many studies, but the theoretical basis for their existence is understudied. The corollary claim must be that if acceptable verse types exist, unacceptable types must also exist.

The remaining possible sequence, a heavily right-headed *Type F: {x x / : /}
is not explicitly excluded by Sievers. Philologists of his time concentrated their attentions mainly on categorising and describing data, rather than theorising, so explaining why some types are allowed and others are not would not have been considered a significant factor. Successive studies (e.g. Bliss, 1962; Kendall, 1991) have not engaged this question either. The closest to considering this issue is Bredehoft (2005) who expands the number of basic types to 7, adding the right-heavy subtype A3 xx/ : \ (Bredehoft, 2005, p. 16). He also discusses the maximum length for anacrusis in certain types and notes that there is no theoretical limit on the length of certain drops. Cable (1971b) associates anacrusis with verbal and negative prefixes, and thereby limits anacrusis to two syllables and forbids it before E-verses. Bredehoft (2005) notes that there is no explanation for these constraints within a Sieversian formalism. For modern studies, however, a system where five metrical arrangements of a possible six are accepted and the remaining one is ignored fails to account for those underlying factors which determine acceptability.

A further problem with using Sievers’ system to discover underlying similarities between the types is the fact that very few verses conform to the prototypes. Variance within the prototypes is also part of Sievers’ original analysis. One accounts for multiple stressed items in close proximity, “if two syllables with grammatical stress appear in succession, then it is possible for the second, even if a single short one, to carry the rise” (Sievers, 1968, p. 272). A perhaps more central principle is that a drop may consist of any number of unstressed syllables, so that “a syllable of any quantity which is grammatically unstressed… is sufficient to constitute a light fall, but several of such syllables may also occur together… Every such series of grammatically unstressed syllables which is not broken by a stronger grammatical secondary stress is counted as a single fall” (Sievers, 1968, p. 272). Sievers’ generalisation that drops can be any length is in my view a result of the perceived necessity to incorporate Old Saxon data into his general treatment of Old Germanic stress (§7). One of the most interesting points Bredehoft (2005) makes in criticism

33 The sixth type is addressed by Suzuki (2007) who suggests that some A3 lines should be considered as representative of a sixth, right heavy, type.
of Sieversian formalism is the fact that verses which have basically the same structural form are scanned as belonging to different prototypes because of their alliteration pattern. This and many subsequent deviations from the Sievers prototypes by other authors represent a form of tinkering with the model. These many minor and necessary adjustments make Sievers-like systems increasingly complex depending on how much text they need to accommodate.

2.3.3 Subtypes proliferate when closely examined

According to Cornelius (2015) “[t]he great bulk of work within Sieversian metrics has been directed into cataloguing and tabulating the various unique combinations of long, short, stressed, half-stressed and unstressed syllables that actually occur in Old English verse—the Five Types and their forest of subtypes” (Cornelius, 2015, p. 460). It could be argued that it is this forest that has been the principle object of study since Sievers.

Scholars who begin with the intention of reducing the complexity of the types inevitably have to decide which aspects of the system shall be more complex in their stead. Despite a thorough treatment of all the lines and structures in Beowulf, Kendall (1991) fails in reducing the complexity of the system as developed by Bliss, and rather presents a streamlined analysis based on the same fundamental principles with a little adjustment. He notes that he started with the intention “of reducing to a neat system... the seemingly endless varieties of rhythmic possibilities in Beowulf—so different from the regular accentual rhythms of so much of later English poetry as well as from the precise quantitative measures of classical verse. That goal now seems to me to be a will-o’-the-wisp” (Kendall, 1991, p. x). Similarly, Hutcheson (1995) doubts the psycholinguistic plausibility of the types system once the notion of acceptable subtypes is established, commenting that “It is clearly unlikely that an Anglo-Saxon poet could have memorized the rules governing Bliss’s 120 or so metrical patterns or Kaluza’s 90 or so patterns; there must have been some simpler principles involved” (Hutcheson, 1995, p. 1). On the same page, however, Hutcheson offers the rule “combine any long-stemmed dissyllable with any other long-stemmed dissyllable” (Hutcheson, 1995, p. 1), a rule with no basis in phonology and cognitively inexplicable even if it was expressible in Old English. For Hutcheson (1995), the types proliferate to over 500. It must be concluded that his original suspicion about the psychological implausibility of memorising large numbers of acceptable types of half-line evaporated under the pressure of the apparent need for a typology to organise the data.

2.3.4 Line length variation is poorly explained by syllable count

OE poems are usually edited and analysed as pairs of verses, and very few of the models described so far have had much to say about the structure of the
long line. It is usually considered little more than a frame in which pairs of verses can occur. In Sievers, a line is claimed to be marked by four primary stresses. With the definition provided, Golston and Riad show that, in Beowulf, a disappointing 57% of lines have four primary stresses according to their definitions (Golston & Riad, 2003b, p. 8). Golston (2009) further shows that the Beowulf poet never pairs metrically identical verses within a full line, but that metrically identical verses can be adjacent across line boundaries. This finding indicates that Beowulf metre, and by extension Germanic meter in general, regulates every syllable. This is consistent enough in Beowulf that the term ‘Golston’s Law’ hardly seems excessive. Golston notes that there are 6 lines in Beowulf which provide counterexamples to this generalisation, and he gives a statistical defence to demonstrate that these examples are insignificant outliers. Outside of Beowulf, however, repeating syntactic structures can be found which would seem to require repeating patterns across the caesura, such as in example 6, where the repeating structure is clearly deliberate.


Hēr bið feoh lǣne, | hēr bið frēond lǣne,
. . . : . . . : . . . . .

hēr bið mon lǣne, | hēr bið mǣg lǣne

Wan 108–109 34

Although the stress conditions are duplicated in these verses, both across verse boundaries and line boundaries, it should be noted in light of Golston’s other work in this area (Golston & Riad, 2003b), that there is a vowel quantity difference between the a-verses and b-verses.

It is frequently the case that generalisations which are made about Beowulf cannot be extended to other OE poems and this seems to be one of them. Counterexamples occur in Genesis A at approximately Golston’s expected value of 1 in 36 lines, with the first three instances shown in example 7.

7  . . . : . . . : . . . . .

a. hēafod ealra | hēahgesceafte, Gen 4 35
. . . : . . . : . . . .

b. hellehēafas, | hearde nīðas. Gen 38 36
. . . : . . . : . . . .

c. wǣrleas werod. | Waldend sende Gen 67 37

34 ‘Here is wealth fleeting | here is a friend fleeting || here is man fleeting | here is a kinsman fleeting’
35 ‘head of all | exalted creatures’
36 ‘hell-pangs | hard afflictions’
37 ‘faithless band. | The Lord sent…’
In these examples, there are sometimes quantity differences between the verses and sometimes not. In any case, it seems that Golston’s Law does not apply to *Genesis A*.

Because of these counter-examples to Golston’s (2009) claim, a constraint requiring that there be a metrical disjunction across the caesura was not incorporated into the model presented in chapter 4. However, Golston’s findings have some application to the status of the syllable. This apparently deliberate feature of the line structure allows Golston to identify weaknesses in theories which focus on the verse as the main object of study. Whether or not it applies across the corpus, the evidence from *Beowulf* is enough to show that syllables are being regulated and that inconvenient syllables should not simply be ignored. He notes that “theories that ignore pre-tonic syllables (Bliss, 1958), syllables that occur in prefixes (Russom, 1987), stressless syllables in general (Keyser, 1969; Fabb and Halle, 2008), or stress in general [(Golston & Riad, 2003b)] cannot account” for this distribution (Golston, 2009, p. 105). This finding, along with the observation that most theories of OE verse ignore some syllables in an attempt to corral unruly data into a small set of categories, suggests that there is something controlling the structure of the verse line which has not fully been explored.

The length of the verse line has been explained in terms of the pairing of verses which have a minimum of four syllables, or positions which require at least one syllable. Hoover’s (1985) statistical analysis of *Beowulf* reinforces this four-syllable minimum constraint for the verse with “the fact that there are 2052 four-syllable verses and only 29 3-syllable verses in Beowulf” (1985, p. 60). These are ambiguous however, changes in the phonology of some words allow for variation in the interpretation of individual subminimal lines. Fulk notes that “there is virtually no evidence for three-position verses in *Beowulf* that do not involve tertiary stress… [nor any] that can be said unambiguously to contain just three syllables” (Fulk, 1992, p. 185). Terasawa’s treatment is based primarily on *Beowulf*, but does include some examples of forms which are not present in that poem, including deviant verses. He shows that verses which appear only to have three syllables can be modified by systematic reference to phonological and morphological changes during the OE period and, if given their older forms, before contraction or syncopation occurs, are shown to have the minimum four syllables after all. The notion of a minimal line is implied in all these studies, but the notion of what constitutes a maximum line in OE verse has not been a focus of many studies. Bredehoft’s (2005) analysis does address verse length to some extent, based on Russom’s word-foot principle. Bredehoft (2005) allows for two different verse forms, a shorter “classical” metre, and a more expansive “later” metre, which then goes on to inform the alliterative revival. None of these studies provide a strict means of either
describing or controlling line length outside of allowing for extra syllables to be inserted.

2.3.5 Vowel quantity accounts for line length variation

In Sievers, the addition of a quantitative element provides flexibility for what is essentially a syllabic metre. Quantitative analyses of OE metre in the classical paradigm have had a negligible effect on scholarship (Stockwell & Minkova, 1997). However, Golston and Riad (2003b) demonstrate, as part of a study of Beowulf, that if only the vowels are counted, 98% of the lines of Beowulf can be shown to have between 8 and 16 moras. They thereby propose a line length constraint based around 8 bimoraic feet using metrical phonology as a model. This view of OE syllable weight is in contrast to Campbell (1959) and Lass (1994) who classify VC syllables as light and VCC syllables as heavy. Discounting codas entirely in a quantitative analysis of a poetic system has some precedents; Banti and Giannattasio (1996) show a similar phenomenon in Somali religious poetry based on Arabic metre. They discuss that while both Classical Arabic and Somali count codas when determining syllable weight in prose, a modification is made to adapt Somali to Arabic metres, whereby only vowels are counted. This leads to syllables with short vowels and codas being counted as light along with syllables with short vowels and no codas. This modification creates a more balanced and flexible inventory of syllable types, while requiring a change in only one syllable type. In OE, a similar approach is advocated by Golston and Riad (2003b), with the proviso that, as only the vowels are counted, the distinction between VC and VCC as presented by Lass (1994) is also removed, and VCC becomes a variant of VC.

The concentration on vowel length alone has no basis in the phonology of the Germanic languages nor their neighbouring languages at any point in history. This makes their analysis speculative at best and indefensible at worst. Goering (2016) makes an attempt to demonstrate the irrelevance and inadequacy of Golston and Riad’s (2003b) analysis, noting that although the sample is adequately accounted for by their analysis, “the exclusion of consonants is arbitrary and at odds with the phonology of the language” (2016, p. 7). Judgement on this point has to be suspended if Golston and Riad’s model can be shown to account for the data, although using this model creates an assumption about the metrical value of the syllable which needs to be justified or modified later.

Goering’s (2016) second and more substantial objection is that Golston and Riad’s (2003b) model overgenerates, in that it allows for sequences of heavy and light syllables in sequences which can be shown not to occur in Beowulf by Bliss (1962). This sort of negative evidence is useful and common in
Sieversian studies, but it is in itself a speculative measure. The logic is as follows:

Major Premise: The metrical system allows some patterns and forbids others.
Minor Premise: Some patterns are not found.
Therefore: Patterns which are not found are systematically forbidden.

This abductive methodology is found throughout Sieversian studies and is useful as a means of exploring theoretical questions where there is a lot of very variable data and little obvious structure. However, this approach is heavily dependent on other parts of Sieversian theory which are also questioned in the present study and are not sufficiently compelling to abandon useful means of collecting and analysing quantitative data such as that provided by Golston and Riad (2003b). Goering’s (2016) study would not have been supported by Golston and Riad (2003b) anyway, as it is a rather traditional analysis of particular historical phonological changes following Bliss (1962), Cable (1974) and Fulk (1992).

A discussion of the distribution of the lengths is not a major part of Golston and Riad’s (2003b) argumentation. However, the current project relies heavily on a similar analysis focusing on the frequencies of the lengths of lines in vowel moras and their distribution around an average. These figures confirm that whatever is causing lines to be restricted to certain lengths, it can be expressed in terms of vowel moras, even if that value is not the ultimate phonological or psycholinguistic cause of the restriction.

The evidence from Somali verse gives an example where a metre has been developed based on vowel mora count to adapt a verse design to a new phonology. The Somali evidence also demonstrates that it is possible for a quantitative poetic tradition to measure weight differently from the rest of the language. Within the crosslinguistic typology of metrical structures a system which uses quantity to determine the length of the foot, but determines the number of feet by stress criteria can be considered a mixed system, or to have a double metrical structure (Arout & Arleo, 2009).

2.3.6 Hypermetric lines have rarely been accounted for

The structure of the standard line of OE verse is occasionally thrown into sharp relief by the presence of hypermetric lines. These lines retain the same prototypical alliteration pattern AA|AX, but are swollen by the addition of additional words, including stressed elements, which do not alliterate. In example 8, a standard line is shown in contrast to a hypermetric line.

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38 Where A is an alliterating lift and X is a non-alliterating lift.
8. Iacob of grēote | to godes gehinge,  
  snēome of slēpe þām fæstan | Hēt hēc tō þām sīde gyrwan,  

*Andreas* 794-795

*Andreas* 794 is a standard line, with four prominent positions, the first three of which are marked by alliteration, on *G-/J-*\(^{40}\), with a fourth unalliterating position. The *ge-* prefix in *geþinge* ‘presence’ is not included in the alliteration, which falls on the root syllable *-þing*. *Andreas* 795 is a hypermetric line whose a-verse has two alliterating positions and a third, unalliterating nominal. The b-verse contains a long string of grammatical items, and one alliterating position which is followed by a further nominal. In both instances, the alliteration generalisation is met, that two points in the a-verse should alliterate with one in the b-verse. However, in 794a, alliteration is not attracted to the (presumably) primary stress on *fæstan*.

Hypermetric lines were considered an important part of earlier studies, including Sievers (1887), but have been excluded from some subsequent studies as a confounding factor. Bliss provides a summary and analysis of all hypermetric lines in the corpus which he could identify, noting that “hypermetric verses have a number of peculiarities of distribution which can easily be explained in terms of the principles which apply to ordinary verses” (Bliss, 1962, p. 91). He adds that “according to Sievers, the hypermetric verse is equivalent to the running together of two ordinary verses” (Bliss, 1962, p. 88), but this is one of the aspects of Sievers which Bliss overturns. Bliss describes the hypermetric line as being a standard line extended by replacing the “final syllables of the ordinary verse… by a longer sequence” (1962, p. 89). This is defended by a satisfyingly plausible analysis which is demonstrated separately for each example. Golston and Riad (2003b) explicitly exclude hypermetric verses in their quantitative analyses of *Beowulf*, while other studies, including Hutcheson (1995) and Getty (2002) simply fail to mention them. Hartman (2010) notes that later book-length studies of OE verse, including those named earlier in this chapter, often overlook hypermetricity, and those which have addressed them focus on stress and alliteration. However, it should be expected that once an analysis for the standard lines is in place, the analysis for the hypermetric lines must follow elegantly from it, or one may conclude that the analytical system is flawed or limited in its scope. Studies which account for the standard line, but do not address the hypermetric line, should be considered weaker.

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\(^{39}\) ‘Jacob [to arise] from out of the earth | and into the presence of God, || quickly to leave their deep sleep. | He commanded them to prepare for their journey’

\(^{40}\) One of the provisos of the alliteration system mentioned above is that the voiced velar stop [g] in *godes*, alliterates with a voiced palatal approximant [j] in *Iacob*. In *Iacob*, the spelling is borrowed from Latin and the initial <I> represents a consonantal /j/. The cluster <gr> can be shown to alliterate with <g> (Minkova, 2003).
than those which address both types. Hypermetric lines are discussed further in subsections 2.4.1 and 4.2.4.

2.3.7 Old English verse design and Optimality Theory

Attempts to address the interacting linguistic processes which produce OE poetry have been confounded by the incompatibility of the models used for the theoretical analysis of syntax and metre (i.e. Pintzuk, 2001). The models of OE syntax based on phrase structure grammar including those developed by van Kemenade (1987 etc.) and Pintzuk (1999 etc.) rely on a set of grammatical rules applied sequentially which are designed to represent an approximation of underlying mental operations, whereas the metrical system presented by Sievers is a categorisation of common surface features.

Optimality theory (Prince & Smolensky, 1993) is a model of generative grammar in which the surface structural phenomena of a language are explained as an emergent property of a set of interacting constraints. These constraints represent choices of how an underlying form of a linguistic object (e.g. a sound, word, or phrase structure) is rendered into a surface form. The input is subjected to a generative process (GEN), which allows for an infinite set of candidates to be considered as possible outputs. The constraints (CON) are universal across languages, strongly expressed and violable. Languages are distinguished from one another by the order of their constraints, and any ordering of the constraints may be considered a grammar. The candidates are compared and evaluated (EVAL) according to the constraints. This process identifies the optimal candidate, which becomes the actual output. The formulation of constraints and the ranking system means that OT is flexible enough to be used to motivate any linguistic choice. There has been some expansion into Optimality metrics and Optimality syntax in recent decades, giving a set of established constraints which can be combined in any order. The ordering allows for constraints to be violated in particular circumstances by other constraints, which can then account for a large variety of extant features. The constraints can cover subconscious grammatical preferences and explicit stylistic choices, including syntax, intonation, word choice, and even the abstract metrical structure established by verse design.

2.3.8 Metrical Phonology and OT

Metrical phonology (e.g. Liberman & Prince, 1977; Hayes, 1980, 1989, 1995; Halle & Vergnaud, 1987) is a model for describing the hierarchical relationship between prosodic structures. Incorporating metrical phonology into an Optimality analysis, Kager (1999) specifies three of the interacting forces which contribute to the formation of metrical patterns. These are "rhythm" (the pressure toward regularly alternating distributions of strong and weak syllables),
quantity-sensitivity (the pressure to match syllable weight and prominence), and edge-marking (the pressure to mark the edges of morphological domains by strong syllables)” (1999, p. 142 original italics). These three factors are incorporated into Sieversian studies, but not as independent operators. Once these are teased apart by a metrical phonological analysis, the surface structures can be derived by recombining constraints using OT. According to Kager (1999) “word stress patterns stand out as being typically governed by conflicting forces, as was recognized in studies in pre-OT metrical phonology” (Kager, 1999, p. 142). OT can therefore be used to express efficiently the aspects of metrical phonology which are being investigated, and to incorporate observations from previous scholars, while side-lining other aspects not relevant to the problem at hand.

There is some comparable work in other languages, however. Hanson and Kiparsky’s (1996) parametric theory of poetic metre as applied to Finnish, which they comment on as “unprecedented in the literary tradition” (Kiparsky, 1996, p. 287), bears some similarity with the analysis presented here. Several of the well-known conditions they report for the Germanic-influenced rules for Finnish are similar to those which are used here to describe OE. “The structure parameters, NUMBER OF FEET and HEADEDNESS, are formally independent of phonological structure. They determine straightforwardly the familiar properties of line length, and whether a meter is rising (right-headed) or falling (left-headed)” (Hanson & Kiparsky, 1996, p. 289). These features are expressed in the generalisations presented in section 4.2.

A model combining metrical phonology and OT (e.g. Hyde, 2001) addresses metre as a rhythmic phenomenon based on the relationship between adjacent metrical positions which can be encoded as either strong or weak. In the present study, pairs of strong and weak metrical positions are shown to form a metrical structure. These metrical structures can be occupied by prosodic structures with stressed or unstressed syllables. This approach is used in the present study to describe the hierarchical relationship between phonological objects and the metrical structures they occupy. However, in the present study, a distinction is made between prosodic structures and the metrical structures based upon them. It is shown that while prosody and metre are equivalent and frequently congruent, the verse foot and the prosodic word do not always overlap exactly (§4.2). OT is used to express both the constraints addressing prosodic word formation, and a separate set of constraints addressing metrical line structure.

2.3.9 Optimality syntax

In order to take the first steps to describing the interaction between metre and syntax, a compatible way of looking at both aspects of the language function
is necessary. At the time of writing, only Optimality Theory is sufficiently powerful, broad enough in its application and simple enough in its representation of mental operations, to cover both phonology and syntax using the same broad analyses. Optimality syntax began shortly after Prince and Smolensky’s (1993) framework was developed. However, it has not been as broad-ranging or influential as Optimality phonology. The approach to OT syntax in the present study is taken mainly from Mueller (2011) which address general questions as well as the status of subjects and clitics. A longer treatment by Legendre, Grimshaw and Vikner (2001) provides solutions to further minor problems. While OT syntax was developed to resolve conundra in the formal representation of syntax, the fact that the constraints are formulated as OT constraints means that they are compatible with phonological constraints and can in theory be arranged in any order regardless of their domain of influence.

The OT syntax of Legendre, Grimshaw, Vikner and colleagues is based on the binary branching structure common to grammatical analyses derived from the Principles and Parameters model (Chomsky, 1981), and is compatible with analyses of OE prose syntax including Pintzuk (1999) and Johannesson (2010). The present study does not provide an extensive syntactic treatment, but some of the findings relating to the prosodic structure of phrases have an impact on constituent order.

2.3.10 Verse Design Summary

Old English verse follows a set of metrical rules which conform to a paradigm of Germanic verse also found in medieval Icelandic, Scandinavian and German verse traditions. Each OE text conforms to a specific and apparently simplistic verse design with the following principles, which all the scholars discussed in this chapter consider uncontroversial. There are no stanzas. The LINE is the largest metrical unit. Each line is divided into two VERSES. Each verse must feature two STRONG POSITIONS (S), which are identified by metrical prominence. Strong position prototypically feature a word from an OPEN CLASS. Word in strong positions are marked by ALLITERATION. Any syllables in a verse foot which are not strong are WEAK POSITIONS (W). Other points, which may be more controversial, include the observation that lines are not congruent with sentences, but that verses are congruent with syntactic phrases. The exact nature of the metrical position, however, is a highly controversial and disputed point between authors.

Using metrical phonology as a framework, a structure emerges in which levels of the metrical system can be adduced from the phonological objects which occupy them. The structure in Figure 3 is based on Golston and Riad’s (2003b) abstraction of the line of Beowulf. Metrical positions are indicated with (m).
In Figure 3, the metrical structures are shown with reference to the prosodic structures to which they are roughly equivalent. The alliterative line is shown to be divided into two verses. Each Verse is divided into two Verse Feet (VFt) which comprises two metrical positions. Alliteration binds Verse Foot 3 to a Verse Foot in Verse 1. The principal question left to answer once this structure is established is the nature of the positions, and how closely they match the notion of the phonological foot or the components of the prosodic word in Old English phonology. This interpretation of the prosodic hierarchy is used to describe the verse structure in the present study, and there is shown to be close matching between prosodic and metrical structures in prototypical lines. However, it is also shown that disjunctions between the PrWd and the Verse foot on one hand, and between the phonological foot and the metrical position on the other, are common, and contribute to metrical complexity.

2.4 Ways of considering Beowulf

Almost every substantial treatment of Old English metrical structure has relied entirely or primarily on data retrieved from Beowulf (e.g. Pope, 1942; Bliss, 1958; Creed, 1966; Cable, 1974; Hoover, 1985; Kendall, 1991; Suzuki, 1996; Russom, 1998; Getty, 2002; Yakovlev, 2008). However, Beowulf has no obvious special characteristics which grant it this central status in the metrical study of OE. Fulk (1992) goes so far as to claim that, according to his observations, “Beowulf is metrically, in some respects, the most anomalous poem in the corpus” (1992, p. 186). This question of typicality may or may not be relevant depending on the scope or objectives of a particular study. Nevertheless, as early as 1991, “Tom Shippey remarked that it would be good for metrics and philology if work on Germanic were to appear that did not take the metrics of Beowulf as its prime object” (McCully, 2000, p. 188). With this in mind, no selection from Beowulf is included in the corpus for the present study. However, the inclusion of Andreas and Genesis was intended partially to compensate for the lack of Beowulf; as “Andreas… is frequently said to be closest to Beowulf in style. And yet metrically Beowulf is more like Genesis A
than Andreas,” (Fulk, 1992, p. 36). In the present study, a focus on a selection of less-studied texts was considered more likely to reveal new findings and address unresolved questions than further study of Beowulf.

In the studies above it is sometimes explicitly stated, sometimes assumed, sometimes implied, sometimes denied, but absolutely never demonstrated that an analysis of Beowulf can be expanded to cover the rest of the verse texts from the period. Looking only at Beowulf allows for the development of specific rules which account well for the majority of the lines of that poem, but can have limited application in precise analyses of other poems. Nevertheless, studies drawn wholly or primarily from Beowulf not only provide good rules of thumb for studying OE verse in its generality, but also allow unjustified assumptions and dubious techniques to be uncovered, and used as cautionary tales. Some of these assumptions, techniques and tales are discussed in the rest of this section.

2.4.1 An Optimality treatment of Beowulf

Getty (2002) represents the only serious attempt to date to render a description of Old English verse with Optimality Theory phonology, and is the previous study most similar in its aim and theoretical basis to the present study. Like some earlier studies, Getty relies heavily on the notion that the prototypical verse is also the shortest, with four syllables. To enforce this, Getty develops constraints to produce verse feet of two syllables each, which are allowed to expand to three to accommodate remaining single syllables. In addition, Getty postulates an underlying trochaic metre which is perceptible in each verse at various levels of abstraction. Each foot has high-ranking constraints which oblige left-headedness and force a two-syllable foot in most instances, and allow a three-syllable foot in constrained circumstances. This means that verses with six syllables or more have three feet, of which one is headless. So a verse like ic pe heos leas geman (Beo 1220b), in which the alteration is on \(<\)l>, is scanned with three feet, 5WW/5WS/S\(^n\) (Getty, 2002, p. 14), with ic taking a stress for the sole reason that it is on the left boundary of the first foot. Because the flexibility is in the number of feet rather than the size of feet, verses longer than 6 syllables can only be explained by increasing the number of feet. Some of these feet have no prominent (i.e. stressed) position, no alliteration and therefore can be regarded as headless feet. This means that his system cannot address the equivalence between stressed points and their function in the metre. In my view, an overly committed adherence to binarity in the foot structure, at the expense of the verse structure, causes Getty’s theory to collapse under the weight of even his own small data set.

\(^{n}\) Where, using Getty’s terminology, \(\bot\) is a foot boundary, S is a strong position, and W is a weak position.

52
Like Hutcheson (1995), Getty does not mention hypermetricity at all. This oversight may be related to the fact that Getty uses only a 1000-line sample of *Beowulf* in his analysis for technical reasons current to his time of writing which I do not feel qualified to evaluate (2002, p. 70), but which certainly do not apply any longer. This is despite the fact that the hypermetric verse, with three stressed syllables complemented by three or more unstressed syllables, can neatly be described as a three-foot verse, or verse-and-a-half, but only if the standard verse is restricted to two feet (as by Bliss, 1962).

The assumption that any group of two syllables should form a foot draws any attempt to explain hypermetrical lines using Getty’s system into absurdity, as a line like *Dream of the Rood* 9, in which stresses are marked according to Bliss’s (1962) assumptions, and parentheses indicate Getty-type feet.

\[
(\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad ) (\quad )
\]

9. uppe ēn ēadlēgspanne. | Behēlōdōn ēgēl drīhtnes ealle,

*Dream 9*

The a-verse in example 9 has nine syllables. In an analysis coherent with Getty (2002) this line must therefore have four feet. The b-verse has ten syllables, and therefore five feet. Only four of these nine feet have a stressed syllable. Not only does this stretch the binarity requirement beyond breaking point, but it fails to account for any real difference between the structures underlying standard and hypermetric lines. This treatment of hypermetric lines is evidence against Getty’s central claim that verse feet must be disyllabic, which informs most of his OT treatment. The OT treatment shown in subsection 4.2.3 takes this into account and places the relation between the metrical position and the syllable amongst the lowest-ranking constraints for line-building.

These methodological flaws are compounded by other issues which are found throughout the book and are noted extensively but by no means exhaustively in reviews by Hutcheson (2004) and Riad (2004). Getty’s project serves as an instructive example of a study of OE verse structure using modern generative analyses, and highlights some of the pitfalls for anyone attempting a similar study. Some of Getty’s observations nevertheless inform the metrical analysis presented in chapter 4.

### 2.4.2 Affixation and variable secondary stress

Getty’s (2002) analysis is very helpful in some areas, particularly because he divides up and analyses a large group of different types of morphosyntactic

\[\text{“up on the crossbeam | They all there beheld the angel of the lord”}\]
structures and gives each of them a detailed stress analysis. This analysis is not always borne out by the evidence, but nevertheless it represents a valuable project which provides more detail than Bliss (1962) or Kendall (1991).

The metrical status of suffixes is a key factor in determining the operation of secondary stress in frequently occurring words like epeling and waldend. Most authors claim that derivational suffixes are stressed under certain circumstances and give details of the circumstances, while inflectional suffixes are always unstressed. However, neither Getty's (2002) examples nor his definitions clearly distinguish derivational and inflectional suffixes. For example, derivational suffixes following a light syllable are to be considered unstressed (2002, p. 80). The examples he gives for this condition are wunode 'dwell-Pret.3sg', and wesende 'be-Pres Part' neither of which feature derivational suffixes, and the inflectional suffixes they do have are disyllabic (-ode, -ende). He also assigns secondary stress on derivational suffixes followed by inflectional syllables', for which the example is mapelode 'speak-Pret.3sg' from mapelian. No derivational suffix is found here either. Nor is there any reason to postulate a secondary stress from the ceta present in Beowulf. In Beowulf, each instance of mapelode is accompanied either by a noun or name which occupies the other lift. Getty's treatment of secondary stress is one of the reasons his analysis has limited practical application. Nonetheless, his observations on secondary stress and the issues he raises in the stress status of derivational affixes constitute a useful addition to Bliss's (1962) observations, if they are treated with caution. The observations of Getty and the weaknesses present in his generalisations go some way to informing those parts of the metrical analysis provided in the present study, which dealing with foot structure (§4.2.1), the relationship between word stress and metrical prominence (§4.3.1), and the metrical status of words formed by affixation (§4.3.4).

2.4.3 The word-foot theory: usefulness and weaknesses

Both the approach and the conclusions of the present study are similar to those expressed by Russom (1987, 1998). Russom's "word-foot theory" is based around the principle that each line comprises four metrical feet and that these should each be congruent with a word. Stockwell notes with approval that "the great virtue of Russom's theory... is that it comes closer than any other theory to providing a believable natural linguistic basis for calculating what the ancient poets were saying, intuitively, as the fundamental unit out of which verse

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\[53\] Naturally, Campbell does not provide examples for all the words which can take the derivational suffixes he lists, and there are instances where derivational suffixes and inflectional suffixes have similar forms, for which there is sometimes a historical explanation, e.g. the present participle suffix -onde has a similar form to the agentive suffix -end which can also then have the dative singular suffix -e after it.
can be built” Stockwell (2002, p. 241). Hartman (2016) notes that “Russom’s word-foot theory stands out from other studies of early Germanic poetic form because where other scholars ask what, Russom asks why”, a fundamental difference and significant innovation in the field in and of itself (2016, p. 73 original italics).

Russom (1987) goes a long way towards describing the verse design of Beowulf while incorporating several language aspects, uniting linguistic and philological approaches in the development of a set of simple rules which combine to create complex surface features. Baker (1990) notes the limitations, especially observing the limited utility of Russom’s long sequence of alphanumerically indexed rules. Russom’s approach is vexing. His assumptions and generalisations are often uncontroversial and coherent with the previous studies mentioned elsewhere in this chapter, and his conclusions are transparent and instinctively attractive. However, it is not in practice possible to use his system to analyse sections of running text while taking into account metrical typicality and the cost of complexity.

Bredehoft (2005) follows Russom’s (1987) approach by expressing his rules as vaguely formulated yet fundamental principles with alphanumerical indices, such as “P3. Classical Old English verse feet are generally patterned on the stress patterns of Old English words” (Bredehoft, 2005, p. 22). Continuing with the traditions of a Sievers-like analysis, Bredehoft (2005) develops a set of foot structure rules which allow syllables to combine by resolution. In this interpretation of resolution, the patterns of the feet are dependent on a set of stress contours which can either be entirely unstressed, have a primary stress or have a stress-like status. These three types of contour are comparable to the three stress conditions for attracting alliteration. Goering (2016) uses the word-foot theory derived from Russom (1987) and particularly Bredehoft (2005) to support his phonological analysis of OE verse, but does not get involved in the details of the rules.

The problems with inherited assumptions and imprecise formulations in a study like this one can perhaps be reflected in a single sentence from Russom (2014). According to Russom, “In Beowulf, the predominant Old English verse types identified by Sievers (1893) frequently appear as syntactic structures of exactly two words” (Russom, 2014, p. 15). In this observation, we are reminded that the verse forms which are being addressed are only those of Beowulf. Russom is one of those authors who assumes that the formulae of Beowulf are more or less the same as those of Old English, but does not draw attention to it. Sievers’ (1893) intention was that his analysis should deal with all Old German, Old Norse and Old English poetry. Secondly, there is the claim that the verse types identified by Sievers are “predominant”. Sievers’
suggestion is that they are total, excluding degenerate lines, although a number of exceptions and ways to deal with them have been developed since Bliss (1958). It is possible to interpret “syntactic structures” in this instance to mean “phrases”, in which case this claim is broadly speaking correct. Simple NPs and PPs with nominal complements are often equivalent to verses, but it is unusual for, for example, a PP with a one-word complement to be a verse on its own, unless that complement is a dithematic compound. There is further a logical problem of combining the two adverbs “frequently” and “exactly” when describing the same phenomenon. In this particular case, the word “infrequently” might have been more appropriate, as the majority of verses in Beowulf do not comprise two graphological words.

Russom’s further observation that “these structures appear much less frequently in prose and must have been valued by poets for their metrical properties” (2014, p. 15) is difficult even to interpret; “syntactic structures of exactly two words” must appear with astonishing frequency in prose, regardless of what the definition of a syntactic structure is. Bredehoft (2005) provides a list of examples of individual graphological words representing acceptable abstract prosodic sequences, each of which actually occurs as a whole foot in a line of OE verse. Goering (2016) adopts this same interpretation. Despite the clearness of Bredehoft’s (2005) approach, it does not constitute a definition of a foot, only a heuristic for considering the structure of a majority of lines. Russom (1987) does not thoroughly address whether a ‘word’ is to be considered graphological or phonological, it is possible to read both or either in several places. This is somewhat less implicit in Russom (1998) where the phonological interpretation is clearer. McCully’s (2000) review of Russom (1998) praises the intuitive elegance of his definition of a word, in which “all stressed simplexes count as words; unstressed prefixes count as function words; a compound may count as one word or as two; and a function word may count as a word or as ‘undefined linguistic material’” (2000, p. 189). Russom’s treatment is indeed elegant and it reflects intuitions but it cannot be considered a definition, but is rather a description of surface features. In this description, ‘function words’ are a separate category to ‘words’, rather than a subcategory, and no definition of ‘word’ separate from the examples is ever given. It is also never presented in what circumstances a compound may count as one or two words. The definition even contains the word ‘undefined’, when addressing strings of “linguistic material” that are not words, and yet have the status of free morphemes.

Taking this notion of a prototype phonological word as an underlying component of the theory, Stockwell criticises Russom for first establishing the foot [S w] as the prototype and then describing [w S] B-type verse as ‘syncopated’, because “beneath the altered beat one hears the regular pulse” (2002, p. 241). Stockwell notes that within a space of two feet, expecting the listener to detect
that in one arrangement the “regular” form matches the underlying structure and the next reverses is probably more than can be expected (2002, p. 241). Nevertheless, Russom does provide some grounding for variation in the foot, allowing the helpful generalisation that “a foot equals any existing word-stress pattern” (2002, p. 242). Further strengths of this update are dependent on strongly-worded constraints like “every foot boundary must coincide with a word boundary” (Russom, 1998, p. 22), which are expressed in such a way that they can be converted into Optimality constraints without reformulation (§4.2.2). These means of addressing variation within the word-foot theory are strengthened by Bredehoft (2005). The theoretical basis behind Russom’s main claims is invaluable, and Bredehoft’s development allows for a more thorough understanding of exactly how it should be practically employed. However, Bredehoft’s system is roughly as precise and complex as the Sievers-type systems with which it still shares all its basic assumptions. Bredehoft’s development of the word-foot theory creates a system in which the metre interacts with the morphology, so that the size of any given foot is determined by the word which occupies it. In Bredehoft’s hands, Russom’s word-foot theory becomes, as it was perhaps always intended to be, a simplified and rationalised version of the oral-formulaic concept developed by Magoun (1953) and supported by Riedinger (1985), based ultimately on Parry’s (1987) similar observations on Homer. The oral-formulaic theory proposes that a set of standard metrically sound phrases were available to the poet to represent commonplace ideas. Proponents of this theory argue that a large number of the verses in OE poetry follow the metrical patterns of these phrases with one or more (or all) words replaced. Once all words from a formula are replaced, what remains is a metrical abstraction like a Sievers type. The association of the prominent positions with primary stress leads naturally to the notion that within an abstract formulaic verse, there should be two abstract formulaic feet.

Russom’s observations are comprehensive and pertinent, and his conclusions sensible and easily comprehensible. The problem is that the methodology does not allow for the conclusions to be derived from the observations. Russom’s description of the verse structure is not sufficiently precisely formulated nor detailed enough to apply to larger sections of text. Nevertheless, there is much about Russom’s descriptions both of the generalisations and the conclusions which ring true to anyone familiar with the material. The most important generalisation taken from Russom, implied but not essential in Sievers, is that the line consists of four phonological words, organised into two groups of two. This makes this very attractive and simple model for considering the relationship between the phonology of the word and the metre of the line impractical to employ in studies dealing with a large number of lines. However, these observations had some influence on the development of the foot- and line-building constraints in section 4.2.
2.4.4 OE verse within the Halle-Fabb system

With a treatment based on generative metrics, Halle and Keyser (1971) provide an analysis of prosodic abstractions of the lines of *Beowulf*, with the conclusion that lines are based only on the recurrence of stressed syllables. They also describe some theoretically possible but absent verse types and show that metrical complexity (i.e., deviation from a prototype) is inversely related to frequency. Their concentration on the heads of feet, and their disregard of unstressed items in the production of their typology places their analysis within the two-beat theory (Heusler, 1891; Pope, 1942), with the proviso that a further weak position can be countenanced at a complexity cost for any verse. The only condition addressing line length is “No half-line is shorter than two syllables” (Halle & Keyser, 1971, p. 154), which apart from being superfluous in light of higher ranking constraints seems to address a nonexistent problem, as no half-line in *Beowulf* is shorter than three syllables, and the vast majority have four syllables or more. Even the three-syllable verses can generally be considered four-syllable by reference to spelling variations reflecting earlier phonology.

Fabb and Halle (2008) update Halle and Keyser’s system for Old English somewhat. Their general theory posits an analysis based on counting relevant positions, dependent on a grid template to which linguistic features of texts must conform. However, Fabb and Halle “differ from everyone else... in denying the centrality of rhythm in meter, and characterizing the abstract templates and their relationship to the text by a combination of constraints and processes” (Kiparsky, 2009, p. 1). With reference to *Beowulf*, Fabb and Halle’s solution to the line length variation is to disregard unstressed syllables in all positions, a much stronger claim than Bliss (1962), who specifies some circumstances in which they are to be discounted. Kiparsky considers this to be in conflict with the logical basis of using a metrical grid. There are methodological problems with using the Halle-Fabb theory for Old English. Riad (2010) notes that “*Beowulf* is a very loose metre, as it admits so many unstressed syllables in sequence that the model cannot build a metrical grid... there is a rich tradition of ignoring unstressed syllables in the analysis of *Beowulf*... but none as radical as this one” (Riad, 2010, p. 545). Kiparsky further notes that Keyser (1969), Halle and Keyser (1971) and Fabb and Halle (2008) are of a kind in developing a theory which overgenerates, allowing lines which not only do not occur but which are “uncontroversially unmetrical in Old English as in all early Germanic verse” (2009, p. 8), and is particularly marred by the exclusion of secondary stress from the theory as well as any constraints to limit line length. Despite all these reservations, Fabb and Halle (2008) have an influence on the present study, in that they appreciate the line as the primary unit of metrical structure.
2.4.5 Summary of previous studies

At the end of the 19th century, a scientific, non-ideological analysis of Germanic verse structure by Eduard Sievers led to the development of the Five Types analysis and supporting theories. The principal investigative strategy into the study of the OE metrical system in the 20th century was based on this fundamentally 19th century scientific paradigm: to list all possible metrical structures, and to categorize them for reference purposes. The main objective of these 20th century studies was to refine or simplify the types. In the 21st century, the tendency has rather been to use modern and advanced analytical techniques to solve what has been identified as an intractable problem. Any progress, regardless of the amount of information lost in the analysis, is seen as a defence of the power of the analytical system. These recent analyses have not had a significant effect on further publications, and the Sievers system still dominates, mainly through the analysis developed by Bliss for Beowulf.

2.5 Word order in Old English

In this study, the metrical system is shown to interact at several levels with aspects of syntax. These interactions are considered as the product of competing constraints which can be expressed within an Optimality Theory analysis (Prince & Smolensky, 1993; Kager, 1999). Later in this study, it is argued that some high-ranking metrical constraints cause deviant word order phenomena, usually in a predictable way, while other metrical constraints are lower-ranked and interact with syntactic constraints. Constituent order in OE has been a major area of recent scholarship, so several studies relevant to later chapters are discussed in this section.  

2.5.1 OE constituent order is not ‘free’

Before the development of the generative project in syntax, word order and the relationships between constituents were not considered a particularly important subject in historical linguistics (Lasnik & Lohndahl, 2013). In earlier studies constituent order was usually consigned to a few pages after detailed sections on phonology and inflectional morphology. Campbell’s Grammar (1959) is typical. Perhaps because of this focus in earlier studies, the use of free word order as an explanatory principle in OE was common until comparatively recently. In early studies of OE, it was claimed that the order of constituents in the sentence should be considered free, because “in OE, practically all the grammatical relationships... can be expressed by inflection” (Fries, 1944).

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14 For a full history of the study of OE syntax up to the date of publication, see Denison (2014). Poetic syntax is occasionally mentioned but does not merit a separate analysis.
1940, p. 208), with the corollary that constituent order had “no bearing whatever upon the grammatical relationships” (Fries, 1940, p. 199). Some generalisations concerning typical features were made before the development of syntactic study, mainly concerning verb position in main and subordinated clauses. Andrew (1934, 1940) promoted the hypothesis that the verb occurs by default in the second position in OE prose clauses (V2), and noted that in the poetry, verb-initial (V1) clauses are equivalent to V2 clauses, as the subjects are often elided (Stockwell, 1990, p. 93). Mitchell (1985) agrees with Campbell that there is a tendency “to invert subject and verb in principal clauses if the subject has not the first place, so that the verb remains in second place (Campbell, 1959, p. 12). Nevertheless, differences can be found between the constituent order phenomena in prose and verse:

Recent work on constituent order in OE has mainly been conducted within the generative paradigm, although there are some isolated papers which use other systems. Allen (1980) provides a good grounding for an analysis of Old English syntax from a generative perspective, and provided a defence of an underlying SVO structure harmonious with similar claims made using philological methods by Andrew (1940) and Mitchell (1967). Van Kemenade (1987) made the earliest comprehensive study of Old English with Government and Binding theory. She uses this model to establish and motivate the generalisations that OE is underlyingly verb-final in both main and subordinated clauses, as well as subject to verb-fronting and topicalisation which produce the typical surface constituent order features found in OE prose. She does not attempt to address OE verse.

2.5.2 Generative approaches

Van Kemenade (1987) deals with only a few central questions on OE as part of a larger project. Pintzuk (1999) focuses on OE phrase structure, and claims that the variation in verb position in surface structure is caused by competition between an older right-headed verb phrase, and a newer left-headed verb phrase, both of which were grammatical in the OE period. For the purposes of this project, Pintzuk’s dissertation is much more valuable for its general descriptive system which does provide a model for the distribution of sentence constituents. Neither analyses deals in detail with phrase structures below the level of sentence constituent, and mainly deal with the position of the verb and the relative order of its constituents.

The most comprehensive analysis of OE syntax is Johannesson’s *Sæfcraft* project (2013), a Government and Binding analysis of Old English prose

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57 The terms in which notions dependent on Government and Binding theory (GB) are discussed in this study are based on those presented in Haegeman (1991).
which at the time of writing undergoes continuous review. The project has dealt with the major structural features of OE grammar as well as an increasing number of minor and peripheral constructions with each edition. Johannes-

son’s theory differs in various ways from Pintzuk, particularly regarding the deep structure, as Johannesson has the Verb (V) base-generated to the left of the object, and the Inflectional node (I) base-generated to the right of the verb phrase (VP), but also in the permitted transformations. This comprehensive

ness and stable deep structure led to this system being chosen for the analysis of the Wanderer in the pilot project. However, the underlying assumptions do not differ greatly from Pintzuk and for the purposes of forming an Optimality analysis, a synthesis of these theories can be used to derive the set of operational constraints.

Rubin (1995) observes that in oral traditions, syntactic structures must be accommodated to the metrical structure. This restriction increases the likelihood that the performer can recall the text verbatim when reciting (Rubin, 1995, p. 116). The question of how metrical and syntactic constraints may interact to produce deviant word order phenomena has frequently been touched on in OE metrical studies, although usually very superficially, generally to highlight the differences which can be detected by close reading. The notion, perhaps introduced by Pintzuk (2001) for OE, that metrical constraints outrank syntactic constraints in the poetry, would lead to very regular metrical structures, with no adjustments for syntax or morphology. They would be structurally comparable to nursery rhymes, in which every line conforms exactly to the metrical template (Arleo, 2006).

However, most previous studies on OE metrical structure take into account that, at the very least, function words must be added ahead of lexical words, which can cause a line to deviate from a prototype or stress contour. Bliss comments that “the metre might have exercised such a constraint on the syntax that certain syntactic patterns could not be used at all, or could be used only in favourable circumstances” (1981, p. 157), a claim which does not conflict with Mitchell’s observation that “the language of OE poetry is made up of a selection of ordinary prose patterns” (1985, p. 989), albeit in different frequencies and distributions. Of Bliss’s alternatives, the first is the most strongly-worded and therefore most attractive hypothesis. Determining what might constitute ‘favourable circumstances’ one imagines, would be a concomitant factor in determining the conditions put in place by the metre. The range of syntactic structures which can possibly be affected by metrical constraints is very great, beyond the scope of the present study. Furthermore, the data necessary to adduce whether such constraints have a different effect in verse than in prose would be difficult both to identify and to extract. The present study restricts its syntactic analysis to verb placement in its relation to alliteration, and the internal structure of the noun phrase, in chapters 4 and 5 respectively.
There has been little work on the syntax of Old English poetry, which is addressed in the following subsection.

2.5.3 Word order in Old English poetry

Despite substantial progress in the study of Old English word order phenomena in their generality, there has been little progress made in addressing the factors which distinguish OE prose and verse word order. This view is based on the rather vague idea that these poems were “intended to produce particular intellectual and emotional effects through the use of various devices, some of which may have involved unusual word order patterns” (McLaughlin, 1983, p. 66) with the conclusion that “poets did not always observe the constraints, they were free to disregard or modify them” (Donoghue, 1987, p. 15). Others have claimed that verse had a syntax of its own and this syntax directly affected the development of the style of prose (Stockwell & Minkova, 1992, p. 142). This distinction depends on the fact that the prose genres are fairly homogenous and based on a substantial text record while the verse corpus is composed of texts of various lengths and origins, many of which are fragmentary, and is much smaller and less homogenous than the prose corpus. Most importantly, the syntactic study of OE has been viewed as a search for a standard, as a way of expressing the internal grammar of a 10th or 11th century West Saxon, in line with the general principles of the generative programme. There is a ring of a non sequitur in Van Kemenade’s (1987) observation that “word order in poetry is very different from that in prose. Therefore, poetry cannot be considered a reliable source of information on the standard of OE” (1987, p. 4). Nevertheless, the comparison is correct: the written standard of OE must be a prose form. Poetry cannot be considered standard language, because it requires genre-specific phonological constraints. This has meant that few studies have investigated OE poetic syntax for its own sake.

The notion that metrical constraints interact with syntactic constraints has been hinted at by some scholars, but generally it has been suggested that the metrical constraints discretely dominate the syntactic constraints (Bliss, 1981; Pintzuk, 2001). The present study argues that metrical and syntactic constraints are not sorted into discrete groups but interact to produce variable constituent order in verse texts. In the present study, most of the aspects of the model which can affect constituent order are expressed in terms of phonological phrases (PhP), rather than XP structures with which they are prototypically congruent.
2.6 Summary

Studies of OE prose syntax, and the syntax of the Germanic languages in general, have been fairly thorough and in recent years publications on smaller topics have been quite frequent. Publications on poetic syntax have been less frequent and relatively specific, as the interaction between the metrical system and other requirements of the language, including the morphosyntactic structure, has not been well understood.

Previous studies of Old English metrical structure have depended on a theoretical paradigm in which metrical patterns of stressed and unstressed syllables are sorted into categories of types of acceptable verses. This system can be simple, in which case it is imprecise, or it can be precise, in which case it is extremely complicated. Theoretical analyses which have attempted to replace this typology either repeat its underlying assumptions, try to restate its observations or attempt to use the unruly data of OE verse to support a new theoretical position. None of these metrical systems can be combined with a morphosyntactic analysis, so a new metrical analysis must be conducted to find the common features between the various metrical structures evident in extant OE verse. These features can then be combined with a morphological and syntactic analysis.

Despite more recent publications proposing new models and analyses, Sievers’ system remains the most applicable for most analytical purposes in the study of OE, and Bliss’s (1962) *Metre of Beowulf* remains the best attempt to apply the analysis to a whole text, and this is supported by Kendall’s (1991) replication, which incorporates some modifications. For some applications, however, such as analyses of large sections of text, or automated studies of corpora, Sievers-like systems are inappropriate because they lack a sound phonological or psycholinguistic basis for Sievers’ categorisation and rely on scholars’ competence to interpret surface phenomena without strict and well-defined parameters.

The measurement of the line in this study is based on evidence presented by Golston and Riad (2003b) that the metrical structure of the OE verse line can be efficiently explained in terms of a quantitative analysis if codas are discarded and only vowels are counted. This informs the corpus analysis and the metrical template derived from that analysis. This is a controversial approach which is defended on statistical and phonological grounds in chapter 4. Although the line is measured in terms of its vowel quantity, it should not be inferred that the poet counted moras during composition. The vowel quantity constraint may be rather seen as a heuristic for determining the sizes of feet and the relative distances between prominent syllables in a line.
The analysis in chapter 4 depends on a model of metrical phonology ultimately based on the prosodic hierarchy (Selkirk, 1986; Hayes, 1989). This approach allows the metrical structure of the poetry at the level of line, verse, foot and metrical position to be expressed. Within the limitations of a metrical phonological analysis, the equivalence between the prosodic word and the verse foot is emphasised. This is in concert with generalisations made in Russom’s word-foot theory (1987, 1998). In the present study, Optimality theory is used to explore particular choices forced by the interaction of different aspects of the language function. OT is a powerful generative means of expressing complex choices as a series of simple constraints. This includes combining syntactic constraints and metrical constraints in such a way that they interact at several levels (Aroui & Arleo, 2009). This is a controversial approach which is defended further in chapters 4 and 6.
3 Method and materials

The analytical process presented in this chapter is based on the assumption (following Fabb, 2015) that it is the line which is the fundamental object of study. This chapter presents the results of a simple statistical study on line length phenomena in a corpus of Old English poetry. This is accompanied by a series of three studies address questions been raised by the present study and assumptions made by some of the studies described in chapter 2. The results of this analysis are addressed in the following chapter 4, while supporting matters are discussed in chapters 5, 6 and 7.

3.1 Method for the Metrical Analysis

The metrical analysis presented in the present study is based on a selected corpus of OE verse texts which were subjected to a line-by-line analysis for stress, vowel quantity, and alliteration patterns. The OE line is identifiable in verse texts because of alliteration. Some manuscripts (such as the Junius, see below) obligingly mark the lines and verses with punctuation. Texts without this marking have been arranged into an equivalent structure in edited versions. The present study makes use of edited versions of all the poems, ultimately derived from Krapp & Dobbie (1931). In Table 2, an example line from the corpus is shown with annotation for vowel quantity, stress marking and alliteration.

Table 2. Example line, Andreas 9, rofe rincas, | ponne rond ond hand, with phonological annotations. 46

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In Table 2, X in the Syll row marks the caesura, and XX the line end. The line is divided into syllables. The mora row shows vowel quantity values for each

46 ‘valiant men | when shield and hand…’
syllables. These values were determined by reference to Bosworth and Toller (1898), and can be 1µ for a short vowel or diphthong, or 2µ for a long vowel or diphthong. Codas are not counted in determining syllable weight (§2.1.4). The stress row uses a / for a stressed syllable, and x for an unstressed syllable, based on Sievers' (1968) annotation. The allit row notes alliterating syllables. Under XX are the total line lengths for the row. Andreas 9 is a 10µ/9σ line. The quantitative data derived from this annotation process was collected for the statistical analysis presented in section 4.1. During the annotation process, examples were extracted and collated.

The totals for each line and half-line were automatically calculated and compiled in MS Excel 2013 for extraction to SPSS 23. In SPSS, the numbers for each poem were analysed with descriptive statistics to produce graphs and compared with each other using means analyses, communalities and differences between the individual poems and the traditions of which they are representatives.

3.1.1 Accounting for variation and error

Edited versions of texts can differ in small ways from each other, but they represent the considered scholarly view of a text from the perspective of the language as a whole, as it is viewed today, rather than the perspective of a scribe who, while presumably a native speaker with recourse to the expertise of colleagues, had an understandably parochial viewpoint. Scribal error occurs in texts with considerable but unpredictable frequency and can be invoked to permit an inexact theory or to destroy a naïve one. Even more insidious is the possibility that a scribe has not allowed an uncorrected error into his final proof, but rather appears to have corrected what he perceived to be an error in an earlier exemplar. Typically, at least with verse, we lack sufficient comparable texts to be able to identify the source of such variation. Edited versions represent the combined wisdom of modern scholarship and so it can at least be said that the burden of any error is spread broadly across many shoulders. Succinctly, “it has never been possible to construct a reasonably complete and coherent description of Old English meter without recourse to the assumption that a certain amount of scribal change intervenes between the composition of most extant Old English poems and the recorded form in which they survive” (Fulk, 1992, p. 2).

Scribes were unreliable, but scribal error should not be considered a defence for discarding particular kinds of pieces of data, nor for rejecting theories as a whole, as such explanations cannot be falsified. An adequate analysis of OE metre must be precise enough to able to accommodate all valid lines, while being robust enough to accommodate a small number of errors. This robustness should obviate the need for *ad hoc* fixes to account for individual cases,
or even for fairly frequent features which are not accounted for by the general theory. Similarly, dialectal variation should not have an effect on the metrical analysis, if the users of any of the various possible dialects were writing in the same metre. Once a definition of degenerate, or non-metrical lines, is established, a strong theory should not require any further extrametricality. The present study makes an exception for verses with only 3 syllables, which are addressed in subsection 4.2.5.

3.1.2 A corpus of fourteen Old English poems

The corpus used for this analysis was collected from Krapp and Dobbie’s Anglo-Saxon Poetic Records (1931). For the shorter poems, the transcriptions were modified based on Mitchell and Robinson (1999), who have more detailed annotation. Because of the limitations of the historical record, it was decided early in the project that the corpus would consist of entire poems, rather than selected shorter samples. This choice causes balance to be sacrificed in favour of representativeness. Unbalanced corpora are unsuitable for statistical analysis, so only descriptive statistics have been used to show broad tendencies. Table 6 shows the poems used for the metrical analysis. The proportion of the poems in relation to the corpus as a whole is also given.

<table>
<thead>
<tr>
<th>Title</th>
<th>Lines</th>
<th>% approx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genesis A, B</td>
<td>2936</td>
<td>42</td>
</tr>
<tr>
<td>Andreas</td>
<td>1722</td>
<td>25</td>
</tr>
<tr>
<td>Daniel</td>
<td>764</td>
<td>11</td>
</tr>
<tr>
<td>Judith</td>
<td>345</td>
<td>5</td>
</tr>
<tr>
<td>The Battle of Maldon</td>
<td>325</td>
<td>5</td>
</tr>
<tr>
<td>The Dream of the Roed</td>
<td>156</td>
<td>2</td>
</tr>
<tr>
<td>Seafarer</td>
<td>124</td>
<td>2</td>
</tr>
<tr>
<td>Wanderer</td>
<td>115</td>
<td>2</td>
</tr>
<tr>
<td>Gifts of Men</td>
<td>113</td>
<td>1</td>
</tr>
<tr>
<td>Selected Riddles</td>
<td>97</td>
<td>1</td>
</tr>
<tr>
<td>The Rhyming Poem</td>
<td>87</td>
<td>1</td>
</tr>
<tr>
<td>Panther</td>
<td>74</td>
<td>1</td>
</tr>
<tr>
<td>The Wife’s Lament</td>
<td>53</td>
<td>1</td>
</tr>
<tr>
<td>Deer</td>
<td>42</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>6953</td>
<td>100%</td>
</tr>
</tbody>
</table>

These texts were selected from the corpus in order to provide a sample with a range of subject matter and metrical features. The argumentation behind the inclusion of individual poems is presented below, in order of the manuscripts.
from which they are sourced. The texts used for this corpus are selected from the following manuscripts.

**Junius Manuscript (Oxford, Bodleian Library, MS Junius 11)**
The *Genesis* poem consists of two texts, a larger *Genesis A*, which is a fairly close translation of the biblical book in typical Anglo-Saxon verse, “nearly all the major episodes of Genesis I–XXII are treated at some length in the poem” (Remley, 1996, p. 103). *Genesis B* comprises lines 235 to 851 of the manuscript and is “an interpolation adapted from a Continental Old Saxon original” (Lucas, 1988, p. 143), and deals with the expulsion of Satan from heaven and the subsequent fall of Adam and Eve. It is included out of a sense of completeness and also for comparison with the Old Saxon data discussed in chapter 7. This Saxon section is excluded from the corpus used to derive the model produced in chapter 4. *Daniel* is included because it features many long non-Germanic names, and provides a high proportion of hypermetric lines.

**Exeter book (Exeter, Cathedral Library, MS 3501)**
The *Wanderer*, the *Gifts of Men*, the *Rhyming Poem*, *Deor*, the *Wife’s Lament*, the *Seafarer*, the *Panther* and the selected *Riddles* appear in the Exeter book. These short poems were chosen to be representative of the ‘elegy’ genre. These differ from the narrative in theme and content, rather than metrical or alliterative structure.

**Vercelli book (Vercelli, Biblioteca Capitolare, MS CXVII)**
*Andreas* was included because of its thematic and metrical similarity to *Beowulf*. The *Dream of the Rood* was included because of its ancient origin and large number of hypermetric lines.

**Nowell Codex (London, British Library, MS Cotton Vitellius A.xv)**
*Judith* was included because of its large number of hypermetric lines and non-Germanic names.

**Casley transcription of London, British Library, Cotton Otho A.xii (MS Oxford, Bodleian Library, Rawlinson B. 203)**
The *Battle of Maldon* is included due to the unusual syntactic and metrical features for which it is renowned, as well as the unusual directness in tone which distinguishes it from earlier heroic verse (Irving, 1961).

### 3.1.3 Old Norse and Old Saxon as separate systems

In order to fully explore the Sieversian analysis and to place the poetry in the present study in the context of its most closely related and most similar traditions, the main part of this project is supported by two small studies using the same analytical techniques on Old Norse and Old Saxon. The present study
uses 100 lines each from the Old Norse fornyrðislag poems Völuspa, Hymiskviða, and Rigosþula, and from the Old Saxon poems Helian and Genesis. The results from these studies are discussed in chapter 7 with reference to the findings of the main study.

3.1.4 Degenerate lines

For the purposes of the present study, a line is considered degenerate if it lacks a caesura in an edited text. This includes lines with verses that do not meet the minimal pretheoretical criteria of four syllables per verse. In example 10 below, the first verse can be considered an acceptable a-verse (Sievers type A3 with extended anaeraxis), but the text after the caesura does not meet minimal requirements to be considered a b-verse.

10. þæah þe hé hine wille fyres | fulne

Seaførar 113

In example 10, the b-verse contains only one 2σ word, with no final, unalliterating foot, it was therefore excluded from the quantitative data. In some cases, damaged or degenerate lines in the manuscripts have been reconstructed by editors, and these corrections have been included if recorded in Krapp and Dobbie (1931), although occasionally individual lines are commented upon if they are instructive. Most are uncontroversial. For the development of the model, 35 lines were removed from the numerical data. This choice reinforces the four-position principle (§2.3), which is defended further in (§4.2.5). The model presented in section 4.2 produces a line with a minimum of 8σ as a consequence of a constraint requiring a verse to have 4σ. This model would not be affected by the 35 excluded degenerate lines being included.

3.1.5 Line lengths by syllables, moras, and stresses

Each text in the corpus was entered manually into a spreadsheet, split into lines, verses and syllables, and annotated manually for stress, vowel quantity and alliteration. During this process, examples were extracted. As described in section 2, quantitative analyses of OE verse according to the same terms as the classical quantitative paradigm have been attempted and been shown to be unsuccessful, so a rhyme quantity analysis was not attempted. However, Golston and Riad (2003b) revived a quantitative analysis with some modifications and were able to make clear observations about line length constraints in Beowulf. An analysis of the vowel quantity of each line was added to complement the reckoning of the syllables. The total syllables and vowel moras from

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47 '...though he does not wish him fire's | foul...
each line were then collated for statistical analysis. The results of this analysis are presented in chapter 4.

It is probably necessary to defend the manual annotation, as it would probably have been possible to develop an automated analysis which may have made the analytical phase of the present study more efficient. My position is that computers are extremely useful for collecting, recording and retrieving information, as they allow data to be processed extremely quickly. However, they cannot be instructed to have either insight or discretion in advance of data, nor to scan verse structure without reference to an extremely precise and through theory of metrical prominence. Orderly data is essential for theorising. The automation of any possible system for parsing the scansion or metre of a piece of verse depends ultimately on what generalisations about the metrical system are already in place. In the case of OE, this would include at least the vowel quantity and the distribution of metrical heads and unstressed syllables. In order for a programme to work effectively, these generalisations must be absolutes, and any exceptions to any generalisations must be explained themselves by other generalisations. The production of an analytical programme relies therefore on the programmer having access to a full and exceptionless analysis before the start of the project. Such a system has never been available for Old English verse. Sieversian systems allow for so many exceptions and *ad hoc* solutions, often at the level of the individual word, verse or line, that automation would provide no appreciable advantage in producing an analysis. With these limitations in mind, the annotation for this project was conducted manually by entering the texts of the corpora along with annotations into an MS 2013 Excel spreadsheet. This data was then extracted into SPSS 23 to produce the descriptive statistics and graphs in chapters 4 and 7, as well as being used as a source for extracting metrical examples.

3.2 Supporting studies

The metrical analysis used Campbell (1959) for its initial assumptions on OE phonology. In order to analyse a long section of OE verse for metrical values, it is necessary to know the metrical status of all typical examples of word classes. However, during the process of annotating the corpus it was discovered that there are some secondary word classes which do not occur in *Beowulf* but do appear frequently in *Genesis* and other longer poems. These were compound numerals and names of non-Germanic origin. Examples of verse sections containing these words were extracted and compared by close reading with methods consistent with the findings of the metrical analysis (§4). These words showed different metrical behaviour to other nominals, and so are considered secondary, or subordinate, word classes (Quirk, Greenbaum, Leech, & Svartvik, 1985). These two secondary classes also share the characteristic
of allowing little or no synonymy and therefore very limited flexibility in
translation. This limitation allows for metrical features to be revealed in the
verse, without being complicated by factors related to lexical choice. The
compound numeral study in chapter 5 serves to inform and reinforce some of
the constraints regarding alliteration and its relationship with phrase and verse
alignment described in chapter 4. The non-Germanic names study in chapter
6 served to inform the development of the constraints regarding the default
structure of the prosodic word. The details of the methods used in these two
studies are found in their respective chapters.

As part of the development of the study of OE metre away from the Sievers
paradigm, a small study is presented in chapter 7 which compares data on the
lengths of lines, similar to the quantitative analysis which underlies the model
for OE in chapter 4. This shows that the analysis provided in chapter 4 applies
to Old English metre only, and does not extend to the related and similar verse
styles found in two contemporaneous Old Saxon epic poems and the oldest
Old Norse fornyrðislag form. The method for this part of the present study is
described in the following subsection.

3.2.1 Old Norse and Old Saxon corpora

The comparative study was conducted by comparing the results from the
quantitative part of the OE study with small representative sections of Old
Saxon verse and Old Norse Eddic verse. There are only two extant verse texts
in Old Saxon of any significance, Helian and Genesis, sampled from
Behaghel (2012). As examples of Old Norse verse, Rigsfjula, Völuspá and
Hymiskvida were selected as being representative of the fornyrðislag from
Bray (1908).

From each text, 100 lines were collected, with the criterion that they should
be rendered as whole lines in the edited version. The Old Norse corpus com-
prised samples from the following three poems.

- The first 27 stanzas of Rigsfjula, plus the first two lines of stanza 28,
- The first 23 stanzas of Völuspá, plus the first line of stanza 24,
- The first 29 stanzas of Hymiskvida.

From each text, degenerate lines were removed. Some stanzas are preceded
comments introducing speech acts by characters. For the purposes of the pre-
sent study, these are assumed to be extrametrical; they do not fulfil any of the
requirements for lines, and do not contribute to the metrical requirements for
adjoining lines in any obvious way. Those speech act elements which do con-
tribute to the metre of adjoining lines were included.

71
The Old Saxon texts are taken in 25-line sections from the first four fitts of the *Heliand* and the *Genesis*, excluding the preface and any degenerate lines. In this analysis, a degenerate line is any line without a caesura, or any verse not part of a pair in the edited version. While alliteration is the normal way to identify verse pairs, non-alliterating verse pairs were not excluded if they could be shown to be adjacent according to other criteria, such as syntactic coherence.

Although a quantitative analysis using the moraic value of the entire rhyme was discounted for the main project, this data is included in the ON and OS sections. No vowel quantity analysis comparable with Golston and Riad (2003b) has been postulated for either of these traditions, so both vowel quantity and the more conventional rhyme quantity were calculated.

The texts were each entered into their own spreadsheet in MS Excel and divided into syllables. The end of each verse and line was marked as a separate cell. Each line was numbered, according to the line number given in the standard edition, and each syllable was given a value for the moraic length of its vowel, the moraic length of its rhyme, its stress status (stressed or unstressed). Those syllables controlled by alliteration were also marked with the sound with which they alliterate. An example is presented in Table 3.

Table 3. Example line, *Heliand* 1, *manega uuaron | the sia iro mod gespon,* with phonological annotations.

<table>
<thead>
<tr>
<th>1</th>
<th>Syll</th>
<th>ma</th>
<th>ne</th>
<th>ga</th>
<th>uua</th>
<th>rom</th>
<th>X</th>
<th>the</th>
<th>sin</th>
<th>i</th>
<th>no</th>
<th>mod</th>
<th>ge</th>
<th>spon</th>
<th>XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>vMora</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>rMora</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>stress</td>
<td>/</td>
<td>x</td>
<td>x</td>
<td>/</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>/</td>
<td>x</td>
<td>/</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>allit</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the row *Syll*, the line is broken into syllables. An X marks the end of a half-line, which is represented in OS editions with an extended space, and in ON with a line break. At the end of the second verse, XX is used to mark the end of the line, and totals for line lengths are calculated in this column. Under each syllable, a value is recorded for Moras in the nucleus of the syllable (*vMora*),

---

48 Bray (1908) did not number lines but adhered to a different editorial tradition of numbering stanzas, and giving each verse its own line. The numbers of these stanzas is given along with an alphabetic index for the verse, so the first line in each is given as 1ab, 1cd etc. where 1 is the stanza number and ab, cd etc. are pairs of verses. In order to be comparable to the other traditions, I have included two verses per line in the usual editorial order.

49 ‘many were [there], who encouraged their own minds…’
Moras in the nucleus and coda of the syllable (rMora) and stress. If the syllable is affected by the alliteration requirements of the line, the alliteration sound is marked in the row allit. In contrast to the OE data, because of the editorial conventions for ON, the length of the a-verse is recorded under X as well as the line length being included under XX. The quantitative data was analysed using the same methods as described for OE above.
4 Analysis and discussion

This chapter presents a model for describing any line of OE verse, by counting the vowel weight of all syllables. A template is described by which a standard line comprises four verse feet, each with a default length of 3 vocalic moras (3μ). It is argued that variation from this structure adds metrical complexity.

The metrical analysis provided in this chapter is explained in terms of three core concepts.

- **The Metrical Template** defines the length of each line as four verse feet which can vary from 2–4 vocalic moras. The variation in line length is thus a function of variation in foot length.

- **Lexical Succession** deals with what syllables may occupy the heads of verse feet, and under what prosodic circumstances. The relationship between linguistic stress and metrical prominence is guided by semantic and syntactic features, and in turn by the lexical succession. It is shown that lexical choice can cause metrical deviation from prototypical lines.

- **Alliteration** limits the selection of individual lexical items, and allows the metrical structure to be recovered by the listener.

Chapter 2 starts from alliteration and works towards describing metrical structure. This sequence reflects the investigative process of the present study, which started with the surface features of the corpus. The present chapter operates in the reverse direction, and starts by describing the line length constraints and ends with alliteration. The analysis presented in the present chapter is based on data collected for the study while being supported a small number of considerations and assumptions inherited from earlier studies.

The analysis presented in this chapter uses a binary branching model based on metrical phonology (Hayes 1985) in which some flexibility is allowed in the size of the verse foot. Each verse foot has one metrical head, which may occur anywhere within the foot. This approach accommodates Hanson and Kiparsky’s (1996) definition that “the basic form of any periodic meter comprises a fixed number of headed binary FEET, where the essential character of
a head is rhythmic prominence” (Hanson & Kiparsky, 1996, p. 289). This chapter further relies on the generalisation that each standard verse should comprise four metrical positions (e.g. Stockwell & Minkova, 1997). The generalisation that “language itself has a rich intrinsic structure prior to any artistic form that may be imposed on it” (Hanson and Kiparsky, 1996, p. 288) informs the underlying assumptions of the project. The metrical system takes advantage of the natural prosodic and phonological features of the language to create euphony and aid recall. This is consistent with the approach of Hanson and Kiparsky, who note that “literature stylizes the inherent prosodic organization of language with conventional forms of versification” (Hanson & Kiparsky, 1996, p. 288). As well as describing the features of the typical line and its acceptable variants, this chapter also establishes the criteria by which acceptable lines may be distinguished from unacceptable lines, while allowing for the apparent extreme flexibility found in some poems.

4.1 Results of the corpus analysis

The corpus was analysed to determine the distribution of line lengths in terms of syllables and vocalic moras. This section describes the result of these analyses and how their findings informed the development of the model. Statistical methods were not used on the results of this corpus, because all methods used for the statistical analysis of corpora are predicated on the corpus being balanced and representative, which was not the case for this corpus. Simple descriptive statistics for abstract features, however, such as line length, were considered useful for taking large amounts of data into account when determining features of the model.

4.1.1 Syllable distribution

Syllable count has been regarded as a significant factor in the measurement of OE verse lines. Standard lines are differentiated from hypermetric lines by, amongst other things their lengths in syllables. For ease of reference, hypermetric lines have been removed from the following tables and figures. A total of 855 lines are excluded, including hypermetric lines, *Genesis B* and degenerate lines (§3.1.4), leaving 6098 standard lines for the main part of the study. However, as the criterion for the exclusion of hypermetric lines was only that they be listed in Bliss (1962), it is possible that a few lines with hypermetric features remain. The distribution of the syllables in the standard lines from the corpus is shown in Table 4 and Figure 4.
Table 4. Lengths of standard lines by syllables.

<table>
<thead>
<tr>
<th>Syllable length</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>15</td>
<td>0.2</td>
</tr>
<tr>
<td>8</td>
<td>611</td>
<td>10.0</td>
</tr>
<tr>
<td>9</td>
<td>1709</td>
<td>28.0</td>
</tr>
<tr>
<td>10</td>
<td>1914</td>
<td>31.4</td>
</tr>
<tr>
<td>11</td>
<td>1134</td>
<td>18.6</td>
</tr>
<tr>
<td>12</td>
<td>505</td>
<td>8.3</td>
</tr>
<tr>
<td>13</td>
<td>159</td>
<td>2.6</td>
</tr>
<tr>
<td>14</td>
<td>32</td>
<td>0.5</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
<td>0.2</td>
</tr>
<tr>
<td>16</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6098</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The corpus analysis showed the length of lines in syllables to be normally distributed, with a minimum of 8, an average of 10, and a quickly diminishing tail of lengths after 12. These values are reflected in Figure 4, to which a normal distribution curve is added.

Figure 4. Lengths of standard lines by syllables.
In Figure 4 it is shown that the line length by syllables is normally distributed around 10σ per line, accounting for c.30% of the total. This distribution is marked by a dramatic skew to the left, showing a large number of 9σ lines compared to 11σ lines. The 8σ minimal lines are less than 10% of the total. Sievers-type verses have 4σ in their most prototypical forms. The Sievers system gives a prototype of 8σ, with a maximum of 12σ if each lift is resolved, which can then be increased by up to five syllables of anacrusis. Considering this, one might expect longer lines to occur more frequently, if complexity is not to be avoided, or for the most frequent line length to be shorter if complexity is to be penalised. Bliss's generalisations are not formulated in such a way that one can predict the expected length of verses or lines in syllables, so it is neither possible nor really desirable to develop an expected value for the length of lines. This is particularly the case because Sievers-type systems provide no conditions for measuring or limiting complexity. Assuming that these prototypes represent minimal metrical complexity, and that metrical complexity is disfavoured, 8σ lines should be preferred. Cable's (1974) five-position line serves as a suitable explanation for variation between the 8σ and the 10σ line. Indeed, Cable's interpretation seems to have been developed primarily as a solution to the occurrence of longer lines which are poorly explained by the 4σ prototype. A system which allows for 4- and 5-position verses could be expected to have a greater distribution of 4σ and 5σ verses. Allowing for resolution as well as anacrusis both at verse and foot boundaries, such an analysis can also account for longer lines.

In contrast to most of the studies described in chapter 2, the present study considers the line the primary object of study rather than the verse. 9σ lines are necessarily made of one 5σ verse and one 4σ verse, in either order. 10σ lines can either be composed of one 6σ verse and one 4σ verse, or of two 5σ verses. Longer standard lines can be made up of a combination of verses between 4σ and about 8σ. These maximally long lines are very few. Example 11 has 14 syllables, marked for stress value. This line is permitted both by Bliss and by the analysis presented in this chapter.

11. __:__:_:_:_:_:_:_:_:_:_:_:_

   Abraham maðelode | hæfde on ān gehogod  

   Gen 2893 50

In example 11, each verse has seven syllables. In Sievers, Abraham maðelode is comparable to a common line like Hroðgar maðelode (Beo 371 etc.) with resolution in the first foot. Kendall classifies Beo 371 as D*2 (III), a left-headed foot with an internal anacrusis. To this, Gen 2893a adds a syllable of resolution. The second foot is a B line with two syllables of anacrusis and

50 'Abraham spoke, he had about one [thing] thought'
resolution in the second foot. The distribution of syllables shown in Figure 4 indicates there is some metrical complexity cost to extending the length of the verse, but that $8\sigma$ lines are not preferred. There is a small incidence of $7\sigma$ lines in Beowulf, as predicted by Golston and Riad (2003b). These are dismissed in chapter 2 for textual reasons. There are a very small number of $6\sigma$ lines in the corpus; these are dismissed for further textual reasons in section 4.2.5.

### 4.1.2 Moraic distribution

Golston and Riad (2003b) posit a line comprising 8 bimoraic feet as positions as the basis for their analysis of Beowulf. Stress is a theoretical concept, while the moraic value of the syllables is represented in the text, and therefore more independent of metrical theory. On the basis of Golston and Riad’s treatment of Beowulf, the corpus was analysed for line lengths in vocalic moras. The moraic value of syllables is usually considered in terms of the total weight of the rhyme, so that V and CV are short (μ), all others VV, VC, VVC, VVCC etc. are long (μμ). In a vocalic moraic analysis, only the moras of the nucleus are counted. The figures for the lengths in moras are shown in Table 5.

#### Table 5. Lengths of standard lines by vocalic moras.

<table>
<thead>
<tr>
<th>Moraic length</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>59</td>
<td>1.0</td>
</tr>
<tr>
<td>9</td>
<td>291</td>
<td>4.8</td>
</tr>
<tr>
<td>10</td>
<td>755</td>
<td>12.4</td>
</tr>
<tr>
<td>11</td>
<td>1215</td>
<td>19.9</td>
</tr>
<tr>
<td>12</td>
<td>1290</td>
<td>21.2</td>
</tr>
<tr>
<td>13</td>
<td>1025</td>
<td>16.8</td>
</tr>
<tr>
<td>14</td>
<td>710</td>
<td>11.6</td>
</tr>
<tr>
<td>15</td>
<td>402</td>
<td>6.6</td>
</tr>
<tr>
<td>16</td>
<td>206</td>
<td>3.4</td>
</tr>
<tr>
<td>17</td>
<td>67</td>
<td>1.4</td>
</tr>
<tr>
<td>18</td>
<td>36</td>
<td>0.6</td>
</tr>
<tr>
<td>19</td>
<td>12</td>
<td>0.2</td>
</tr>
<tr>
<td>20</td>
<td>9</td>
<td>0.1</td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6098</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

78
The values in Table 5 are reflected in Figure 5, to which a normal distribution curve is added.

![Histogram](image)

**Figure 5.** Lengths of standard lines by vocalic moras.

In Figure 5, the vocalic quantity of the lines in the corpus are shown. The values are normally distributed with an average of 12μ. Minimal and near-minimal lines of 8μ and 9μ are very few, less than 5%. There is a leftward skew towards shorter lines, so that 11μ lines occur more frequently than 13μ lines. Despite this overrepresentation on the left, the normal distribution is skewed slightly to the right. This is caused by a tail of lines which are longer than 16μ. These supermaximal lines are addressed separately in subsection 4.2.6.

The results of the corpus analysis show a distribution of vowel moras which supports Golston and Riad’s (2003b) line length range of 8μ to 16μ, but not their model of 8 bimoraic positions. Golston and Riad’s model predicts that 16μ is the least marked length, and that each short position should be considered degenerate, and therefore presumably more complex. This interpretation is not supported by the values in Figure 5. There are two scenarios which would support their model, dependent on how much metrical complexity is incurred by each violation of the model. Assuming that each degenerate position adds a similar amount of complexity, 8μ lines would be maximally complex and 16μ lines preferred. In this case, one would expect a right-heavy curve with a peak near to 16μ. Assuming that violations of the bimoraic foot do not cause any metrical complexity at all, line lengths should be distributed evenly between 8μ and 16μ, giving a flat or disorderly curve. The values in
Figure 5 do not support either of these options, but show a normal distribution with an average of 12μ. In order to address this, a modified version of Golston and Riad’s (2003b) metrical structure is used in which the rightmost, weakest mora of each verse foot is degenerate by default (similar to Dresher & Lahiri, 1991). A line is therefore composed of four left-headed, 3-mora feet by default. The variation shown in the corpus data is generated by adding or removing a mora in either position in the foot, as shown in table 8 below. The following section describes the metrical template in terms of a correspondence between structure of an ideal, or prototypical line, and the preferred prosodic structure of Old English words.

4.2 A metrical template of the OE verse line

This section presents a binary branching model of the OE poetic line which has some variation at the most basic level, the level of the moraic value of the syllabic nucleus. Line length variation is created by variation in the length of verse feet. The line is divided into four feet, with a syntactic break preferred between the second and third feet, giving the impression of a line divided into two verses, which has informed standard editorial practice. Each standard line consists of four metrical feet, consisting of two metrical positions. In each foot, the left position is by default strong, meaning that it attracts prominence, such as primary stress, and is by preference long (μμ). The right position is by default weak, meaning that it does not attract prominence, and is short (μ-). This creates a binary branching structure with the feet shown in figure 6. Parentheses are used to show the verse feet.

In Figure 6, a metrical structure modelled on the prosodic hierarchy is shown (Selkirk, 1980, 1986). The categories are based on those from Golston and Riad (2003a) with the modification that the right metrical position (m) of each verse foot (VFt) is short by default. This leaves each VFt with 3 vocalic moras.
This analysis allows for the description of the 98% of standard lines between 8µ and 16µ, as well as explaining the distribution of line lengths within the corpus in terms of deviation from an average line length. The terms on the right are the prosodic structures upon which the metrical structures are modelled, and with which they are preferentially matched. The mismatching which occurs in most lines is explained in terms of interacting metrical and syntactic constraints discussed later in this chapter and in chapter 5.

In the present study, the verse foot is considered an equivalent metrical structure to the prosodic word in OE. The default structure of the verse foot reflects a prototypical prosodic word. Previous studies have focused on stress, and have all arrived at the same generalisation, that the prototypical line has four stresses and therefore four feet. These are grouped into two pairs, verses, with a syntactic break between them. This feature is fixed, except in hypermetric lines in which one or two verses contain three feet. The foot is the same in both types of line. As there is much evidence that OE prosodic structures are left-headed (§2.1.3), the left, full, position is granted 2µ while the right, degenerate, position is given 1µ. The hyphen indicates a missing mora in the degenerate position.

The OE prosodic word includes the head, any other unstressed syllables within the word and any prosodic elitics, and the stress is assigned to the root of lexical words. However, the metrical template allows a prominent position to occur anywhere within the verse foot. As such, stress is not assigned by this model to any particular position, but can occur anywhere within the foot. In terms of stress, left-headedness is preferred only because the verse foot is prototypically congruent with the preferred prosodic structure of OE words (Dresher & Lahiri, 1991; Rand, 1992). This congruence between the prototypical prosodic word and the default verse foot serves only to describe highly regular prototype lines. However, the variation in the lengths of lines, and the variable amount of unstressed syllables which are apparently permitted around the metrical heads, needs to be taken into account. Variation is discussed in subsection 4.2.1, while the equivalence between the foot structure and the prosodic word is discussed in subsection 4.2.3.

4.2.1 The 3µ verse foot and its variations

Depending on word choice factors, including the lexical items chosen by the author, and the grammatical items required to express the meaning, each position can be switched to either long or short, depending on the phonology of the word(s) occupying the foot. With this condition, the default foot can be modified to have three further possible structures. A reduced first position, with 1µ instead of 2µ, allows a short foot, an expanded second position, with 2µ instead of 1µ, creates a long foot. Each of these modifications constitutes
one deviation from the default foot structure and, in combination, several violations allow for the variation between lines of 8μ and 16μ.

Table 6. Theoretically possible foot structures.

<table>
<thead>
<tr>
<th>Default</th>
<th>Short</th>
<th>Long</th>
<th>Reversed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(μμ μ-)</td>
<td>(μ- μ-)</td>
<td>(μμ μμ)</td>
<td>(μ- μμ)</td>
</tr>
</tbody>
</table>

The value of these feet depends on whether the vowel in the syllable is long or short. A foot may be occupied by a single syllable with a long vowel, or four syllables with short vowels, or anything in between. The relationship between heavy syllables and pairs of light syllables in OE verse dates back to before Sievers and was a fundamental part of his theory. Sievers-type resolution allows for one short stressed syllable followed by one unstressed syllable of any length to be considered metrically equivalent to a long stressed syllable (L+X=H). Classical resolution allows only that two short syllables may be considered metrically equivalent to one long syllable (L+L=H). This equivalence inspires the design of the metrical position described in this section. This gives a foot with a minimum size of 2μ/1σ, and a maximum of 4μ/4σ. The possible arrangements of syllables are shown in Figure 7.

In Figure 7, eight structures are shown, giving the available arrangements of moras for each verse foot, and the possible syllable arrangements. Long syllables, those with two vocalic moras, are marked with a macron. There are two possible 3μ feet, a left-heavy foot with 2σ and a resolved foot with 3σ. There is no complexity penalty for the moras to be distributed across a greater number of syllables. A default foot can have two syllables, of which the first is heavy (H L), or three syllables all of which are light (LL L). The minimal 2μ foot always has one mora per position, but may cover one long or two short syllables. The maximal 4μ foot can have two, three or four syllables, in various combinations. This including (σ σ σ), in which a mora is borrowed from
one position to another, which incurs a small metrical complexity cost. Metric complexity is a difficult thing to assess in its entirety, although once a model structure like this is established, some aspects can be defined. In Figure 7, foot structures a and b are default, 3μ verse feet with no metrical complexity caused by length changes. Foot structures c and d are short, 2μ verse feet, and as such are metrically complex. Foot structures e to h are long, 4μ verse feet and are also metrically complex. The distribution in Figure 5 suggests that the complexity incurred is roughly the same for long or short verse feet, although shorter lines are slightly preferred.

Borrowing moras across position, foot and verse boundaries is a feature of this model, which allows a certain amount of flexibility in word choice and means that verse feet do not always match exactly onto prosodic words. It is logically possible, however, that a reversed foot, which has a short first position and a long second position, could be posited. Prefixed words like gewāt ‘departed’, with 3μ, are candidates for this arrangement.

In example 12, two possible parsings of a word with a light prefix and a rightward root are shown within a verse foot. In the model described in this section, the arrangement in 12b should be disfavoured because it has two breaches of the position length constraints. 12a has one breach where the long vowel is split into two moras, one of which goes to the strong left position, and another to the second syllable; the second position adds 1μ. This must be considered an affectation to fulfil the requirements of the model, it cannot be reflected in pronunciation. There is a preference for the left position in a foot to be heavy, and this overrides the preference for each metrical position to consist of only one syllable. In example 12, the syllables and metrical positions do not align, so that two positions each contribute a single mora to the heavy syllable, as in Figure 7 above. It is therefore impossible within the terms of this model to distinguish the 3μ default foot, with no violations, from the 3μ reversed foot with two violations. Both may comprise either two or three syllables, but the reversed foot has the maximum number of breaches of the model (one per metrical position). As such, it is probably most parsimonious to exclude the
reversed foot from actual analyses. This misalignment is discussed in the following subsections on foot-building and line structure and variation.

4.2.2 Foot-building constraints

The arrangements discussed in the previous subsection suggest the following Optimality Constraints (§2.3.8), which deal with the relationship between the word, the verse foot, and the metrical position and the syllable.

13. \textit{VERSEFEETPARSEPRWDS} >>

The metrical edge of the verse foot must coincide with the edge of the prosodic word.

This constraint requires only that the edges of verse feet coincide with the edges of the prosodic word. A verse foot can contain internal prosodic word boundaries, which is sometimes the case with secondary stress (§4.3.3). The default structure of the verse foot is expressed in terms of two positions, each of which can contain a minimum of 1\(\mu\), and a maximum of 2\(\mu\). The preference for shorter lines indicates that the constraint making the right position short is higher ranking than that which makes the left position long, so they are placed in the order seen in example 14.

14. \textit{RIGHTPOS 1\(\mu\)} >>

The right position of each verse foot comprises one vocalic mora.

\textit{LEFTPOS 2\(\mu\)} >>

The left position of each verse foot comprises two vocalic moras.

The preference both for slightly shorter lines in the data, the equivalence between the prosodic word and the verse foot, the four-position principle and the assumption of the relationship between syllables and metrical positions, all suggest that a constraint be added ensuring that syllables should be parsed by metrical positions. The fact that lines rarely have only 8 syllables suggests that this constraint is low-ranking, and so it is added below the quantity constraints.

15. \textit{SYLLABLESPARSEPOSITIONS}.

Each metrical position must be occupied by one syllable.

These constraints create the basic structure for the line as well as allowing the metrical structure and syntactic structure to interact in order to produce default lines with the minimum of metrical complexity. Table 7 shows a prototypical line, \textit{And 20}, repeated from example 1. The notation in the OT tableaux used in the present study follows Prince and Smolensky (1993). The star * indicates
that the candidate breaches the constraint in the column. The exclamation mark ! indicates a fatal breach, indicating that the candidate form is not optimal. The optimal candidate is represented with an index finger ».

Table 7. Foot-building constraints in a prototypical line. 51

<table>
<thead>
<tr>
<th>fœndes filære, folestède gumena</th>
<th>VFI PARSE PrWD</th>
<th>RIGHT POS 1µ</th>
<th>LEFT POS 2µ</th>
<th>SYLL PARSE POS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(µµ µ-³µµµ-³µµµ-³µµµ-³µµµ-³µµµ-³µµµ-)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fœndes filære, f. folestède gumena</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(µµ-³µµµ-³µµ-³µµµ-³µµµ-³µµµ-³µµµ-³µµµ-)</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fœndes filære, f. folestède gumena</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table 7, two possible parses are shown for And 20. In a prototypical line, four 3µ verse feet match up with four prosodic words, creating a 12µ line. In this example, both words in the on-verse have long vowels in the left position, and short in the second. The low-ranking constraint SyllParsePos is breached in the words in the b-verse, as these have two short syllables each in the left position. An attempt to reorder the foot structure in the a-verse breaches both the VerseFeetParsePrWD constraint and the two constraints preferring HL feet. Lines with inputs with different prosodic structures cause greater breaches of these constraints.

4.2.3 Line structure and variation

Each standard line comprises four VERSE FEET (VFI) and each verse foot is composed of two METRICAL POSITIONS (m). Each position must be occupied by at least 1µ, and moras must be realised in syllables. This allows for minimal lines of 8σ/8µ, but prevents shorter lines. The flexibility in the range of line lengths is caused by variation in the positions. Each verse foot may be occupied by one or other of these forms. The values in Figure 4 and Figure 5 showed that the average length of lines is 10σ and 12µ respectively. When these two measurements occur together, a prototypical line is produced, as in Figure 8 below. Here, the metrical structure, which is an abstract structure based on vowel length, is shown above the line, while the prose phonological structure, based on the known facts of OE phonology (§2.1.4), is shown below the line. Note here that in this prototypical line, the verse feet (VFI) are congruent with the PROSODIC WORDS (PrWD), and the metrical positions (m) are congruent with the PHONOLOGICAL FEET (φ). Here, as always, it is important to distinguish the verse foot, which is a large abstract metrical object, from the phonological foot, which is a smaller linguistic phonological object. Close

51 ‘by the enemy’s deceit | in the dwelling-place of men’
matching between metrical structures and their equivalent prosodic structures is usual for prototypical and shorter lines, but not for longer lines, which are dealt with later in this chapter. A prototypical 10σ/12μ line in which verse feet and prosodic words overlap is shown in Figure 8.

![Figure 8. Line with 4 default feet showing metrical and phonological structure.](image)

In Figure 8, it is assumed that VC syllables are light (§2.1.4), so there is very close matching between the vowel mora count above and the prose quantity count below. Note that the highest phonological category, the intonation phrase, is not included at the bottom of the figure, as the line very rarely represents a whole syntactic sentence, which is the usual domain of the intonation phrase (Selkirk, 1980, 1986). An actual sentence (and therefore intonation phrase) in OE can be any number of phrases (and therefore verses) long, and can start either at the beginning of the line or after the caesura. In Figure 8, it is shown that Genesis 17 has four verse feet which are exactly congruent with four graphological words which are also prosodic words. Each of these words therefore fulfils a default verse foot, and each has the prominent syllable on the left boundary.

52 ‘lauded, in the majesty of the Lord [they] were’
Figure 5 (p. 78) shows that there is a leftward skew to the moraic distribution and particularly an overrepresentation of 11μ lines relative to 13μ lines. This suggests that the addition of 1μ to the rightward, degenerate position in the foot should be considered a more serious deviation than the reduction of the leftward, full position. Any line that is shorter than 12μ has one or more short feet, such as in the first foot of example 16.

16. (μ- μ-) (μ μ μ-)(μ μ μ-)(μ μ μ-) $\Sigma=11\mu$
   sorgum geswenced | sigore gewyrðod  And 116 53

The 11μ line in example 16 comprises 4 verse feet, three of which have the default asymmetrical arrangement (μμ μ-). The first verse foot, however, is short with two light positions (μ- μ-).

Table 8. Foot-building in a near-prototypical line.

<table>
<thead>
<tr>
<th>sorgum geswenced</th>
<th>sigore gewyrðod</th>
<th>VFT PARSE PRWD</th>
<th>RIGHT POS 1μ</th>
<th>LEFT POS 2μ</th>
<th>SYLL PARSE POS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (μ- μ-) (μ μ μ-)(μ μ μ-)(μ μ μ-) sorgum geswenced</td>
<td>sigore gewyrðod</td>
<td>*</td>
<td>*</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>b. (μ μ μ-)(μ- μ-)(μ μ μ-)(μ μ μ-) sorgum geswenced</td>
<td>sigore gewyrðod</td>
<td>*!</td>
<td>*</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

In table 7, SyllParsePos is breached by three feet, as a foot with 3μ/3σ must have one position containing two syllables. The flexibility of the length of the verse feet allow for sorgum at 2μ to be accommodated.54 The shortest possible line is one composed of four verse feet, each of which has two light positions making 8μ and because of the four-position principle, 8σ, as in example 17. In this line, graphological words, prosodic words and verse feet align.

17. (μ- μ-) (μ- μ-) (μ- μ-) (μ- μ-) $\Sigma=8\mu$
   ond miht forgef | manna scyppend  And 486 55

Example 17 shows a minimal line in which the foot boundaries coincide with word boundaries, including the first foot which contains two 1σ words. Minimal lines are always 8σ/8μ long and composed of four feet each with two syllables with a short vowel.

53 ‘with sorrows wearied | with victory honoured’
54 Assuming Minkova’s (2008) notion of the prefix ge- being outside the PrWd, the foot boundaries in Table 7b could be considered more optimal than Table 7a.
55 ‘and gave might | the creator of mankind’
Golston and Riad (2003b) postulate the existence of 7σ/8μ lines, but no shorter. The lines they cite in *Beowulf* and the lines of this size in the corpus for this project show other non-standard features, such as unusual syntax or words with available spelling variations, meaning that they are not clear examples for defending this feature. The existence of 7σ/8μ lines is not a strong defence of the absence of syllabic constraints anyway as, if we assume no syllabic constraints at all, 8μ lines could be any length from 4σ to 8σ. The four-position principle must be invoked as a separate constraint to account for the absence of 2σ and 3σ verses (§4.2.5). This principle, combined with the prevalence of syntactic breaks at the line ends and caesura, is an indication that the verse has an existence independent of the feet. This is expressed in the present study by an additional constraint that the verse must consist of at least four syllables.

Theoretically, in the model described in this chapter, lines can have any number of syllables between 8σ to 16σ, but because of the available words in the language, their inflectional morphology and grammatical requirements, 16μ lines are usually 10–14σ. Lines longer than 14σ tend to fulfil at least some of the requirements for 16μ lines but the boundaries of the prosodic words do not coincide with the boundaries of the feet. In maximal lines, one of the middle feet usually stretches over the caesura, and syllables are often split across feet, as is shown in example 18b. Example 18a is a rare 16μ line where no foot crosses over the caesura or prosodic word boundaries.

18. a. (μμ μ μ) (μ μ μ μ) (μμ μμ)(μ μ μ μ)
   ādrifen from duguðum | dōð swā ic hāte Gen 2325 56

   b. (μ μ μμ)(μμ μ μ)(μ μ μ μ)(μ μ μ μ)
   efne swā wide | swā dā wī…te…lāc Gen 2556 57

In 18a, the verb ādrifen has 4μ over 3σ and occupies a foot on its own. The second foot is occupied by a prepositional phrase which is a prosodic word congruent with the foot. The third foot is occupied by two words with 2μ each, a verb in the imperative and a common adverb. The fourth foot contains a pronoun and inflected verb. In this line, the feet neatly align with the boundaries of the prosodic words. In contrast, the first foot of 18b conforms to the edges of the first two graphological words. In a breach of the footing structure, the swā after the caesura borrows one mora from the second foot (mostly occupied by wide) and another from the third. Dā is within a foot, but split across

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56 ‘driven from the company, | do as I command!’
57 ‘even as widely | as the punishments…’
two positions, which is more common and a less serious breach. The compound noun wītelāc is written with ellipses to allow the feet to be placed above each vowel. With 5μ, wītelāc must reach over two verse feet, but at only 3σ, it cannot occupy a verse on its own. With an inflectional suffix, such as in wereas bās nedon | wītelāces\textsuperscript{58} Gen 2419, both the minimum verse length requirement (at 4σ), and the quantity requirement for two feet (3μ +3μ) are met. In 18b, however, wītelāc is aligned to the right edge of the line, where it occupies the whole of the fourth foot and borrows the final mora of the third foot. This final mora is also part of the prosodic head of the third foot, as is demonstrated by the alliteration between the second and third feet. This line shows the effectiveness of the metrical template, even when tested with multiple breaches of the basic structure. Example 18b is analysed with the metrical structure divided into verse feet and with the prosodic structure divided into prosodic words in Figure 9.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure9.png}
\caption{Maximal line showing breaches of syllable, foot and verse boundaries.}
\end{figure}

In Figure 9, a metrically complex line is shown, an ellipsis is added to allow the foot marking to be accommodated. Lines with so many disjunctions between the PrWds and the VFt are rare and disfavoured. In shorter lines such

\textsuperscript{58} “people awaited [their] punishment”
as those in examples 16 and 17 above, these boundaries are not crossed, which perhaps goes some way to explaining the preference for shorter lines in the corpus (§4.1.2). The corpus also contains lines which are longer even than 16μ. Some are hypermetric, which is a well understood rarer characteristic of long lines, and are addressed in the next subsection.

This sort of mismatching is an indication of interacting metrical and syntactic constraints. The syntactic structure of the line is reflected in the lower, prosodic tree. The caesura therefore represents a syntactic and prosodic break, but in this instance, not a metrical one. This must be considered a violation of the preferred structure when compared to a conforming line of a similar length like 18a. In OT, this is expressed as the interaction between a faithfulness constraint, requiring that grammatical relationships be expressed such as a Max-IO constraint, and one forcing the prosodic structures into the equivalent metrical structures, starting with the phrase and the verse. The parallel nature of the swā...swā ‘as...as’ comparative structure is as inflexible in OE as in PDE, so this makes a useful test case. The following constraints are adduced on the basis of lines with this type of variation.

19. OE LINE (GROUP) >>
    All words must fit into a line comprising four verse feet.

The following set of constraints enforces the metrical template at the level of the verse foot and metrical position, the quantity of the positions is dealt with by lower-ranking constraints (§4.2.1).

20. MAX-IO (GRAMMAR) >>
    All grammatical operations in the input must be rendered in the output.

    VERSEPARSEPHRASES
    The prosodic edge of a phonological phrase must align with the metrical edge of a verse.

These constraints create a circumstance in which a line with a function word which crosses the caesura is more optimal than a line with an intact caesura and no function word. This is shown in Table 9 where lexical items are included in the input as words, while the grammatical function in question is rendered in small caps, in this case swā...swā is given COMP for comparative.
Table 9. Grammatical faithfulness outranks metre-presody alignment

<table>
<thead>
<tr>
<th>input:</th>
<th>OE LINE</th>
<th>Max-fO (grammar)</th>
<th>Verses Parse Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>efne, wíde COMP dā wítelāc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(m - m m (mm m m) m m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>efne swā wíde</td>
<td>swā dā wí...elāc</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(m m (mm m m) (mm m) m m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>efne swā wíde</td>
<td>dā wíl...elāc</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(mm m m m m m) (mm m m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>efne wíde</td>
<td>dā wíl...elāc</td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

As shown in Table 9, the metrical structure of the maximal line from Figure 9 is shown to be optimal. In the shorter lines, the phrase boundaries and the verse boundaries can be made to match without moras needing either to cross the caesura or to have a syllable shared between feet. This shows that metrical constraints and syntactic constraints interact within the verse line.

4.2.4 Hypermetric lines

The application of the metrical template across the whole corpus is limited by the presence of hypermetric lines (§2.3.6). Hypermetric lines comprise one or two verses which are too long, or have too many stresses, to be considered standard lines. Hypermetric lines are few compared to standard lines and have not had much attention in full-scale studies of OE poetry since Bliss (1962)9, who provides a comprehensive list of the hypermetric lines in Beowulf and the rest of Anglo-Saxon Poetic Record (ASPR), according to his own analysis. There is no pretheoretical definition of a hypermetric line, but Eliss (1962) provides 483 hypermetric lines in the ASPR, around 1% of total lines. The corpus for the present study contains 236 hypermetric lines, around 3% of the total. This overrepresentation is an intended result of the selection process. Bliss (1962) describes hypermetric lines as being one and half verses in length, which in terms of the present study is reinterpreted as comprising three feet instead of two.

According to the analysis presented in the previous sections of this chapter, the standard line has four feet, and this limits both the length of the line, the number of prominent positions, and the range of the space between them. A hypermetric line may be composed of one hypermetric verse and one standard

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9Hartman (2010; 2011) has however made a focused study of hypermetric lines.
verse-making a line with five feet. This can be reflected in the binary branching analysis by allowing for a level HYPERMETRIC VERSE (HypV). Each HypV comprises one verse (V) and one VFt. The alliteration is still controlled by the V; there can be a maximum of two alliteration points in the a-verse, which are oriented to the left, the additional VFt on the right does not alliterate. As the primary alliteration point should occur in the first VFt of the b-verse, the left-branching structure shown in Figure 10 is adduced, which allows the primary alliteration point to remain in the first VFt of the V, while the final VFt has its alliteration blocked. This demonstrates that a VFt is only subject to alliteration when dominated by a V. This informs and is consistent with the alliteration constraints described in subsection 4.4.1.

In Figure 10, the a-verse has 8 syllables and 9 moras, which is near to the maximum for a whole standard line. The b-verse is 10 syllables, which is longer than the maximal verse, making for a total of 18 syllables at 21 moras, which is far beyond maximal standard line length. The shorter first verse has three default feet, while the longer second verse has three maximal feet. The alliterating heads (on the vowel) remain in the first and second VFt under the V in the a-verse, and the first VFt under the V in the b-verse. The addition of the HypV level allows for hypermetrical lines to be explained with the same basic model as standard lines without adding unnecessary metrical entities.

Figure 10. Metrical structure of a hypermetric line.61

In Figure 10, the a-verse has 8 syllables and 9 moras, which is near to the maximum for a whole standard line. The b-verse is 10 syllables, which is longer than the maximal verse, making for a total of 18 syllables at 21 moras, which is far beyond maximal standard line length. The shorter first verse has three default feet, while the longer second verse has three maximal feet. The alliterating heads (on the vowel) remain in the first and second VFt under the V in the a-verse, and the first VFt under the V in the b-verse. The addition of the HypV level allows for hypermetrical lines to be explained with the same basic model as standard lines without adding unnecessary metrical entities.

60 'up on the crossbeam. | They all there beheld the angel of the lord'
61 The structure of a line with a hypermetric a-verse and a standard b-verse (HypV | V) is superficially similar to the 14th century alliterative line form suggested by Minkova (2009), which presumably accommodates further changes in both the metrical system and the general phonology of Middle English.
These findings inform the formulation of the alliteration constraints described in section 4.6.

4.2.5 Lines shorter than 8σ

Disregarding degenerate lines, there are no 7μ lines in the corpus, but there are 15 7σ lines. These are instructive as counter-examples to the model presented in this chapter, as all of these words have dialectal or historical variations which allow the short verses to be reanalysed following the four-position principle. This may be considered evidence of a difference between the dialect in which the poem was composed and the dialect in which it was recorded. In any case these common textual features prevent these short lines from being considered good evidence for a complete lack of syllabic constraints in the verse design.

21. 7σ lines containing frea ‘lord’.
   a. mēn swēes frea, | hāt sīðan  
   b. swēen reecan | sīnum frea  
   c. līfrēa mīn, | lēafum þecce.  
   Gen 2784  
   Dan 159  
   Gen 868
Bosworth-Toller (1898) gives þvecla as a 2σ alternative to frea with 1σ.

22. 7σ lines containing þrēa ‘rebuke’.
   a. cynn on ceastrum | mid cvealmþrēa  
   b. gāsta waldend! | Grāp hēþrēa  
   Gen 2509  
   Gen 2547
Bosworth-Toller (1898) gives þrawu as an 2σ alternative to þrēa with 1σ.

23. 7σ lines containing gān ‘go’
   a. Sarra sunu, | sōð ford gān  
   b. on bedd gān | brýde lārum  
   c. ond ford gān | foldweg tredan,  
   Gen 2356  
   Gen 2236  
   And 775

---

62 ‘my own lord | command [her] to travel’
63 ‘to interpret the dream | for his lord’
64 ‘my Lord of life | I cover [myself] with leaves’
65 ‘in the town | with mortal terror’
66 ‘Lord of spirits! | Great terror gripped [the heathen people]’
67 ‘Sarah [will] bear a son | [a] true [fate] go forth’
68 ‘to go to bed | by [his] wife’s advice...’
69 ‘and go forth | to tread the paths of the Earth’
Gân has a related synonym gangan, Bosworth-Toller (1898) include instances of forð gangan ‘go forth’ as examples.

24. 7σ lines containing onfōn ‘take on’
   a. þām lēodþēawum | Loth onfōn, \( \text{Gen 1938} \) \(^{70}\)
   b. dryhtwuniendra | dǣl onfōn. \( \text{Gifts 7} \) \(^{71}\)

Like gân, fōn ‘take’, has two variations in dialects in classical OE and related languages, so that it is fongen in some dialects of ME, with the alternatives fā and fānga in ON. Monosyllabic and bisyllabic variations of both of these verbs are found in Beowulf, Andreas and Genesis.

These examples all represent monosyllabic instances of words with near synonyms or dialectal variations which are disyllabic. It is probably the case that a number of other lines could be similarly affected by this variation, which may contribute to the skew towards shorter lines shown in Figure 4. A separate issue is the use of non-Germanic names. The longer names are shown to have a particular set of features which reveal aspects of the underlying metrical and prosodic structure. There are also short names which are anomalous with reference to the verse design as described in this chapter.

25. 7σ lines containing Sarra
   a. to Sarran | sinces brytta: \( \text{Gen 2728} \) \(^{72}\)
   b. wið Sarran | swīðe winnan. \( \text{Gen 2243} \) \(^{73}\)

26. 7σ lines containing Noe or Cham
   a. se yldesta, | ōðer Cham, \( \text{Gen 1241} \) \(^{74}\)
   b. earc Noes, | þe Armenia \( \text{Gen 1423} \) \(^{75}\)
   c. suna Noes | Sem and Cham, \( \text{Gen 1551} \) \(^{76}\)

These names do not occur in sufficient phonological environments for conclusions to be drawn about their prosodic status, but it is clear that the inclusion of these names in Genesis represent stark counterexamples to the four-position principle which is so strongly followed in all other lines and texts.

\(^{70}\) ‘[nor would] the customs of that country | Lot accept’
\(^{71}\) ‘[each would] of those dwelling among the people | a share receive’
\(^{72}\) ‘to Sarah | the giver of treasure’
\(^{73}\) ‘with Sarah | to labour greatly’
\(^{74}\) ‘the eldest | also Ham’
\(^{75}\) ‘Noah’s ark | which [are called] Armenia’
\(^{76}\) ‘the sons of Noah | Shem and Ham’
4.2.6 Lines longer than 17 vocalic moras

Figure 5 (p. 79) shows the range of the lengths of the lines by vocalic moras in the corpus. Although this figure shows a minimum length of 8μ and an average around 12μ, a tail of lines longer than 16μ is also in evidence. Lines which are longer than this 16μ maximum length are supermaximal and demonstrate a serious deviance from the model described so far in this chapter. This subsection argues that foot-building and line-building constraints are dominated by some grammatical constraints, including those dealing with clause subordination.

Supernormal lines are differentiated from hypermetric lines in that hypermetric lines have at least one verse with three stresses separated by unstressed syllables, marking out three verse feet. Hypermetric lines are typically longer than 16μ, because they contain five or six verse feet. Supernormal lines, by contrast, show no evidence of additional metrical heads or identifiable verse feet. This subsection deals with lines which do not appear to have additional feet, but nevertheless are longer, in terms of vocalic moras, than the model allows for a standard line.

The metrical structure of OE metre is not obvious on the surface, so it should be no surprise that metrical constraints are frequently breached, or that many breaches can sometimes concentrate in a single line. However, supernormal lines occur with a very low frequency, although sometimes they are clustered together. Hypermetric lines (listed in Bliss, 1962), and Genesis B (lines 235–851) have been excluded from these data. The number of supernormal lines in the corpus is shown in Table 10. Andreas and Genesis were isolated for this investigation into supernormal lines. These longer poems were selected for the corpus on the basis of their length and proposed metrical typicity and homogeneity (§3.1.2). However, some of the shorter poems in the corpus were chosen precisely because they have deviant features, including a high proportion of hypermetric lines. This is particularly the case for the middle-length poems Battle of Maldon, Judith and Daniel. Genesis B, which is a translation from the Old Saxon, is also excluded from the following data.

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77 Two further lines were removed from the sample. Gen 2046 has 17μ but both precedes a degenerate line and does not alliterate. Gen 1601 uniquely comprises 3 half-lines in Krapp & Dobbie (1931): fricomen after flosec and ffige ðæc þæ he forð gewað. This editorial choice is unmotivated by Krapp & Dobbie, but in this example an exclamation mark is added to show the beginning of the third verse. Remley (1996) suggests that the third verse may be a hidden gloss as described by Bamnesberger (1984). Because of this deviant feature, this line has been excluded.
The total number of supermaximal lines is very small, but not insignificant, and there is a greater incidence in *Andreas* than in *Genesis A*. In *Andreas*, 37 of 1722 (2.1%) are supermaximal. In *Genesis A*, the value is 16 of 2320 (0.7%).

In the majority of lines which are over 17μ, the excess length can be explained as being caused by the inclusion of grammatical material ahead of a prominent position, usually before the first or third verse foot. In those lines which are 18μ or over, the extraneous syllables can always be attributed to grammatical material ahead of the primary alliterating position in the third foot, as in example 27. In this subsection, the prominent syllables are underlined to indicate the heads of the verse feet. An exclamation mark is used to show a mora which is not within a foot boundary.

27. (μ μ μ μ)(μ μ μ μ)(μ μ μ μ) ! (μ μ μ μ) (μ μ μ μ) Σ =17μ
ealle of ānum | þā hē þās eorðan gescēop  Gen 219 

Example 27 has 5σ and 6μ in the a-verse, and 7σ with 11μ in the b-verse. Between the phrase break which indicates the caesura, and the head of the third foot in *eorðan*, function words are included with a total of 6μ. As with many longer lines, the verse feet do not match neatly onto prosodic words, and the feet boundaries reach over both the caesura and some syllables with long vowels. However, the parse given above, in which the a-verse is parsed from the left, and the b-verse from the right, is the only possible arrangement in which each foot can have its head in a place which fulfils alliteration requirements. The exclamation mark in example 27 shows that the first mora of the word *hē* cannot be accommodated even in a maximal line.

Fabb (2014) claims that a single line of poetry is treated as a whole unit in working memory. The length of any verse line is therefore limited by working memory, and notes that working memory has been calculated to be able to

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Table 10. Supermaximal lines, length and distribution.

<table>
<thead>
<tr>
<th>μ</th>
<th>Andreas</th>
<th>Genesis A</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>16</td>
</tr>
</tbody>
</table>

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78 ‘all out of one | when He this earth created’
deal with chunks amounting to around at most 15 words if they are syntactically related. This limit is considerably longer than any standard line in OE poetry. He additionally notes that “very few metres allow more than 15 syllables to a line” (Fabb, 2014, p. 15), a limit which is also reflected in these supermaximal lines, as the longest standard line in the corpus has 20μ across 15σ. The conflict with the figures shown in Table 5 is a result of the methodology used to exclude hypermetric lines. The 21μ lines shown in these data could, in my view, be considered hypermetric according to the definitions given in subsection 4.2.4. An attempt to fit this line into the metrical template presented earlier in subsection 4.2.3 is more than the model can bear. The nearest possible parse is shown in example 28. Here, the exclamation marks show moras not within a foot boundary.

28. ! ! !(μ μ μμ) (μ μ μμ) !(μ μ μ μ)(μ μ μ μ) Σ =20μ/15σ
de ic þē on tēonan geþāh. | Nū ic þæs tācen wege Gen 885

There is of course a difference between lines being possible to contain as a whole unit in the working memory and their fulfilling the verse design they are supposed to adhere to. The difference between the four strictly controlled verse feet and the possible range of an intonation phrase in OE is considerable. The fact that there is no prominent syllable near the beginning of the line indicates that this cannot be a hypermetric line of 5 or 6 feet, but that there is some other factor causing its unusual length. While it can be shown that these lines are overlong because of the inclusion of function words at the beginning of verses, there are so many extra moras that the verse structure is severely compromised.

The Germanic languages allow for variation in the vowel quantity of certain clitics under different prosodic conditions (Selkirk, Morgan, & Demuth, 1996). This observation could be connected with the notion of displacement of proclitics. When a proclitic remains in its syntactically preferred position, it can have a phonologically reduced form. An alternative parse of this line, with the vowels of the function words shortened, is presented in example 29, which can be compared with example 27 on page 96.

29. (μ μ -)(μμ μ-) (μ μ μ μ)(μ μ μ μ) Σ =14μ/11σ
calle of ānum | þa he þas corðan gescēop Gen 219

79 Possible hypermetric lines not included in Bliss (1962) include Dream 114, Gen 1601 & 2503, Dan 442 & 444 and Rhym 45.
80 ‘which I accepted in sin against thee. | Now I this token carry’
81 I am indebted to Patrik Bye who reminded me of this fact in this context.
Example 29 allows for a foot structure to be postulated which more closely
fits the prosodic word boundaries and respects the caesura. However, this is
probably a feature of the design of the model, as it is always easier to parse
shorter lines so that the verse feet and the prosodic words align. This type of
solution stops being useful as the breaches of the maximum length constraint
increase. The longest line by moras are 20µ, which with this assumption is
reduced to 18µ, as in example 30, which contrasts with example 28 above.

30. !! (µ µ µ) (µ µ µ) (µ µ µ) (µ µ µ) Σ = 18µ/156
    de te bôn ge Humph | nu ic bôc | tâen gege | Gen 885

Here it is shown that variation in the length of function words has a negligible
effect in allowing longer lines to be accommodated to the verse length con-
straint.

Most unstressed affixes have only 1µ, but a substantial number of function
words with similar prosodic status have 2µ, such as hêo and pone, or even 3µ
such as pêre. Combinations of these, such as the common subordinating con-
junction pere pe, which has four moras but no stress, can fulfil the maximum
length of a foot (and the minimum for a verse). In most instances, these do not
cause the line length range to be broken. These breaches suggest that the line
range constraints rank below some grammatical constraints, such as those
which govern subordination.

The supermaximal lines in the sample break the maximal line length constraint
because there is a large amount of grammatical material at the beginning of
the phrase which occupies the verse. This may be a complex subordinator, or
a combination of pronouns, prepositional adverbs or other. It is to be assumed
that breaches of the foot structure caused by obligatory grammatical material
do not only occur in supermaximal lines (17µ+) lines, but also in maximal
and near-maximal lines (14–16µ) which have much grammatical material be-
fore the head of a foot.

4.2.7 Left-heaviness as a breach of binarity

The binary branching model is able to describe the great majority of extant
lines with the variations noted above: most of these variations are minor, add-
ing very littlemetrical complexity. However, there is one subtype of lines
which cannot be accommodated by the model as presented in this section. Ac-
cording to the model, a verse foot must contain two vowel moras, but occa-
sional examples can be found where this foot structure is not fulfilled.
Left-headed verses (Sievers type D //xx) have two prominent syllables against the left boundary, as in example 31, in which stress, quantity and foot structure are annotated.

31  
(μ-μ-)(μ μ μ-) (μ- μ- )(μμ μ-)
Þēodcyninga | þrym ge…frūnon

In example 31, the a-verse has two feet occupied by one compound word. In the first foot, both metrical positions are filled by the long diphthong in the component Þēod-, and as the first component in a nominal compound, it is also a stressed syllable. However, there is a variant of the left-headed verse with a short vowel and a heavy coda. These cause a major breach of the verse building constraints in this model, as in example 32, in which foot structure and metrical positions are annotated.

32.  (m !) (m m) (m m) (m m)

In example 32, a left-headed verse with a subminimal foot is shown. In the rest of the line, each foot is filled to maximum, but the alliteration in the a-verse indicates that deorc occupies a foot on its own. The second position in the first foot is not occupied. Exclamation marks are used to show the missing phonological objects. The most controversial part of the model is the assertion that the quantity of syllables is to be measured only in vowels, while some systems allow for syllables with a single consonant in the coda (VC) to be considered light. In order to address the weakness in the model, the vowel quantity data in the corpus was recalculated so that all VCC syllables were given a value of 2μ rather than 1μ. The corpus data with the modification was shown to not be statistically significantly different from the data where VCC syllables are counted as featuring only 1μ. As such it was not thought important enough to change the theoretical assumptions of the project at the late stage that this was discovered. VC and VCC syllables are counted as being metrically equivalent at 1μ. Nevertheless, the notion that simple codas do not contribute to syllable weight is arguable, whereas the notion that complex codas do not contribute to weight is a much stronger, and less defensible, claim both from a cross-linguistic perspective and in OE in particular.

82 ‘of national kings | glory we heard’
83 ‘dark death-shadow, | grown men and youths’
4.2.8 Binary Branching summary
Each line of OE verse is based on a template of four verse feet with a default length of three vocalic moras. The line length variation is explained in terms of the 3μ verse foot being modified by ± 1μ per foot, so that each metrical position may contain 1μ or 2μ. Each of these feet has one head. The head of the verse foot is occupied by the first syllable of the root of the most prominent lexical item. There is no prohibition on the position of the prominent position, it can occur anywhere within the verse foot, and generally this coincides with a stressed syllable. The placement, however, is not free, as it is determined by the native phonology of OE words, which places the stress on the first syllable of the root. The most favoured position for the prominent syllable is therefore at the left boundary of the verse foot. The constraint which places the prominence at the left boundary is however often outranked by constraints which place grammatical material such as prefixes, subordinators, pronouns and determiners etc., ahead of the first stress. The relative prominence of lexical items is determined by competition between word classes.

4.3 Metrical prominence and lexical succession
This section addresses how different types of words occupy the heads of verse feet, and how relative metrical prominence is established between different word groups. It is shown that while nominals have a special status in relationship to prominent metrical positions, there is no need to posit further superordinate categories. A heuristic is described by which the head of a verse foot is filled by the most prosodically prominent word within the foot.

It is clear that alliteration, metrical prominence and root stress are closely correlated in Germanic verse. Prototypically, the head of each verse foot should be occupied by a word with root stress, sometimes known as primary stress. However, an analysis of OE verse must also take into account those circumstances in which these three key features of the metre do not all occur in a single metrical position. This section addresses the means by which words without root stress can occupy the heads of verse feet and meet the requirements of the metrical template. The process by which non-nominals compete with each other to be the head of a metrical foot is called lexical succession in the present study. This is achieved by ordering word classes according to their status on a lexicality-functionality continuum. Lexical succession determines which syllable occupies the prominent position in this foot. Alliteration, which indicates this prominence, is discussed in section 4.4 below. This succession replaces Kuhn’s (1933) three superordinate stress categories, which Bliss (1962) describes as Stressed Elements, Particles and Proclitics. As the three
categories are congruent with groups of word classes, the present study arranges the word classes themselves in order of lexicality. Figure 11 reflects the relative status of lexical items and the tendency of their root syllables to occupy the heads of verse feet.

Figure 11. OE word classes in comparison with Bliss categories.

Figure 11 is based on Hopper and Traugott’s grammaticality cline (2003), with Kuhn’s categories as described by Bliss (1962), and word classes as given by Mitchell (1985). As a general tendency, the more lexical categories contain more items, and the most lexical items, nouns and names, are theoretically unlimited. Adjectives and verbs are also very numerous. Note that adjectives and the adverbs derived from them by the addition of a suffix are grouped together with other nominals; they are separate from common adverbs, which are not transparently derived from other classes. The arrow indicates that the categories are not discrete, although there is a prosodic distinction in OE between words with root stress and those without. Smith (2011) discusses the relative stress status of nouns, adjectives and verbs from a cross-linguistic perspective, noting that nouns in particular have a what she terms prosodic privilege. She further observes that if inflectional patterns are shared between nouns and adjectives, adjectives pattern phonologically with nouns. This would apply to OE, where nouns and adjectives are subject to similar case, number and gender inflection. This similarity is supported by the alliteration patterns in the corpus, where there is no clear preference for nouns to alliterate more frequently than adjectives. The shared privilege that nouns and adjectives have over verbs and other items, allows for the category of nominals to be taken seriously, even if the distinction between non-finite and finite verbs remains unclear. This distinction is discussed later in this section and in section 4.4.

The nominal classes, Bliss’s *Stressed Elements*, come with a root stress and are consistently prominent in verse lines. This root stress creates the head of a
prosodic word in the prose phonology, and this stress also prototypically occupies the head of a verse foot in the metre. On the basis of the analysis made in chapter 5, numerals are added to this category. On the basis of the conclusions of earlier studies, a distinction is made between verbs in the infinitive and finite verbs. Verbs in the infinitive frequently occupy the final non-alliterating prominent position, but finite verbs do so less frequently. Numerals are classified with Adjectives because of their similarity in inflections, and because they frequently alliterate. While numerals are produced from a very limited set of components, they can be combined infinitely when compounded. Numerals are discussed in more detail in chapter 5. Some function word classes, including conjunctions and demonstratives, are not included by Bliss (1962), as they have no detectable effect on alliteration. In Figure 11, these functional items would be listed to the right of proclitics. In feet which do not contain a root stress, it can be shown that other words gain metrical prominence without being displaced and without necessarily needing to invoke stress, or a change in prosodic categories.

4.3.1 Root stress and prototypical prominence

The word classes which prototypically feature alliteration in the line include names, nouns and adjectives. These word classes come with a stress on their root syllable and prototypically occupy prominent metrical positions. To these, verbs in the infinitive are added, as these can often be shown to occupy whole feet, particularly in the unalliterating final position. The status of metrical prominence in syllables which do not have lexical stress is discussed in this subsection with relation to lexical stress and verse foot structure.

In verses where two nominals occur as separate words, the stressed syllables are straightforward to identify on morphological grounds alone (§2.1). In this section so far, the possibility for a syllable to occupy a prominent position is shown to depend on its word class. This can, however, only apply to those words which fulfill the prominence requirements of a single verse foot. For words which occupy two feet, the system must be elaborated. In the cases of compounds and derivational nouns, it can be shown that they sometimes occupy the heads of two feet and sometimes only the head of one. In example 33, three instances of the commonplace compound *ælmhīg* ‘almighty’ are shown to occupy different metrical structures in different metrical circumstances. Compounds like this comprise two components, each of which meets the requirements for a prosodic word (§§ 2.1.4, 4.3.3).
In 33a, *ælmihtig* occupies the second verse foot. It is usual for the unsuffixed form of this word to occupy one foot alone. In 33b, however, alliteration reveals that the first component of the suffixed form *ælmihtiga* occupies the head of the third foot with some function words, while the second component of the word occupies the final foot alone. In both instances, an ellipsis is added to show verse foot boundaries. In 33c, alliteration reveals that the suffixed form *ælmihtiges* occupies the whole final foot on its own.

The generalisations shown in the above examples do not only apply to nominal compounds, although the alliteration patterns sometimes show that certain types of compounds do not follow this pattern. PREP+NOUN and PREP+VERB compounds have the stress on the lexical root, not the preposition (which is the first component). For example, in the hypermetric a-verse *þurhdrifan hī mē mid deorcan næglum* (Dream 46a), the first stress of the line, and the first stress position, is in the *dri* syllable of *þurhdrifan*. A similar stress pattern is discussed for numbers in subsection 5.1.3. Noun-Adjective compounds are stressed on the root syllables of both components. These compounds can be explained in the same way as other words, by determining a set of stress-related prosodic constraints which produce prosodic words. The following examples give several instances of how compounds may be realised in terms of primary and secondary stress. The stress and quantity arrangements of compounds vary between occupying a whole or partial single verse foot, two whole verse feet or parts of two verse feet. Example parses for compounds are seen in 34, with foot boundaries and stress marking to show the prominent syllables.

34. ( ) ( ) ( ) ( )
   a. *Secga seledrēam| ond sincgestrēon*  
   And 1656 88

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84 ‘eternal almighty | forsake [me]’
85 ‘you increase your misery | whom the almighty [humbled]’
86 ‘he then set out to depart | of the Father almighty’s [commands he was mindful]’
87 ‘they pierced me through with dark nails’
88 ‘men’s hall-joy | and jewel-achievement’
b. Heofonweardes gehāt, | hā him þurh hā...lig word  
   Gen 1796 90

   ( . . ) ( . . ) ( . . ) ( . . )

c. in heofonþrymme | hālgum scíneð,
   And 1770 90

   ( . . ) ( . . ) ( . . ) ( . . )

d. forð oferforan | folcmaer lān
   Gen 1802 91

In example 34, several metrical realisations of compound nouns are shown, along with several ways of the feet being distributed in the line. In some circumstances, a primary stress : is the head of the foot, in others the secondary stress : is the head. The distinction is that a secondary stress is generated by the stress on the second component being subordinated to a primary stress in the first component. Once placed into a verse line, however, these stresses can interact with the metrical template in different ways. In 34a, seledriam is included in a single foot, with a primary stress as the head. In the b-verse, the need to include ond within a foot means that the maximum size of 4μ is overstretched, so a foot is formed with ond and the nearest stressed component sinc, and a second foot for the remainder of the word. Similarly, in 34b, heofonweardes occupies a foot of its own, while in 34c heofonþrymme occupies two to accommodate an unstressed dític. 34d demonstrates that in the case of monosyllables, the borrowing of unstressed syllables from other words into their verse feet is a perfectly normal way of making well-formed feet.

4.3.2 Root stress and stressed suffixes

In this subsection, it is claimed that secondary stress (§2.1.2) is a surface realisation of two different stress conditions. Secondary stress can occur due to compounding, in which a root stress in the second component becomes subordinated to the root stress in the first component. A different secondary stress is shown to occur in derivational suffixes. Unlike the root stress in the second component of compounds, suffix stress can be suppressed under certain prosodic conditions.

The difference between root stress and suffix stress can be shown by comparing the varying metrical statuses of inflectional variants of certain common derivational words. Every analysis of Beowulf has had to deal with the unusual metrical conditions surrounding the frequently occurring noun æpelings ‘princed’. It is noted by Sievers and formalised by Bliss that æpelings undergoes

90 ‘heaven-guardian’s promises | which to him, through a holy word’
91 ‘in heaven-glory | on saints [it] shines’
91 ‘forth over-passed | people-famed land’

104
some alternation so that the -ing suffix is apparently stressed when in an intermediate position in a word. In other words, this word occupies one foot unless it has an inflectional suffix, in which case it can occupy two. Bliss ascribes this to a tertiary stress feature which applies to compounds with obscure morphology, including some personal names (Bliss, 1962, p. 8). Bliss notes that Sievers “makes no distinction between ac || se māga | geonga with two stressed elements and hū || āpelingas with only one, classing them both as Type C2”. This equivalence suggests that the derivational suffix gains a full stress under these circumstances, which fulfils Bliss’s requirement that heads may only be occupied by primary stresses (Bliss, 1962, p. 82). The analysis presented in this study does not rely on primary stress and has a maximum foot size of 4μ, and Bliss’s treatment is not compatible with it. The model presented so far does not allow for derivational endings to be the heads of feet, regardless of their phonotactic environment.

While stress is not the only consideration for assigning metrical prominence in this model, stressed syllables are prototypically prominent. Three variants of æþeling are shown below with verse foot structure. An ellipsis is added to allow foot boundaries to be shown, the prominent syllables are underlined.

35. (μ μ-)(μμ μμ)(μμ μ-)(μ- μ-)
   a. æþeling ānmōd, | ōðern…e bed Gen 1662 93
       (μ μ-)(μμ μ-)(μ- μ-)(μμ μ-)
   b. þonne æþelinga | corlas wēnad, Gen 1826 94
       (μ μ μ-)(μμμ-)(μ μ μ-)(μ- μ-)
   c. ðonne eft gewāt | æþelinga helm And 655 95

In example 35a, the unsuffixed 3σ form of æþeling occupies a verse foot on its own, the alliterating adjective ānmōd occupies the other. In 35b, the 4σ suffixed form æþelinga, occupies both the head of the first foot and the whole of the second, in the same way as a compound. This is contrasted in 35c, where æþelinga occupies only the primary alliteration point and is followed by a 1σ noun which occupies the head of the fourth foot. Compounds with ædel are common in prose, particularly in personal names, but these are not found in

92 The lines showing prosodic breaks are retained according to Bliss’s conventions, each of the citations represent a single verse.
93 ‘a prince steadfast, | with another argued…’
94 ‘then of princes | the chieftains will suppose…’
95 ‘then afterwards departed | the defender of princes’
the corpus for the present study. For ease of comparison, however, the commonplace compound name *Edelstân* is used. The following subsection deals with those constraints.

4.3.3 Constraints for prosodic word formation

In this subsection, the formation constraints for prosodic words are adduced. These inform the structure of verse feet in so far as prosodic words and verse feet are congruent in idealised or prototypical OE verse lines. The Optimality analysis presented in this subsection relies on the assumption that nominal roots are always stressed and that this determines their status as Prosodic Words. It furthermore relies on the notion, which is introduced in the previous subsection, that derivational suffixes should be considered to have stress in the input, but that those suffixes do not have the same prosodic status as free lexical items. The constraints and their ordering are given further motivation based on the evidence from non-Germanic names presented in chapter 6.

The constraints are based on the terms used in Kager (1999), which sometimes differ from traditions outside of OT.

36. **GrWD=PrWD**

A grammatical word must be a prosodic word.

This is a standard constraint in which ‘grammatical word’ indicates a word which has a grammatical presence, rather than a grammatical function. In this subsection, ‘lexical word’ and ‘grammatical words’ are the same thing. In OE, lexical words are distinguished from function words by carrying lexical stress, and the stress is placed on the first syllable of the root (Riad, 1992). Lexical stresses prototypically occupy the heads of prosodic words. According to Kager (1999), ‘the prosodic hierarchy guarantees that every PrWd dominates at least one [phonological] foot – hence the combined result of GrWd and the prosodic hierarchy is that every grammatical word has at least one stressed syllable’ (Kager, 1999, p. 166). Two-syllable roots in OE are never stressed on the final syllable, which suggests the following constraint.

37. **NonFinal (Stress)**

The final syllable of a grammatical word may not be stressed.
This constraint prevents OE words from having stress in their final syllable, so that a two-syllable root will always be stressed on its first syllable. However, monosyllabic words have stress on their final (and only) syllable, while also having stress on their initial (and only) syllable. Ranking these constraints in the order shown in Table 11 allows monosyllabic roots to be stressed, while obliging disyllabic roots to have stress only on their initial syllable. The stress assignment in lexical monosyllabic words is shown in Table 11. Prosodic word boundaries are marked in parentheses, and primary stress is indicated by an acute accent.

Table 11. Monosyllable word in prosodic word-formation.

<table>
<thead>
<tr>
<th>input:</th>
<th>GrWd=PrWd</th>
<th>NonFinal (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wéald</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>* (wéald)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>weald</td>
<td>*!</td>
<td></td>
</tr>
</tbody>
</table>

The strong masculine noun weald ‘wooded hill’ is from wesan tō wuhte. | Úton gān on ðysne weald innan, Gen 839.

Nominal roots come with an input lexical stress. The competition in this tableau is between a weald with a stress (and therefore the status of a prosodic word), or one without. Unstressed words are prosodic clitics and do not undergo this process. Although very many OE words are monosyllabic in the nominative, two-syllable words are also prosodically optimal, as shown in Table 12. In this tableau, prosodic word boundaries in the candidates are marked (by parentheses).

---

96 Instinctively, one imagines that in a trisyllabic root in OE, the stress would still be on the initial syllable and not on the medial syllable, a distinction which this analysis fails to enforce. The paucity of trisyllabic roots in OE, and their absence from the verse corpus, makes it impossible to properly investigate this nagging doubt. The introduction of trisyllabic words into Middle English from French is considered one of the triggering factors in the change of the stress system (Minkova, 1997; Cain & Russom, 2007).

97 ‘…to exist at all. Let us go into this wood’. Note that this line is from Genesis B, in which line length constraints do not apply.
Table 12. Disyllabic word in prosodic word-formation.

<table>
<thead>
<tr>
<th>input:</th>
<th>GrWd=PrWd</th>
<th>NonFinal (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wéalda</td>
<td>wéal.de</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>weal.da</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(wéal.dá)</td>
<td><em>!</em></td>
</tr>
<tr>
<td></td>
<td>(wéal.dá)</td>
<td><em>!</em></td>
</tr>
</tbody>
</table>

The weak masculine noun wealda ‘ruler’ is found in the compound ānwealda in ānwealda ælmihtig, | englum tō blisse, Dream 153, but occurs uncompounded in texts outside of the corpus.

With disyllabic words, the competition is rather whether the initial or final syllable should receive a stress, or whether both should. Here it is shown that the optimal stress assignment in OE is a left-headed PrWd including two syllables. If a word undergoes further word-formation by being the host of one or more affixes, the alliteration patterns show that this does not affect the position of the stress within the prosodic word. The stress remains on the first syllable of the root (§2.1). Due to the variability in the stress conditions of certain syllables described for stress by Minkova (2008), prefixation is left out of this word-formation generator. Minkova’s (2008) constraints are compatible with those shown here, and to a certain extent overlap. However, none of the items dealt with in later sections require variable stress on prefixes, and the reranking of constraints which creates this variation. For the sake of a streamlined analysis targeted at secondary stress they have been left out.

Stress in OE words is not adjusted by affixation, as is often the case in Present-Day English (Markus, 1994). Alliteration indicates that the stress remains on the root in all words. This indicates a high-ranking constraint tying the structure of the prosodic word to lexical roots.

38. **ROOTSTRESS**

Lexical stress is assigned to the leftmost syllable of the lexical root.

This constraint places the stress on the first syllable of the root, and therefore the left edge of the prosodic word also occurs against the left syllable of the root. Word formation constraints can be applied several times to the same lexical item: once for the root, and again for affixation and/or compounding.

---

98 ‘sole ruler, almighty | to the joy of angels’
99 e.g. obligate but obligatory, exhibit but exhibition.
Minkova’s (2008) analysis concludes that unstressed prefixes must occur outside the PrWd, as is shown in Table 13. The root is shown in square brackets to indicate its lexical status.

Table 13. Prefixed word in prosodic word-formation.

<table>
<thead>
<tr>
<th>input:</th>
<th>GrWd=PrWd</th>
<th>Root</th>
<th>NonFinal (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ge[wéald]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ge.(wéald)</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(gé.weald)</td>
<td></td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>(gè).(wéald)</td>
<td></td>
<td>*!</td>
<td></td>
</tr>
</tbody>
</table>

The prefixed form geweald ‘authority’ is from and wildu dēor | on geweald geseald, Gen 1516.100

The GrWd=PrWd is violated in the lowest candidate because the prefix ge- at 1μ is insufficient to form a prosodic word (Minkova, 2008). Forms which have both a prefix and a suffix are also acceptable, as shown in Table 14.

Table 14. Prefixed and suffixed word in prosodic word formation

<table>
<thead>
<tr>
<th>input:</th>
<th>Root Stress</th>
<th>NonFinal (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ge[wéald]e</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ge.(wéal.de)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(gé.weal.de)</td>
<td></td>
<td>*!</td>
</tr>
<tr>
<td>(gè.weal.dé)</td>
<td></td>
<td>*!</td>
</tr>
</tbody>
</table>

Gewealde ‘control.DAT’ is from ides Egyptisc, | ān on gewealde Gen 2229.101

In a longer word like this, there are more theoretically possible arrangements of stresses. Here it is shown that the rearrangement of stresses within the foot is not permitted because of the high-ranking status of ROOTSTRESS relative to the prosodic constraints further to the right. This is the case for all monosyllabic and disyllabic words and all words with prefixes or inflectional suffixes. The derivational suffixes, which have a different status, are discussed in the following subsection.

100 ‘and wild animals, | [under your] authority given’
101 ‘an Egyptian woman | one under control’
4.3.4 Word formation in derivational nouns

In Table 15, the input in the word formation generator includes the root *æpel*, which is already an independent free morpheme, and is in brackets in the input to show its status as a lexical root. The stress on the first syllable of its root cannot be lost in further word-formation processes. However, the affix -ing is not a prosodic word alone. In affixed words, stressed syllables not found on roots are covered by a different faithfulness constraint. This type of stress is not associated with OE roots and so requires a separate constraint.

39. IDENT-IO (STRESS)

The stress conditions of the syllables in the output must be identical to the stress conditions of the syllables in the input.

This constraint ensures that lexical stress remains on the root of words which undergo affixation, rather than allowing them to be rearranged. In OE, alliteration shows that, in lexical items, stress remains on the first syllable of the root regardless of affixation. This is placed between the higher-ranking stress assignment constraints and the lower-ranking contour constraints ROOT-STRESS >> NONFINAL >> IDENT-IO. This sequence creates a secondary class of stress which differs from the primary stress attached to the root. In these tableaux, secondary stress in the output form is indicated with a grave accent.

Table 15. Possible prosodic realisations of *æpel-ing*.

<table>
<thead>
<tr>
<th>input:</th>
<th>GrWd=PrWd</th>
<th>Root-Stress</th>
<th>Non-Final (stress)</th>
<th>Ident-IO (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[æpel], ing</td>
<td><em>æpel</em> (æpel-ing)</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(æpel),(ing)</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The same constraints on a form with both a derivational suffix and an inflectional suffix *æpel* + *ing* + *as* produce a form with two stresses. This is shown in Table 16.

Table 16. Possible metrical renderings of *æpel-ing-as*

<table>
<thead>
<tr>
<th>input:</th>
<th>GrWd-PrWd</th>
<th>Root Stress</th>
<th>Non-Final (stress)</th>
<th>Ment-IO (stress)</th>
</tr>
</thead>
</table>
| [æpel], ing, as | *æpel* | *æpel* (æpel,ing) | | *
| (æpel,ing) | | | |

110
In Table 16 the constraint set is shown for a grammatical word which has both a derivational suffix and an inflectional suffix. The presence of the inflectional suffix prevents the lexical stress in the derivational suffix from being suppressed by the non-final constraint. This surface form is metrically comparable to other nominal compounds or compound names, which have two free morphemes in the input. Table 17 shows the same process with the name *Æðelstān* which does not occur in the corpus, but shares a first element, and follows the pattern of other compound names (Carr, 1939).

Table 17. Possible metrical renderings of *Æðelstān*

<table>
<thead>
<tr>
<th>Input: [ǽþel], [stān]</th>
<th>Root-Stress</th>
<th>Non-Final (stress)</th>
<th>Ident-IO (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* (ǽþel). (stān)</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ǽþel). (stān)</td>
<td>*!</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>(ǽþel stān)</td>
<td>*!</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

In Table 17, both components of the compounds *ǽþel* and *stān* are roots; so *stān* retains its underlying stress because ROOTSTRESS is higher than NON-FINAL. The process of compounding causes the second stress to become metrically subordinate to the primary stress. Two minimal PrWds are combined into a maximal PrWd. Nevertheless, the subordinate stress occupies the head of a PrWd, and the two small PrWds together form a single lexical item, which is roughly size of a Phonological Phrase, and therefore can occupy a whole verse as well as the heads of both verse feet. Within the verse design, a secondary stress, whether produced by compounding, derivation, or borrowing (§6), may occupy the head of a verse foot separate from its primary stress, or be subordinated to its primary stress within the same foot. This observation further demonstrates the distinction between the prosodic word and the verse foot. This analysis demonstrates the difference in metrical status between compound nouns and derivational nouns with similar segmental phonology, and between inflectional variations of derivational nouns. Those words which do not come with lexical stress, but which occasionally occupy the heads of verse feet are shown to have a different status within the prosodic word in the following subsection.

---

102 This may also help to explain the apparent variation in stress patterns with some compound Germanic personal names (such as *Beowulf* and *Hrothgar*) as described by amongst others Bredhoft (2005). Some of these names undergo a similar variation, only exhibiting secondary stress on the second component when affixed. It is possible that these names have been reanalysed as single morphemes with no internal morphological structure but with an underlying stress (§6).
4.3.5 Middle-ranking words

High-ranking nominals prototypically alliterate, and low-ranking proclitics alliterate very rarely. Proclitics include items from closed classes which in prose usually appear immediately before a nominal complement, and occupy prominent positions when found elsewhere, stranded prepositions being a clear example (Bliss, 1962; Momma, 1997). It is the middle-ranking ‘particle’ class which causes most conflict between a broad Sievers-type analysis and the desire to produce precise solutions for individual lines. These word-classes include those which can alliterate and occupy a prominent position, but do not do so in competition with high-ranking nominals. The key purpose of the following few subsections is to dispel the notion that elements can be granted stress by syntactic displacement, and to underline the principle that metrical prominence is provided to the highest ranking syllable within a verse foot, based on lexical succession. The following two subsections deal with assumptions of the behaviour of superordinate lexical categories as described by Kuhn (1933), Bliss (1962) and Momma (1997) (§2.2), with counterexamples.

There are a number of lines in the corpus which are anomalous according to Bliss’s (1962) criteria. These are often associated with particular commonplace words such as common adverbs and quantifiers, such as *siddan* ‘then’ and *eall* ‘all’. Some unfilled particles occur very frequently, so it is possible to compare and contrast individual examples, which can reveal the various prosodic circumstances in which they occur. In examples 40a–c, *siddan* ‘then, afterwards, since’, with spelling variants, can be shown to occupy the head of any foot, or a non-head position. As this word mainly functions as a sentence adverb, and can occur between other phrases at various points within the sentence, syntactic displacement cannot be considered a significant factor in determining its metrical status.

40. a. *sydoan wē geēgen* | under swegles gang | *And 455*  
   d. white gewemmed. | *Hēo on wrace sydoan* | *Gen 71*  
   b. ond *sydoan* a | Satan bernōn | *And 1193*  
   c. sunu Enoses. | *Syddan wōcan* | *Gen 1064*  

103 Cases where stressed elements do not alliterate when minimal alliteration requirements have been met are not considered anomalous.
104 ‘afterwards we saw | under heaven’s path’
105 ‘and you, from then on, | they] named Satan’
106 ‘the son of Eros. | Then they arose’
107 ‘beauty defiled. | They, in misery, then...’
In 40a, syððan occupies the first alliterating position, and within its foot competes only with wē, a low-ranking pronoun. Some analyses would argue that this is not a lift, and that the alliteration is incidental. This could not be said for 40b, where syððan is the only alliterating word in the a-verse, nor less 40c, where sidðan occupies the primary alliteration position. In neither case can they be considered displaced. In 40d, syððan occupies the final unalliterating position, where it might be considered displaced. In 40e, syþþan has no effect on the alliteration as it occurs within the same foot as the first syllable of the high-ranking nominal dēofles. These examples show some of the variation found in instances of middle-ranking words, their relationship to other metrical objects, and under what circumstances they may occupy prominences. This, combined with the evidence presented in chapter 2 on the limitations of determining three stress categories, suggests that there is in fact no significant metrical difference between middle- and low-ranking words as discrete groups, and that the metrical differences they display can be shown to be a product of a combination of syntactic and metrical operations rather than a special prosodic status.

Bliss (1962) does not grant a category for quantifiers, but his categorisation of adverbs and other variably stressed items can be used as a basis for addressing their status. Eall ‘all’ is a suitable example because it occurs frequently in both suffixed and unsuffixed forms in various metrical circumstances. Some instances of this word occupy alliterating heads, but others do not interfere with the alliteration. Examples of alliterating eall are shown in 41, in which a P (for prominent) mark heads which are not occupied by a primary stress.

41. (P . ) ( ). (. . P) (P .)
   a. elles āwiht, | nymþe eall tela
   ( ).( ).(. . P)(. . )
   b. āna ofor | bonne ealle men

Example 41a is an example of a line where nominals do not provide the structure and most heads of verse feet are fulfilled by a middle-ranking word. Eall, as a common adverb, competes with nymþe ‘unless’, a conjunction, and succeeds in occupying the head. The other verse feet are congruent with graphological words. In example 41b, the noun men must be stressed, and occupy a prominent position. Ealle, which in this case is a quantifier and includes a
plural suffix, occupies the primary alliteration position, and alliterates with the two words in the first verse. *Pace Bliss* (1962), who must invoke displacement to give a middle-ranking word stress, all of the words in these lines are in their syntactically preferred positions. This is in contrast to example 42, where *eall* appears ahead of the primary alliteration point and must be unstressed. Here, a P is placed over the undisplaced inflected copula *was* 'was', as it is the head of the final foot.

42. (ː .)(ː .)( . . ː)( . P)
   a. Bēana bōrhēst | *eall* þæt bēacen was  | *Dream 6*  
   (ː .)( ː P .)( . . ː)( . P)
   b. seofone sætsonne. | *Ealle swylf tornam. | *And 994*  

In example 42a, the three alliterating positions are nominals, while the fourth position is an inflected verb which has not been displaced. The quantifier *eall* has no influence on the alliteration in this line, as the first syllable of the root of the nominal *bēacen* 'beacon' occupies the head of the third foot. The competition for the head of the fourth foot is between the unstressed second syllable of *bēacen* and the inflected copula *was*, which succeeds. In 42b, *ealle* is placed in front of the subject so could be considered displaced. However, it plays no part in the alliteration, which is on the noun *swylf* 'death'.

Prototypically, these middle-ranking words neither alliterate nor occupy prominent positions, as they are usually found within a verse foot with a nominal or other high-ranking item, which contains a lexical stress and therefore the head of a prosodic word. When there is no nominal within the verse foot to occupy the metrical head with a stress, there is a competition between the items in the foot for which word will occupy the head. There are many further examples in the corpus of undisplaced particles occupying the heads of verse feet, as well as examples of displaced particles *not* occupying the heads of verse feet. This is made even clearer when discussing the lowest-ranking items, proclitics, which prototypically occur immediately ahead of nominals (Bliss, 1962; Mitchell, 1985).

4.3.6 Low-ranking words

While it is apparent that alliteration is mainly carried by nominals, any claims about the relationships between nominals and alliteration must take into account those circumstances where alliteration is found on other classes of words. Claims made for *Beowulf*, such as "eallic adverbs such as *swā, pā,  

\[111\] "brightest of trees | all of that beacon was..."

\[112\] "seven at once | [them] all, death took"
þonne and *ne* are never stressed” (Halle & Keyser, 1971, p. 155) do not apply in other poems, where such adverbs can be shown to occupy alliteration positions, including the primary positions.

Bliss’s *particles* and *proclitics*, the two lower-ranking word categories, carry alliteration only in the Sievers-Bliss system if they are displaced from their unmarked syntactic position. In this subsection, the prosodic circumstances under which low-ranking items in the may succeed may occupy alliterating positions are discussed in the light of the metrical analysis described in the previous sections of this chapter. There are, of course, circumstances in which low-ranking items *are* displaced and in their displaced position fulfil alliteration, as in example 43.

43. a. þæt hīe *mīn* on ðē | mægen oncnāwan. *And* 1214  
    that they my in thee | strength know  

b. Ne māgon hīe ond ne *mōton* | ofer *mīne* ēst  
    not can.PL they and not may.PL | over my will  

In both examples, alliteration is on /m/. In example 43a, the possessive determiner *mīn* ‘my’ is separated from its complement *mægen* ‘strength’ and can certainly be said to be displaced, allowing it to occupy a lift in Bliss’s (1962) terms. It could be argued that the PP *on ðē* ‘in thee’ is displaced instead, as it could be seen as being embedded inside another constituent. However, in the next line both lifts in the a-verse are occupied by alliterating inflected verbs. In 43b, it can be argued that the first verb *māgon* ‘may’, including its clitic *ne* ‘not’, is fronted ahead of the subject, this may be considered displacement. The b-verse has a possessive pronoun in the primary alliteration point and its complement in the final point, neither of these can be considered displaced.115 There are also other instances, which occur fairly frequently, where these low-ranking words carry alliteration, but where displacement is ambiguous.

Copular Verbs can occur in prominent positions. A prototypical arrangement is in example 44, where the inflected copula occupies an unalliterating position.

44. gesēon under sunnan. | *Syb* wæs gemǣne  
    *And* 1013  

113 ‘that they know my strength in thee’
114 ‘they cannot and they may not | against my will’
115 This line has 17µ and is addressed in the subsection on supermaximal lines above.
116 ‘[they might] see [each other] under the sun. | A peace was agreed’
In example 44, *wæs* occurs in a non-head position in a foot headed by the noun *syb* ‘peace’. It is, however, usual for verbs of all kinds to occupy the fourth, non-alliterating position. This includes inflections of the copulas *bēon* ‘be’, *wesan* ‘be’ and *weorþian* ‘become’ as in example 45, where displacement (as in Bliss, 1962) could be a factor in allowing *bið* to occupy the head of the final foot.

45. *dēora* drǣfend. | *Sum* ḏȳre *bið* Gifts 38 117
   of animals hunter    | Some brave are

There are far fewer instances where these items unambiguously occupy an alliterating position, but it does happen without any displacement.

46. *þā* *wǣron* gesette | *wīde* and *sīde* Gen 10 118

In example 46, it is clear both that the inflected copula *wǣron* ‘were’ alliterates and that it cannot have been displaced, as it occurs between a subject and a subject complement. Similarly, in example 47, *wǣron* occupies the second position in the a-verse. It is accompanied in its foot by the personal pronoun *inc* ‘you’, which is lower in the order of lexical succession.

47. *wæstme* þā *inc* *wǣron* | *wordum* mīnum Gen 894 119

Here, the minimum alliteration requirements for the line are fulfilled by the alliteration between the nominals *wæstme* ‘fruit’ and *wordum* ‘words’. The alliteration on *wǣron* could therefore be considered incidental in the terms of Kendall (1991), but it remains the most likely candidate for the head of the second verse foot. In example 48, however, the b-verse contains no nominals and only one particle, the inflected copula *wēre*, which is in its base syntactic position.

48. *genāp* under *nihthelm* | *swā* *hēo* nō *wǣre* Wan 96 120

In example 48, *swā* in this case is a conjunction, and *hēo* is a pronoun, both low-ranking. *Nō*, which takes the alliteration is, in this case, a common adverb, and competes with the previous two words to be the head of its foot. The head of the fourth foot is occupied by *wēre* alone. Note that the possible

---

117 ‘hunter of animals. | Some are brave’
118 ‘which were settled, widely and extensively’
119 ‘of a fruit that you were, | [according] to my words’
120 ‘disappeared under cloak of night | as if it had never been’
form *nēre* is not chosen here; this cliticisation would prevent the formation of
the two well-formed feet necessary to fulfil the verse template.

*Andreas* provides a number of instances where proclitics can be shown to be
in the primary alliteration position. In example 49, displacement could be said
to have occurred on *ðē*, which occupies the primary alliteration position, out-
ranking the subordinator *ðæt*.

49. þegnum þrȳðfullum, | ðæt hīe *ðē* hūgen,

Some poems allow for greater flexibility in the lexical items which are avail-
able for the prominent positions. *Daniel* frequently allows low-ranking items
to occur in the primary alliteration position, including possessive adjectives,
such as in example 50a.

50. a. swīðmōd cyning, | *sīnum* þegnum,

b. Āgif Abrahame | idese *sīne*

In 50a, the dative possessive adjective *sīnum* occupies its unmarked syntactic
position in the primary alliteration point. In 50b, the accusative possessive
adjective *sīne* occupies the final unstressed position and can be considered
displaced. This underlines the inconsistency in the displacement generalisa-
tion even for proclitics.

While low-ranking items do not carry lexical stress, they can be shown to oc-
cupy alliterating positions regardless of whether they are in an unmarked or
marked syntactic position. The occurrence of low-ranking items in alliteration,
and in the heads of unalliterating feet can be shown by reference to the met-
rical template (§4.2) in lines which, in Sievers-type analyses, could be consid-
ered to have no stressed elements at all, as in example 51. In this example,
verse feet are marked and prominent syllables underlined to show the verse
structure.

51. (µ µµ-) (µµ µ-) (µµ µ-)(µµµ-)
    is *nū* swā hit | nǣfre *wēre*

In example 51, there are no nominals. The first foot has a common adverb as
its head, outranking an inflected copula verb. The second foot has a relative

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121 'to mighty servants, | that they humble thee'
122 'a magnanimous king | [commanded] his servants'
123 'Give back to Abraham | [his wife]'
124 'is now as if it | never were'
pronoun as its head. The third foot is occupied entirely by a common adverb and the fourth by an inflected verb. Nevertheless, minimal alliteration and foot structure requirements are achieved. Within the analysis provided in this chapter, there is no requirement that the head of a verse foot should be occupied by a primary stress, so example 51 is not anomalous. Within each foot, a word succeeds in occupying the head based on the relative status of its word class, which determines its prosodic realisation, and the reflection of that realisation in the verse.

Alliteration in low-ranking elements is infrequent and non-prototypical, however they can be shown to occupy the heads of verse feet regardless of displacement. When these items are displaced from their unmarked syntactic position they can be shown to occupy the heads of verse feet, but they can also be shown to do so when not displaced, so long as they are not within a verse foot with a more high-ranking word such as a nominal. Middle- and low-ranking words are shown to compete against each other to determine which syllable occupies the head of the verse foot. The successful candidate in any competition is the root of the word from the most lexical word class within the verse foot.

4.3.7 Lexical succession summary

In Sievers-type systems, alliteration is associated with primary stress, which is thereby the main indicator of the metrical structure. If they alliterate, words without primary stress may be promoted and acquire a stress. This has been attributed to syntactic displacement. However, in the present section, it has been shown that syntactic displacement is an unreliable indicator of the likelihood that a lower-ranking word will occupy a prominent metrical position.

Kuhn’s three lexical categories have not been postulated in any other language or metrical system and have not been shown to have any psycholinguistic reality. For the purposes of the present study, the formation of these three superordinate categories is considered an unnecessary hypothesis. The assignment of metrical prominence, indicated by alliteration, can be explained by reference to the relative status of word classes within the verse foot. Once a continuum between lexical and grammatical items has been posited, the superordinate word class categories become defensible only if they add precision to the understanding of the metrical system, which in my view they do not. While this recategorisation may seem to complicate matters, it reduces the number of autonomous assumptions and gives a basis for the defence of the categories both from the poetic data and from the perspective of the study of the language in general, rather than by the application of additional metrical categories.
The claim that the verse foot is the domain of alliteration allows for solutions to some minor issues raised by earlier treatments. The Alliterative Rule of Precedence (e.g. Terasawa, 2011), which informed the development of this section, requires that a noun take precedence over a finite verb when attracting alliteration, even if the verb occurs on the left edge of the verse. This is based on the principle that it is the leftmost stressed syllable of each verse that controls the alliteration. Terasawa (2011) gives the example of *Beowulf* 2717 as an instance in which this rule is breached. Example 52 shows a line from the corpus which follows this rule, and Terasawa’s counterexample. Verse feet, prominent syllables and metrical heads are marked according to the analysis in the present chapter.

52. \((\mu-\mu-)(\mu-\mu-)\) (\(\mu\ \mu\ \mu\))\(\mu\ \mu\ \mu\)\(\mu\ \mu\-\)
   a. fæted\(\text{s}i\)nces. | Wolde ic fr\(\text{é}on\)d\(\text{sc}i\)pe
   And 479 125
   \((\mu\ \mu\ \mu-)(\mu-\mu-)(\mu-\mu-)(\mu\ \mu\ \mu\ \mu)\)
   b. ges\(\text{æ}t\) on ses\(\text{s}e\); | seah on enta gewe\(\text{o}r\)c,
   Beo 2717 126

As can be seen in example 52a, the b-verse could be parsed so that *wolde ic* at 3\(\mu\) is the first foot and fr\(\text{é}on\)d\(\text{sc}i\)pe at 4\(\mu\) is the second. This would be preferred if the model is designed so that alliteration falls on the first position in the foot. However, the alliteration in this line is on <f> and the 4\(\mu+3\mu\) parse allows this onset to appear in the first foot, albeit only on the first mora in the long diphthong. Example 52b, which Donoghue (1987) recommends emending because it breaches the Rule of Precedence, is shown to be acceptable, as both of the nouns occur in the final verse foot. The model described in this chapter is supported by examples like this, as it would not be possible for the phrase *enta gewe\(\text{o}r\)c* to be incorporated into a 4\(\mu\) foot if any of the vowels were long, or if the codas were counted. In either of these lines, a change in choice of lexical item could have allowed for a different parse to accommodate different alliterating items. The matter of alliteration and how it informs lexical choice and verse design is discussed in the following section.

### 4.4 Alliteration

Alliteration is the key feature which allows verse structure to be identified. Alliteration is mainly found on the nominal word classes (e.g. names, nouns and adjectives), and in Bliss (1962) and similar treatments, deviations from this generalisation (which are frequent) have to be explained. The reason for

125 'of gilded treasure. | I would want friendship'
126 'sat on a seat, | looked upon giants’ work’
this is the direct association between stress and alliteration, a notion which this section hopes to dispel. This section shows the variation in the words which carry alliteration and presents an alternative view. Rather than alliteration being dependent on stress, it is shown that stress and alliteration overlap on the heads of feet. The key feature of Kuhn (1933) is the postulation of a middle-ranking lexical category particle or saizpurtikel, which is only stressed if displaced from its preferred lexical position, is shown to be an unnecessary hypothesis in the previous section. Nevertheless, the problem of the classification of middle-ranking words persists, and can be seen as the key problem when trying to address the connection between alliteration and metrical prominence.

4.4.1 Three alliterative constraints

The constraints for alliteration are high-ranking and apply to all standard and hypermetric lines. Because the constraints are strong, they can be fairly straightforward and based on existing observations and restricted to surface features. The analysis in this subsection is designed to allow the prototypical pattern for alliteration to emerge, and also to allow the variation created by interference from other constraints, particularly those concerning lexical choice. As the alliteration applies to the Verse (V) level, hypermetric lines can be subject to the same constraints, as those have an extra structure (HypV) which branches off above the V, and is not subject to alliteration, as shown in Figure 10 in subsection 4.2.4.

The following alliteration constraints create the extant alliteration patterns with the minimum number of terms. In contrast with some of the sources mentioned in section 2.1, Baker observes that double alliteration in the a-verse is an option, rather than a default. He adds that the pattern xA|Ay (so only the two prominent positions near the caesura alliterate) usually occurs when the first foot in a line has no nominal. When the first foot contains a nominal, it usually alliterates, so the pattern will be Ax|Ay or the prototypical AA|Ax (Baker, 2012, p. 121). This is exactly what one would expect from classes in which synonymy is commonplace and extensive.

A defence for these constraints is also presented in section 5.3 with reference to the specific findings of a supporting study. The higher two constraints are undominated and are thus found in every line, so a relation between them is difficult to adduce. Because of this, and because they are artistic, euphonic features rather than phonological, they operate close to the consciousness of the composer and should be formulated as rules rather than as deep, unconscious phonological operations.
53. \textit{*ALLITERATE(LAST)}

The last prominence in a line must not alliterate.

\textit{ALLITERATE(LINE)} >>

A prominence in the a-verse must alliterate with a prominence in the b-verse.

These two constraints create the minimal alliteration patterns Ax|Ay and xA|Ay. Here lexical choice constraints and grammatical constraints intervene. These are addressed briefly in chapter 5. Prototypical AA|Ax alliteration occurs less frequently, leading to the following constraint.

54. \textit{ALLITERATE(A-VERSE)}

The second prominence in the a-verse must alliterate with the first prominence in the a-verse.

These three constraints create the prototypical alliteration pattern by emphasising the fixed alliteration pattern of the b-verse, including the importance of the primary alliteration position and the unalliterating final position. This stands in contrast to the variable alliteration patterns found in the a-verse. In a standard line, each line has four prominent positions determined by the metrical template. As the fourth prominence is prevented from alliterating by the highest ranking constraint, and the verses must be joined by alliteration, the third prominence must always alliterate and may be considered the primary alliteration position. The middle constraint \textit{ALLIT(LINE)}, causes alliteration to join the a-verse to the b-verse. The lowest-ranking constraint \textit{ALLIT(A-V)} causes a second alliteration position in the a-verse if a lexical choice is available.

Constraints at the level of lexical and alliterative choice are much intertwined and some of the aspects of lexical choice are not well understood or easy to access for the scholar. However, some elements of word choice can be aduced by reference to the constraints in this subsection, which can then be used to reveal the order of the alliterative constraints. Example 55 shows a line which features a prototypical alliteration pattern. In table Table 18, the same line is compared with alternative word choice candidates which are non-optimal. In each candidate, one prominent word has been replaced with a near-synonym which does not alliterate.
This line comes from the beginning of *Andreas*, in which the Twelve Disciples are introduced in terms which portray them as a heroic band of Germanic warriors. For the purpose of this description of the alliteration constraints, it has been assumed that the rhetorical function of this line is to emphasise the valiant qualities of the Disciples, and that the war-related items in the b-verse are metaphorical. It has further been assumed that the lexical items could be replaced with near-synonyms without disturbing the content of the text. This is a speculation which must be allowed in order to permit this sort of test, and which allows for semantic input to be fairly vague, leading to several options for individual lexical items. The grammatical input includes that the war-related items be coordinated and that a subordinating conjunction is included. Syntactic constraints are excluded from this treatment, as the focus is on lexical choice and alliteration. In the input field for Table 18, rough translations in modern English are given for the lexical words which are to be chosen. In the input, functions are given in SMALL CAPS, so that the coordinator *and* is given as CO, the subordinator introducing a temporal clause is given as TEMP.SUB. Syntactic relations are not shown.

Table 18 shows a set of candidate alliteration patterns within the constraints of the metrical template. It is shown that the prototypical AA/Ax sequence (option a) is preferred to both the Ax/Ax (option b) and the xA/Ax (option c) sequence. Note that these constraints do not enforce a preference for leftward alliteration in the a-verse.

Alliteration which does not connect the a-verse and the b-verse (option d) is excluded by high-ranking constraints, as is alliteration connecting all four prominent positions (option e). In circumstances where synonyms are less available, the intermediate options (b and c) may be generated by lexical

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127 *valiant men | when shield and hand…*
choice constraints, which are discussed further in chapter 5. The dispreferred options (d and e) are avoided as unmetrical.

4.4.2 Incidental Alliteration

An analysis based on alliteration must take into account that alliterative phenomena may be part of the metrical system, or they may be incidental to it. Incidental alliteration may be forced by the grammar. Function words are subject to very little flexibility in synonomy, and do not come with lexical stress. In example 56, primary and secondary stress are marked, as are unstressed syllables. In this line, stress, alliteration and prominence coincide in a prototypical way.

56. ( . . . . ) (. . . . . ) (. . . . . )
   on minum hygé hréoweð, | þæt hē heofonríc | Gen 426 128

In example 56, hē “they” (the subject of the verb in the next line) does not affect alliteration, as it is in the same foot as the first syllable of heofon-, which is a nominal and occupies the head of the foot. In verse feet which contain nominal roots, incidental alliteration is easy to identify. However, it can be controversial when middle ranking words are involved. Kendall notes that “a sentence particle in the first dip of the clause-initial half-line will sometimes alliterate. Often such alliteration is incidental... superfluous with respect to the formal alliterative pattern of the line. It falls on the less significant particles” (Kendall, 1991, p. 33). Kendall does not note that there are only a few possible onsets with which this sort of alliteration is likely to occur, as the sort of elements which are commonplace in these positions are auxiliary verbs and sentence adverbs, which very often begin with -h-, -w- or -n-. Nevertheless it is important to consider this, as at first glance, it can appear that a middle- or low-ranking word occupies the head of a verse foot, or it may be necessary to distinguish between words which have different metrical values within a verse foot but which start with the same sound. In any case where alliteration is uncertain, the word classes of the competing items can be compared with reference to lexical succession to find the true head of each verse foot. While the middle-ranking words always clearly outrank the low-ranking words, there is no reason to posit superordinate categories for them on the basis of how they move when syntactically displaced, as displacement has no significant effect on whether a word will occupy the head of a verse foot or not.

128 “in my soul [it] grieves [me] that they the kingdom of heaven...”
4.4.3 Orthographic variations in names

Some aspects of the orthography of non-Germanic names are inconsistent and need to be described explicitly, so that alliteration requirements can be shown to be satisfied in lines in which they occur. *Judith* is always written with initial l-, and alliterates with G. Neither OE nor Latin used <j> except as an allograph of <i>, or in this case, to convey palatal *iJ.* *Holofernes* and *Habraham*—the alternate spelling of ‘Abraham’ found in *Andreas*—feature vowel alliteration. In *Judith*, *Holofernes* can alliterate with <h> or a vowel, as in example 57.

57. a. Holofernes | unlyfginges. *Jud* 180 129
b. Holofernes. | Hogedon ãninga *Jud* 250 130

These instances suggest that non-Germanic names beginning with <h> have an anomalous status and can alliterate either on *h/ñ* or a vowel. Fulk observes that the Latin initial <h> is silent and this influences alliteration in OE, as well as being used to mark vowel hiatus intervocally in names like *Emmanuel* as well as in some native words (Fulk, 1992, p. 370). Minkova suggests that the vowel alliteration represents alliteration on an intrusive glottal stop (Minkova, 2003, p. 143).

These alliterative assumptions allow for anomalous-looking lines to be accommodated and have probably been implicit in previous studies. The same is probably true of letter combinations which are ambiguous in relation to OE phonemes and need to be clarified for the purposes of scanning an OE line. This is further investigated in chapter 6.

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129 ‘Holofernes. | unliving’
130 ‘Holofernes. | They thought at once...’
4.5 An example analysis of a section of OE verse text

The system presented in this chapter can be used to analyse a section of Old English verse comprised of whole lines. An example analytical procedure of the first four lines of the *Seafarer* follows.

1. **Count Moras**

Identify and sum the vowels in the line. Vowels or diphthongs can be long with 2μ, in which case they are marked with a macron. Otherwise they are short with 1μ. In 58, only the items *mē* and *sōð* have long vowels.

\[
\begin{align*}
\mu & \mu \mu \mu \mu \mu \mu \mu \\
(\Sigma = 12)
\end{align*}
\]

58. *mæg ic be mē sylfum | sōðgied wrecan*  
*Seafarer* 131

2. **Identify heads**

Locate the prominent positions, firstly by stress and alliteration, secondly by reference to lexical succession. In example 59, stress notation is given and arrows point to the underlined prominent syllables.

\[
\begin{align*}
\end{align*}
\]

59. *mæg ic be mē sylfum | sōðgied wrecan*

\[
\begin{align*}
\uparrow & \uparrow & \uparrow & \uparrow
\end{align*}
\]

In example 59, stress is the first indicator of prominence. In the b-verse, the primary alliteration is on the first syllable of *sōðgied*, a compound noun. The unalliterating final position is occupied by *wrecan*, a non-finite verb. The alliterating item in the a-verse is on *sylfum*, a reflexive pronoun, which occupies the second prominence. The first prominence is occupied by the auxiliary verb *mæg*, which takes prominence over *ic* and *be* according to lexical succession, and so is marked by a P for prominent. This identifies the heads of the feet.

3. **Build feet**

On the basis of the presence of the metrical heads, group the vowel moras into feet of between 2 and 4 moras. Ensure that all words are included, use word boundaries as a guide for foot boundaries.

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131 ‘I can, about myself, | tell a true story’
In 60 the feet are enclosed by parentheses. The foot boundaries are neatly aligned with the boundaries of prosodic words.

4. Identify metrical positions

Fill in the feet by identifying the degenerate (1μ) positions. Identify eight metrical positions. There must be two metrical positions per verse foot, one of which must contain a prominent position. Each position may consist of one or two moras over one or two syllables. In 61, the metrical positions comprising the verse feet are shown to give four verse feet for this line.

\[
\begin{array}{c}
( \mu \mu \mu)( \mu \mu \mu \mu)( \mu \mu \nu)( \mu \nu) \\
\end{array}
\]

\[
\begin{array}{c}
( \mu \mu \mu \nu)( \mu \mu \mu \nu)( \mu \mu \nu\mu\mu)( \mu \mu \nu\mu\mu
\end{array}
\]

\[
\begin{array}{c}
( \Sigma = 12)
\end{array}
\]

In Seafarer 1, the less prototypical a-verse can be explained according to the same analysis as the more orderly b-verse, and with the same number of modifications to foot length. The a-verse is more metrically complex because the alliterating syllable is in the right branch of the second verse foot. This position is forced by word choice and word order constraints.

The following lines show further features. Line 2 of the Seafarer shows a foot breaching the caesura and a primary alliteration position some distance rightwards of the caesura.

\[
\begin{array}{c}
( \mu \mu \mu \nu)( \mu \mu \mu \nu)( \mu \mu \nu\mu\mu)( \mu \mu \nu\mu\mu
\end{array}
\]

\[
\begin{array}{c}
( \Sigma = 12)
\end{array}
\]

In example 62, an ellipsis is added to geswincdagum to show that the adjacent syllables contain the prominent positions. In the a-verse, the first foot is prototypical. The second foot reaches over the caesura, so that the verse foot covers the entire prosodic word secgan and part of the following word. The pri-

132 ‘tell of journeys, | how I, in laborious days’
mary alliteration position is in the final position of the third foot. This complexity is forced by subordination and word choice. The pronoun *ic* is the subject of the verb in the following line.

Line 3 of the *Seafarer* exhibits maximal breaches of the default structure, which cause the third foot to reach over the caesura, as described in subsection 4.2.3.

\[ (m\ m)(m\ m)(m\ m)(m\ m) \]
\[ (\mu-\mu-)(\mu-\mu-)(\mu-\mu-)(\mu\mu\mu\mu) \quad (\Sigma = 10) \]

63. earfoðhwī…le | oft brōwade, *Seafarer* 3

In example 63, the third foot borrows a syllable across the caesura, crossing both the caesura and a word boundary. In this example, an ellipsis is added to allow the annotation to fit above the line, but has no metrical significance. Line 4 is much more orderly, with four phonological words matching onto four verse feet.

\[ (m\ m)(m\ m)(m\ m)(m\ m) \]
\[ (\mu-\mu-)(\mu\mu\mu\mu)(\mu\mu\mu-)(\mu-\mu-) \quad (\Sigma = 11) \]

64. bitre brēostceare | gebiden hæbbe, *Seafarer* 4

The procedure for taking lines of variable length and fitting them into a four foot model based on vowel weight can be applied to the great majority of OE lines without modification. The first four lines of the *Seafarer* show variable levels of metrical complexity but can all be explained using the basic model.

### 4.6 Metrical Analysis Conclusion

The model presented in this chapter allows for the structure of the great majority of standard lines of OE verse to be analysed with reference to three interacting conditions. These conditions can be detected using different analytical methods. The metrical template creates a line of variable length with four prominent positions, one per foot. This provides a template for a prototypical line which is filled by words representing content items and grammatical relationships. Lexical succession ensures that the prominent positions are filled even if there are no stresses in the verse foot, selects the word classes which

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133 'a time of hardship | often suffered'
134 'bitter anxiety | I have endured'
carry the content and determines the location for the prominences within the foot. The alliteration constraints mark the prominences and force certain lexical words to be chosen ahead of near-synonyms.

The analysis described in this section focuses on the significance of the line rather than the verse, and reduces the metrical significance of the caesura in comparison to other analyses. Within the model represented in this chapter, the caesura exists principally as a syntactic break between two phrases which are identified by the presence of two heads of feet. In order to accommodate variation in the number of syllables in the line, foot boundaries can cross the caesura.

While there are many possible levels of a morphosyntactic analysis which can be of interest in terms of interaction with phonological and particularly prosodic factors, the present study deals only with the word order phenomena controlled at the clause and phrase level. This section addresses the congruity between metrical and syntactic structures. The main structure of interest for this section is the noun phrase (NP). Each of these phrases can contain a prosodic word, as each of them can contain a nominal carrying primary stress. In the absence of a stress in a foot, other word classes compete to occupy prominent positions dependent on their relative status within an order of succession dependent on the lexicality of the word class to which they belong. The relationship between verse feet and prosodic word extends to the level of the verse. The interaction between metre and syntax is investigated further in chapter 5.
5 Compound numerals and NP dislocation

This chapter addresses a secondary word class which is not prominent in Beowulf and therefore has not been thoroughly explicated with reference to OE verse design. Cardinal numerals belong to a closed word class for which very little flexibility is possible in element order or lexical choice (von Mengden, 2010). Ordinal numerals function as determiners and are not addressed in this chapter. In contrast with grammatical word classes, these numerals also prototypically occupy prominent positions within the verse, and carry alliteration. Compound numerals with three or more component numerals, however, occupy more feet than a standard verse will allow. This chapter focuses on a short section of Genesis in which several of these longer numerals occur in both the Latin original and the OE poetic translation. While cardinal numbers occur in a predictable order in OE prose, that order is rarely followed in verse. It is shown that the variation in the rendering of numerals in the verse is attributable to the interaction between syntactic, metrical and alliterative constraints. The constraints derived from this analysis are used to adduce a comparable set of constraints which concern the interaction of other coordinated phrases. No other class of words in OE allows for this comparison of lexical choice free from the influence of synonymy while also reliably occupying the heads of feet.

An investigation of a specific word class in context benefits from a close reading approach, which differentiates the method in this chapter from that of chapter 4. This chapter focuses on a very short section from the Vulgate Genesis chapter 5 and the corresponding lines in Genesis A. This section provides a syntactically repetitive input with many compound numerals, and a poetic version mainly composed of clauses which have a direct equivalent in the source. This allows translation choices to be clearly revealed. Where there is intervening commentary, this is usually short and straightforward to distinguish from the biblical original and explain in context. This allows for translation choices to be easily identified and motivated from a compositional perspective. This chapter focuses on the interaction between the metrical constraints described in the preceding chapter, and syntactic constraints described in chapter 2.

The special circumstances created by the use of compound numerals in Genesis provides an opportunity to strengthen the defence for using Optimality
Theory to describe the choices behind the composition of OE poetry. In order to produce an OT analysis, an output form must be related to an input form. This becomes difficult when studying OE poems as they mainly exist in single copies of presumably original compositions, so there is not input to consult. However, *Genesis A* is in large part a close translation of a Latin *Genesis*. In translating Latin prose to OE verse, the operations of syntax and metre are dependent on lexical choice. Lexical choice affects metre as close synonyms can have variable metrical structures as well as non-metrical motivations such as minor semantic differences for which the modern scholar has no sensitivity.

It is not usually possible to consider an input form of the syntactic structure except by reference to prototypical prose order, as shown in chapter 4. This approach is weak not only because it is fairly speculative but also because constituent order tendencies in OE change over time and there is no order in poetry that is not represented somewhere in prose (Mitchell, 1985). Nevertheless, the deviation from the unmarked metrical template presented in the previous chapter can be attributed to the influence of morphosyntax. Morphology and syntax are ultimately dependent on lexical choice, and the grammatical relationships between lexical items. The process by which an input idea is converted into an output word or even phrase during the composition of a text is highly complex, and dependent on many factors, most of which have not been closely considered by contemporary linguistic study, and which are not well understood. This area of uncertainty affects all word classes which exhibit synonymy, and all OE texts, even those which are quite closely translated.

5.1 The Old English numeral system

The Old English numeral system is a Standard Average European base-10 decimal system with some idiosyncrasies. It is distinguished from the modern English system in element order conventions and in that the Anglo-Saxons had no zero, no Arabic numerals, and no higher base than 1000 (Von Mengden, 2010). Cross-linguistically, numerals change very slowly over time, and allow for extremely limited synonymy (von Mengden, 2010). The pronunciation and syntactic behaviour of English numerals change only slightly between Old and modern English, and the meanings of the numerals do not change at all. In modern English, the number 6 can be rendered as either ‘six’ or ‘half-a-dozen’. Periphrastic forms are used, but are apparently prohibited in compounds in OE, just as they are in PDE (Bosworth & Toller, 1898).\(^\text{135}\)

\(^{135}\) For example, no historical stage of English has permitted *half-a-dozen hundred, sixty and half-a dozen* as the Number of the Beast.
5.1.1 Simplex and compound numerals

Numerals are difficult to characterise in terms of parts of speech. In Old English as in modern English, they can pass some of the usual tests for nouns, pronouns or adjectives, and can follow the inflectional patterns of different word classes. The term ‘simplex’ is used for numerals which have a single lexical root, and ‘compound’ for those composed of two or more simplex numerals. These compound numbers take the form of a Numeral Phrase, which may comprise several coordinated Number Phrases.

Simplex numerals include the first base (10) and numerals which are monomorphic (1–12). A separate sub-category of simplex numerals is used for the numerals 13–19, which are derived by adding the stressed derivational affix - byn. These are called ‘units’ in this chapter. The decades (‘tens’) from 20 to 120 are formed from a simplex with the suffix - byn or its circumfix allo- morph bynd... by. The higher bases bynd ‘100’ (which can have variants like bynd bynt by or bynd bynt by by) and by by ‘1000’ govern the orders of magnitude addressing numbers above 129. Each of these words contains one stress on the first syllable of the stem, other syllables are unstressed (Campbell, 1959; Riad, 1992). Any adjunction of these simplex numerals to produce a higher numerical value is considered a compound numeral.

5.1.2 Element order in the numeral phrase

In prose, there is only one order for the internal elements of a compound numeral, as depicted in Table 19, based on the generalisations in Von Mengden (2010). Component numerals are presented in orders of magnitude, with obligatory expression of multiplicand and multiplier in the case of multiples of the higher bases (100 and 1000), as well as obligatory coordination with end. Units precede tens.

Table 19. Prototypical prose arrangement for OE compound numerals.

<table>
<thead>
<tr>
<th>thousands</th>
<th>hundreds</th>
<th>units</th>
<th>tens</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,766</td>
<td>eahta bysend</td>
<td>and seofon hund</td>
<td>and syx</td>
</tr>
</tbody>
</table>

It is usual for the enumerated item to be repeated at several points within the phrase and sometimes left out at the end. This example, 8,766 (the average number of hours in a year), comes from Byrhtferth’s manual where it is given

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134 Even excluding an ‘one’, which has several additional derived meanings, such as ‘alone’, ‘another’, and occasional use as a sort of proto-indefinite article (Bosworth & Toller, 1898).
135 It is perhaps worth noting that, historically, 11 and 12 are derivational forms. By the Old English period, the derivation is no longer evident and so for the purposes of the present study they are considered monomorphic (Partridge, 1958, pp. 452, 745).
as eahta þisend tíça and seofon hund tíca and syr and syxtig. This sequence is prototypical and predominant in prose, although there are examples of the items being rearranged in prose (von Mengden, 2010).

5.1.3 The hund- prefix and the -hund component

The base form hund ‘hundred’ is common in compounds, can occur as a free morpheme and multiplies the base by 100; þrō hund indicates ‘300’. However, the prefix hund- serves only as part of a hund-...-tig circumfix which is an allomorph of the derivational suffix -tig, in numbers such as hundseofonig ‘70’. Both variants of the affix multiply their base by 10. Numerals formed with this affix alliterate on the first syllable of their base root, regardless of whether hund- is present or not. This distinction is significant when considering relative prosodic prominence and alliteration in Genesis. This subsection distinguishes their prosodic value.

Despite special forms for 11 and 12 and the fact that the hund-...-tig circumfix can make numbers as high as hundwelflig ‘120’, von Mengden claims that there is no evidence of base-12 influence in Old English. He urges us to separate the numeral system from the traditional ‘Imperial’ measurement system, which does use factors of 12 (e.g. Chaney, 1897). Nevertheless the consistency of the application hund- marking, as well as the range of numbers it is used for suggests that this is not simply an idiosyncratic or arbitrary allomorph, as von Mengden claims (2010, p. 89). Lass (1994) notes the details of the hund- prefix in the system, but suggests that no more satisfactory explanation for this special marking has been suggested than that the numerals 70–120 are approximately a hundred. However, Shay (2008) notes that this change occurs after 60 (five times twelve), and implies that this is a product of a remnant base-12 measurement system, a position shared by Baker (2012). While there are instances of 70 being rendered as seofontig during the late OE period (BT), there is no record of *hundkystig ‘60’, nor *hundprōdyng ‘130’, even though 70 is further away from 100 than 120 is. It cannot be simply that the hund-...-tig group are roughly 100, as has been suggested, or we might expect some flexibility. For ease of representation, the 70–120 group is shown in Table 20 as if it represents a larger half of the second-base multiples, the higher half of which takes the prefix hund-.
Table 20. Derived second-base numerals, showing *hund*- group and unprefixed group.

<table>
<thead>
<tr>
<th>Ø-</th>
<th>hund-</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>70 hundseofontig</td>
</tr>
<tr>
<td>20</td>
<td>80 hundeahtatig</td>
</tr>
<tr>
<td>30</td>
<td>90 hundnigontig</td>
</tr>
<tr>
<td>40</td>
<td>100 hundtēontig</td>
</tr>
<tr>
<td>50</td>
<td>110 hundendleofontig</td>
</tr>
<tr>
<td>60</td>
<td>120 hundtwelftig</td>
</tr>
</tbody>
</table>

This observation allows for the distinction between the *-tig* and the *hund*-...-*tig* group to be motivated. Textual evidence shows that the *hund*- prefix (indexed *hund*) does not alliterate or interfere with alliteration falling on its base and should be considered unstressed. Because of this, it is important that the *hund* affix be distinguished from the *-hund* multiplier (*hund*). *Hund* occurs after a simplex multiplier, sometimes with an intervening space, and often apparently occupies the head of a foot, as in example 65.

65.  a. ( ...)( : ) ( : ) ( ...)( : )

eafora on ēōle. | Siōðan eahtahund  Gen 1150 139


Eones sunu. | Ealra nigonhund  Gen 1163 140

In example 65a, alliteration shows that the heads of both feet must occur in *eahtahund*. Example 65b, however, shows a comparable structure where the compound numeral occupies a whole foot, with alliteration also on the vowel. In the present chapter, stress is the significant feature, as it can be used to identify metrical heads and show the boundaries of the verse feet. This comparison shows that compounds with *hund* behave the same as nominal compounds as described in chapter 4, and can occupy the heads of one or two feet, depending on their metrical environment. Within the terms of the metrical model presented in chapter 4, *hund*-...-*tig* forms are equivalent to derivational nouns, so the root can occupy the head of one foot. As such, the following stress values are adduced.

---

138 Note that *tēon* is not part of the paradigm, and is included only to show how the halves of the decade paradigm are distributed.

139 ‘an heir in his homeland. | Afterwards [for] eight hundred…’

140 ‘Enos’s son. | Altogether nine hundred…’
66. Stress values for hund₁ and hund₂

hundnigontig  nigonhund
[hund₁] ninety  nine hundred

This distinction shows that numbers affixed with hund₁ can occupy the head of one foot, with a quantity of between 3µ and 4µ. Numerals compounded with hund₂ can occupy a whole foot, or occupy the heads of two feet across a foot boundary, in the same manner as a compound.

5.2 Compound numerals in Genesis 5

The section of Genesis with the densest numerals was extracted and divided into sentences. The semantic content, syntactic structure and word choice of each part of the corresponding text was compared with Latin Vulgate by close reading and this was compared with the structure of the verse to check alliteration requirements and metrical forms.

The data consists of 27 example numerals, dealing with 10 people. The verse section covers lines 1120–1266, which is equivalent in content to Vulgate Gen. 5:3–6:3. This section relates the Generations of Adam, up to Noah. It consists of a list of the patriarchs, how old each one was when he begat another patriarch and when he died. Lines 1203–1213 and 1246–1262 are commentary. Other sections are a very close translation from the Latin.

5.2.1 Numerals rendered in Genesis chapter 5

This section includes close reading of a section of the Genesis poem which has a dense distribution of compound numerals to identify the syntactic and metrical features of the lines. The following table includes the names of the patriarchs listed in Genesis and the numerals listed for their ages at significant points in their lives.
Table 21. Numerals rendered in Latin Vulgate and OE Genesis, by Chapter and Verse

<table>
<thead>
<tr>
<th>Ch:V</th>
<th>Name</th>
<th>#</th>
<th>Ch:V</th>
<th>Name</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:3</td>
<td>Adam</td>
<td>130</td>
<td>5:18</td>
<td>Jared</td>
<td>165</td>
</tr>
<tr>
<td>5:4</td>
<td>Adam</td>
<td>800</td>
<td>5:19</td>
<td>Jared</td>
<td>800</td>
</tr>
<tr>
<td>5:5</td>
<td>Adam</td>
<td>930</td>
<td>5:20</td>
<td>Jared</td>
<td>965</td>
</tr>
<tr>
<td>5:6</td>
<td>Seth</td>
<td>105</td>
<td>5:22</td>
<td>Enoch</td>
<td>300</td>
</tr>
<tr>
<td>5:7</td>
<td>Seth</td>
<td>807</td>
<td>5:23</td>
<td>Enoch</td>
<td>365</td>
</tr>
<tr>
<td>5:8</td>
<td>Seth</td>
<td>912</td>
<td>5:25</td>
<td>Methuselah</td>
<td>187</td>
</tr>
<tr>
<td>5:9</td>
<td>Enos</td>
<td>90</td>
<td>5:26</td>
<td>Methuselah</td>
<td>782</td>
</tr>
<tr>
<td>5:12</td>
<td>Caiman</td>
<td>70</td>
<td>5:27</td>
<td>Methuselah</td>
<td>969</td>
</tr>
<tr>
<td>5:13</td>
<td>Caiman</td>
<td>840</td>
<td>5:28</td>
<td>Lamech</td>
<td>1182</td>
</tr>
<tr>
<td>5:14</td>
<td>Caiman</td>
<td>910</td>
<td>5:30</td>
<td>Lamech</td>
<td>595</td>
</tr>
<tr>
<td>5:15</td>
<td>Malalel</td>
<td>65</td>
<td>5:31</td>
<td>Lamech</td>
<td>*777</td>
</tr>
<tr>
<td>5:16</td>
<td>Malalel</td>
<td>830</td>
<td>5:32</td>
<td>Noah</td>
<td>500</td>
</tr>
<tr>
<td>5:17</td>
<td>Malalel</td>
<td>895</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following annotations accompany the table:

* numeral is rendered in the Latin but not the OE.
† numeral is rendered in the OE but is different from the Latin.

The age of Malalel (spelled Mahalalel in the KJV and other modern English versions), in 5:16 is not included because his age at the string of Jared (65) and his age at death (895) are included, and the 830 in 5:16 renders only the difference. It can be argued that the differences which are noted represent choices forced by the metrical features, the following subsections deal with the most telling examples of deviation from the source material and what they can tell us about the interaction of metrical, syntactic and word choice constraints.

5.2.2 Component order in compound numerals in verse

In most cases, the order of the numeral components in a compound can be rearranged to fit in with metrical and alliterative constraints. There is no instance in which a three-figure compound is in its unmarked prosaic order and also occupies a whole single line. Each simplex numeral stem in a single word occupies a prominent position in a verse foot, which limits those stems to two per verse. In the case of numerals which are compound words as well as compound numerals, they have similar metrical status to compound nouns and coordinated noun phrases respectively.

Compound numerals are often split, with other constituents intervening between verses containing the numerals. The 3rd base (hundreds) is often found
separated from the 1st and 2nd base (units and tens), which are more often kept together. The component numerals are arranged to fit into verses, and in each instance they alliterate with verses which contain no numerals. The movement of the hundreds to satisfy the requirements of line structure and alliteration seems to be the usual practice when these constraints are in conflict. From the examples given in this section, the order of the split components seems not to matter, nor does the length of intervening material between the components of the compound numeral. In each case, the units and tens fulfil most of the metrical requirements of the verse, as each stem form occupies a lift and the obligatory *and* between them provides the dip between them. Sometimes all the line’s metrical requirements are met and there is no need to add further material. Ēac ‘also’ is frequently added to the second component to indicate anaphoric reference, and to add another unstressed syllable, as in 67b.

There is no obvious preferred arrangement for compound numerals in this section of *Genesis*, with the proviso that phrase structure constraints seem to have some effect in holding units and tens together, but are violated in order that hundreds may be moved. Component numerals can be rendered in prose order across a line boundary as in 67a, rendered with intervening phrases as in 67b, or placed in a rearranged order within a single verse, as in 67c.

67.  
   a. eafora on ēðle. | Siððan eahtahund
      and fīftyňo | on friðo drihtnes  
   *Gen* 1150–1  
   141 ‘an inheritor in his native land. | After eight hundred || And fifteen | in the peace of the Lord’

   b. twā hundtēontig, | geteled rīme,
      and fīfe ēac, | þā hē forð gewāt  
   *Gen* 1741–2  
   142 ‘two one-hundreds | counted number || and five as well | when he passed away’

   c. twelf and nigonhund, | þā sēo tīd gewearð  
   *Gen* 1141  
   143 ‘twelve and nine hundred | when the time came…’

Note that in 67b, the intervening phrase has no real semantic function, it just points out that the number which precedes it is a number. It would seem that this verse serves only to provide a t-alliteration point in the b-verse. This allows the numbers to be rendered faithful, while the formulae for the deaths of the patriarchs are subject to flexibility in translation, affecting both lexical choice through synonymy and different syntactic arrangements.

---

141 ‘an inheritor in his native land. | After eight hundred || And fifteen | in the peace of the Lord’
142 ‘two one-hundreds | counted number || and five as well | when he passed away’
143 ‘twelve and nine hundred | when the time came…’
144 Geteled rīme ‘counted number’ has no correspondence in the input (*Gen* 11:32) *et facti sunt dies Thare ducentorum quinque annorum et mortuus est in Haran*. ‘And the days of Terah were two hundred and five years: and Terah died in Haran’ (KJV). This verse may be considered a formula, as it occurs in other verse sources with the same function, such as Psalm 67 in the *Paris Psalter* and *Exodus*. 

136
A representative example of a translation of a biblical verse is shown below. Like much of the text in this section and in *Genesis* as a whole, it is a fairly faithful translation of the Latin source text. This is to be expected, as in such a conservative religious society, it is imagined that any deviation from the sacred text would have to be carefully considered, avoided if possible and motivated by conflict with the established conventions of the genre of the target text.

68. Malalehel

‘et facti sunt omnes dies Malalehel octingenti nonaginta quinque anni et mortuus est’ *Gen* 5:17.

\[\ldots|\text{Wintra hæfde}\]
\[\bar{f}if \text{and hundauigontig, } | \text{pæ hē forō gewāt,}\]
\[\text{and eahthahund; } | \text{earforan læfde}\]
\[\text{land and lēōweard. } | \]

*Gen* 1177b–1180a

In this example, ‘sunt omnes dies’ is rendered with *wintra hæfde*, “et mortuus est” is rendered *pæ hē forō gewāt* ‘when he passed away’. The name is missing as it appears in the previous sentence (*Gen* 1176). The numeral is rendered out of prose order, and arranged so that *fif* can alliterate with *forō*. This leaves *and eahthahund* needing something to alliterate with. In this case a two-verse formulation dealing with inheritance, a comparable expression also occurs in *Exodus*.

5.2.3 Latin Formulae become OE phrase:

This section of *Genesis* reveals a translation strategy by which repetitive formulae in the source text are avoided, in favour of a variety of phrases and expressions. The text of the Vulgate in this section is highly repetitive, as are modern prose translations of this section. Certain formulae recur for almost every name. The most common multi-word formulae and their OE equivalents are presented here. A formula in this context is a phrase which is composed of two or more words in collocation and which recurs several times within a text.

---

145 ‘Winters he had | five and ninety | when he passed away | and eight hundred | to his descendants he left | his land and authority’
5.2.3.1 genuit filios et filias

The formula “(and) he begat sons and daughters” is the most common; *(et) genuit *(que) filios et filias occurs 9 times. There are in addition 18 further instances of genuit which deal with named individuals, some of which are repeated. The filios et filias element is rendered in the Old English with the following phrases:

69. a. ...oðres strēnan bearnes be brýdê...  
   Gen 1118b–1119a 146

       b. ...men geîcean sunum and dohtrum ...
   Gen 1132b–1133a 147

       c. ...sîdðan strûnde scofon winter hêr | suna and dohta  
          ond caithahund.  
   Gen 1139b–1141a 148

       d. ...geogoðe strûnde,  
          suna and dohta,  
   Gen 1152b–1153a 149

       e. ...feorum gefte,  
   Gen 1162b 150

       f. ...hē hê be wîfe ongann bearna strînan.  
   Gen 1170b–1171a 151

       g. ...cnôrîm ícte,  
   Gen 1190b 152

       h. Worn gestrûnde  
          ær his swyltdæge | suna and dohta,  
   Gen 1220b–1221b 153

       i. ...bearna strînde,  
   Gen 1233a 154

Each of these instances uses a different strategy to translate the Latin formula. The verbs of choice are *(ge)īcan ‘increase’ with a dative object, and

146 ‘another begat | child by [his] wife’
147 ‘increase [the] people [of his family] | with sons and daughters’
148 ‘afterwards he begat | seven winters here | sons and daughters | and eight hundred’
149 ‘the young man begat | sons and daughters’
150 ‘he increased the souls’
151 ‘when he by his wife began | to beget children’
152 ‘[he] increased [his] number of kinsmen’
153 ‘a multitude he begat | before his dying day | of sons and daughters’
154 ‘he begat children’
(ge)strīenæn ‘beget’ with a genitive object. These are metrically equivalent in the terms described in chapter 4, and in occur in unalliterating feet. The object is translated to sunum and dohtrum or the metrically equivalent suna and dohtra, which occupies a whole verse. The superordinate term bearn ‘child’, with an inflectional suffix, meets the minimum requirements for a foot and can be combined with other nominals with which it can alliterate (as in 69a). Note that example 69c features a breach of phrase adjacency constraints in that two phrases are rearranged across three lines so that seo fon can alliterate with suna, but that the phrases are divided into verses.

There appear to be no extensive conclusions about lexical choice to be drawn from these translations. The most one can observe is that none of these translations occupy an entire, single line, they are always used to tie other sentence components into a line with alliteration, which may go some way to explaining the variety in the choice of lexical items. As can be seen from these examples, variety is preferred over regularity. In no case are the phrases used to translate identical. This must be assumed to be an artistic goal associated with poetry, as there is no similar attempt by Alfric to inject variety into his prose Genesis, the best comparable example in OE (Dodwell & Clemoes, 1974). Alfric’s translation of Genesis includes a characteristically tight translation of this section, where genuit filios et filias is translated each time as gestrīnde suna ond dohtra, with gestrīnde the chosen translation for genuit throughout the passage. Similarly, et mortuus est is rendered as he forðērde in every instance. The prose translation is much more faithful to the Latin source than is the verse, citing Jared’s ages in Gen 5:18 and 19 as 162 and 962 respectively, and Lamech’s in Gen 5:31 at 777, which is addressed in subsection 5.2.4. A similar approach is used for the other commonplace formula in this section, et mortuus est.

5.2.3.2 et mortuus est
The formula et mortuus est ‘and he is dead’ occurs 8 times, and is more conservatively rendered in translation than the examples above, but still with great variety and always alliterating with other sentence elements. In the OE, this is translated differently each time, twice as a one-word verb, alliterating swealt (Gen 1153b) and final-position gewāt (Gen 1276b). It is translated four times as a half-line, þē sēo ðīd gewēcārō (Gen 1141b), þē hē woruld ofgesēf (Gen 1164b), þē hē forð gewāt (Gen 1178b, 1192b), giēcawum læfde (Gen

155 ‘[he] died’
156 ‘[he] departed’
157 ‘when the time came to be’
158 ‘when he abandoned the world’
159 ‘when he went forth’

139
Longer examples occur once across three half-lines [pā hē fiōs worulz] || burh gāstgedal || ofgyēn sceolde (Gen 11:26b–7b)\(^{101}\) and once across two half-lines [pā hē from sceolde] || niþpum hweorfe (Gen 12:22b–3a).\(^{102}\) These formulae allow for alliteration to take place as well as providing lexical content for poetic reasons unrelated to metre and syntax. In order to consider the interaction between the markedness constraints for OE verse, particularly those regarding alliteration and verse boundaries, faithfulness constraints need to be adduced.

5.2.4 Identity alliteration is prohibited

The alliteration of two instances of the same stem is called identity alliteration in the present study, with analogy to identity rhyme. Identity rhyme is a rhyme where the whole of the rhyming elements, nucleus, codas and onset, are phonetically identical. These can be iterations of the same whole word or part of a larger word, either with the same meaning or a polysemous meaning, or homophones. These have always been dispreferred in English verse, as well as in nearby traditions (Yip, 1998). An absence of identity alliterations in the verse is indicative that they may not be acceptable. Missing material where an identity alliteration would be necessary is instructive, and indicates the exact point where the ability of the verse to render semantic material faithfully breaks down. It also tells us that the requirement for phrases of the type [[units] and [tens]] to fit into single verses supersedes the requirement for all semantic meanings to be transferred from the source text to the target text during translation. Instances where identity alliteration is avoided in the numerals in Genesis allow for further alliteration constraints to be derived. This is shown in this subsection using the anomalies caused by the ages of Methuselah and Lamech.

Methuselah is recorded in the Vulgate as having lived to the age of 969. This is rendered circuitously in OE as rignohund wintra || and hundseofortig ūr. The ūr ‘next to here’ is a postposition. Bosworth Toller’s definition 5b, indicating adjacency.

70. ‘et facti sunt omnes dies Mathusalae nongenti sexaginta novem anni et mortuus est’ Gen 5:27 \(^{103}\)

\(^{101}\) ‘left the wise’

\(^{102}\) ‘when he the world || through giving up the ghost | must abandon’

\(^{103}\) ‘when he away must | turn from people’

\(^{104}\) ‘And all the days of Methuselah were nine hundred sixty and nine years: and he died.’ KJV.
hæfde frōd hæle, | ðā hē from sceolde
niðhum hweorfan, | nigonhund wintra
and hundseofontig tō. | Sunu æfter heold,  Gen 1222–1224  

This numeral is in ordinary prose order; other options are shown in 71.

71.  
a. *nigonhund wintra | and nigon and syxtig
       b. *nigon and syxtig | and nigonhund wintra

In example 71 it is shown that the most faithful and prose-like arrangements of 969 force identity alliteration. This oblique rendering is not straightforward to explain in the light of the approaches shown above, as alliteration can be fulfilled by moving verse-sized phrases around the clause. However, in this clause, a periphrastic expression is used to avoid both identity alliteration and syntactic reordering. This is representative of the operation of lexical choice. This solution is in contrast to the age of Lamech, which appears to have given the composer an insoluble problem.

72. Lamech Gen 5:31

'et facti sunt omnes dies Lamech septingenti septuaginta septem anni et mortuus est' 

...bearna strȳnde, | him byras wōcan,
eaforan and idesa. | Hē þone yldestan
Noe nemde, | se niððum ār
land bryttade | siððan Lamech gewāt.  Gen 1233-1236  

This is the only section in which a numerical value from the source text is not reflected at all in the translation. For a compound numeral representing 777 to occupy a single line in its prose order would violate the constraint regarding double alliteration in the b-verse. A rendering of this numeral in a single line of verse would take the form of example 73.

73. *seofon and hundseofontig | and seofonhund wintra

---

164 ‘the wise hero had | when he had to || turn from people | nine hundred winters || and next to seventy. | His son after him held…’
165 ‘And all the days of Lamech were seven hundred seventy and seven years: and he died.’ KJV
166 ‘.children begat | sons were born to him || heirs and maidens | he the eldest || named Noah | he to his kinsmen already || land divided | afterwards Lamech passed’
This line meets all requirements for metre, syntax and line length, but it obliges two identical lexical roots to alliterate with each other. A review of the metrical corpus shows that a lexical word may not alliterate to another word which shares the same lexical root. The only exceptions are in very common formulations such as *dryhuna dryhten* ‘lord of lords’ (*And 876*), these are always contained within an a-verse, rather than linking the two verses in the line. There is only one case in the corpus with identity alliteration across the caesura; *dryhten* ‘lord’ alliterates with *dryhtsele* ‘lordly hall’ in Riddle 62 “Fish and River”, where it has been inserted by editors (Mitchell & Robinson, 1999, p. 234). Perfect alliteration, where one syllable in one word alliterates with an identical syllable in a word with a different root is not particularly commonplace, but is found, as in 74a, and there is no reason to believe it is a particularly marked choice. It is less usual in more complex syllables. It is necessary of course to distinguish between long and short instances of the vowel, which are contrastive, as in 74b.

74. a. ḫē þā wēpende | wēregum tēanum *And 59* 167
   b. mine eacere eþīnan. | Nis nū eþīera nān *Wan 9* 168

To the suite of optimality constraints already presented for alliteration, a high-ranking constraint prohibiting identity alliteration should be added.

75. *IDENTITYALLITERATION*

No words derived from the same root may alliterate with each other.

This constraint is added to the alliteration constraints described in 4.4.1 and discussed further in 5.3.

5.2.5 An anomalously rendered numeral

In comparison to the ages of Methuselah and Lamech in subsection 5.2.4, the rendering of one numeral is even more remarkable. In Jared’s case, his age at the birth of Enoch (Gen 5:18) is rendered not as 162, as in the Vulgate, but as 165. The 800 from 5:19 is also rendered and so Jared’s age at death becomes 965 rather than 962.

76. Jared 1: Gen 5:18

Vulgate: “vixitique Iared centum sexaginta duobus annis et genuit Enoch”

---

167 ‘he, then, weeping weary tears...’
168 ‘talk about my worries. || There is now no one living...’
142
KJV: “And Jared lived an hundred sixty and two years, and he begat Enoch.”

Fīf and hundtēontig | on fyore lifde  
wintra gebidenra | on woruldrīce  
and syxtig ēac | þā sēo sǣl gewearð  
þæt his wīf sunu | on woruld brohte

Gen 1184-1187

In example 76, fif alliterates with fyore. It is possible that the poet did not have an alternative formula with t-alliteration which could be used. That no word beginning with t- was available in the poet’s vocabulary is not a particularly convincing idea, since acceptable formulae occur elsewhere, as shown in example 67 above. In a flawed exemplar, a II could reasonably be confused with a V, so strong conclusions should perhaps not be drawn from this anomalous rendering. It is notable however that in this particular case, the prose order ān hund and fif and syxtig is not modified, but the numeral is formulated differently, as an arithmetic sum. Fīf and hundtēontig conforms to phrase structure and verse design requirements, syxtig must be considered a separate phrase and not part of the same compound word, as syxtig and hundtēontig would occupy the same node in a quantifier phrase according to Von Mengden (2010). This perhaps confirms the assertion that splitting the first and second base is heavily dispreferred, and this arithmetic solution was the least transgressive option. This is discussed further in section 5.3 where this example is used to explicate the alliteration constraints discussed in this section and in subsection 4.4.1 above.

5.3 Formulation of constraints

In order to address the findings shown in the above section, a set of Optimality Theoretic constraints need to be derived. Certain of these can be taken directly from previous scholarship. Constraints regarding syntactic operations are taken principally from Legendre, Grimshaw and Vikner (2001). Alliteration constraints are undominated and have a direct effect on the surface phonology, so it is possible to express them in terms of hard-and-fast rules. The constraints presented in this section have been in part derived from Russom (1998), with some influence from Getty (2003). Regrettably, Getty’s versification constraints do not address the data, and so new constraints have had to be derived.

The constraints described in chapter 4 produce the general alliteration pattern found in most lines. The generalisations uncovered in this chapter allow for

169 ‘Five and one hundred | in his life lived || winters experienced | in the world-kingdom || and sixty as well | when it happened || that his wife a son | brought to the world’.
those constraints to be developed and added to. The following alliteration constraint sequence can now be adduced.

77.  *ALLITERATE(LAST) >>
The last lift in a line must not alliterate.

*IDENTITYALLITERATION >>
Identical stem forms may not alliterate with each other.

ALLITERATE(LINE) >>
A prominence in the a-verse must alliterate with a prominence in the b-verse.

ALLITERATE(A-VERSE)
The second prominence in the a-verse must alliterate with the first prominence in the a-verse.

These constraints allow for a translation strategy to be adduced which takes into account examples like 76 above. The conscious application of Optimality Theory is not a common tool in modern translation theory or practice, but it can be used to address the sorts of choices used in the production of translated texts, and there have been some contributions to translation theory using OT, from which constraint sets can be derived. Mansell (e.g. 2003) has done some work in using OT for the translation of poetry, and provides a set of constraints. Having taken these into account, the faithfulness constraints below are explicitly drawn from King Alfred’s stated translation goals, which are themselves drawn from St. Jerome’s, “sometimes word for word, sometimes sense for sense”170 (Discenza, 2005, p. 131). Of course, there has to be some way to derive when a word for word strategy is applied, and when sense for sense. Latin and OE are sufficiently different in their prototypical sentence order that simply replacing each Latin word with an equivalent English word would result in an only partially comprehensible text full of jarring grammar errors. A little reordering can resolve these problems in some sentences, but in others, some flexibility in the choice of lexical items and grammatical relations must be exercised to ensure that the target text is both comprehensible and exegetically orthodox. Two faithfulness constraints follow.

170 hwilum word be worde, hwilum andgit of andgiete (Alfred’s preface to his Translation of Gregory’s Pastoral Care 7.18–20).
78. **MAX-IO (SEMANTICS)**

The semantic content in the input must be rendered in the output.

This constraint ensures that all the meanings of the source text are related. This constraint applies to sentences and to their constituents. This constraint ensures that all the material from the source text is rendered by comparable material in the target text.

79. **DEP-IO (LEXICAL ITEMS)**

Each lexical item in the output must be represented by a lexical item in the input.

This constraint ensures that no additional lexical items are added to the target text. These two faithfulness constraints allow the input and output texts to share comparable information structures. Example 80, reduced from example 76 above, is subjected to these constraints in table 22.

80. Jared 1: Gen 5:18

“vixitque Iared centum sexaginta duobus annis et genuit Enoch”

\[ Fīf \text{ and } hundēontig | on \text{ fyore lifde } \]
\[ \text{wintra gebidenra } | \text{ on woruldrīce} \]
\[ \text{and syxtig ēac } | \text{ þā sēo sǣl gewearð} \]
\[ þæt his wīf sunu | \text{ on woruld brohte} \]

In Table 22, only ‘and he lived… 162 years’ is to be rendered. The other phrases are overlooked for the purposes of this tableau.

---

\[ 171 \text{ ‘Five and one hundred } | \text{ in his life lived} \parallel \text{ winters experienced } | \text{ in the world-kingdom} \parallel \text{ and sixty as well } | \text{ when it happened } \parallel \text{ that his wife a son } | \text{ brought to the world’}. \]
Table 22. Candidates for translations of the age of Jared

<table>
<thead>
<tr>
<th>vixitque … sexaginta duobus annis</th>
<th>OE LINE (GROUP)</th>
<th>ALLIT (GROUP)</th>
<th>MAX-IO (SEM)</th>
<th>DEP-IO (LEX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Fīf and hundtēontig</td>
<td>on fyore lifde</td>
<td>***</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>and syxtig ēac</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Fīf and hundtēontig</td>
<td>on fyore lifde</td>
<td>*!</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>and syxtig</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c twā and hundtēontig</td>
<td>on fyore lifde</td>
<td>*!</td>
<td>**</td>
<td>***</td>
</tr>
<tr>
<td>and syxtig ēac</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d hundtēontig</td>
<td>twā and syxtig</td>
<td>*!</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>on fyore lifde</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In table 22a, it is shown that the optimal candidate is one where a word in the a-verse alliterates with fyore ‘life’, even if this word has no exact correspondent in the input and causes one breach of Max-IO (semantics) along with ēac.

In Table 22b, it is shown that ēac ‘also’ is needed to meet the minimum line structure requirements covered by OE LINE (GROUP), in this case the four-position principle (§§2.3, 4.2.3), even though adding it causes one breach of Max-IO (semantics). Changing fīf ‘five’ to twā ‘two’ in Table 22c, there is no alliteration between the a- and b- verse and so Allit (group) is breached. In Table 22d, the most literal translation is given, in which hundtēontig alliterates with twā and syxtig but is not long enough to fulfil the four-position principle. In each case, vixitque ‘and he lived’ is rendered with on fyore lifde which causes one breach of Max-IO (semantics), because no and is included, and two breaches of Dep-IO (lexical items) because on ‘in’ and fyore ‘life’ are added to allow the verse to meet minimal syllabic requirements (§4.2.3). These findings on the interaction between lexical choice and alliteration inform the description of alliteration in subsection 4.4.1.

5.4 Numerals Conclusion

Large numerals represent instances of a word class and phrase type with unique features in that they are both obligatorily coordinated and are not subject to any flexibility in lexical choice. When included in a translation from Latin prose to OE verse, the limitations of the syntactic constraints which compose the compound numeral phrase is exposed by how the poet rearranged the components of the phrase to fulfil the requirements of prosodic and alliterative constraints.
The sequence of the components in compound numerals is fixed in prose, but subject to much variability in verse. In trying to resolve the structure of compound numerals in the Genealogies of Cain and Seth in the *Genesis* poem, additional constraints addressing alliteration were uncovered along with insights into the conditions under which phrases are manipulated into fitting the metrical structure. These findings informed the descriptions of the metrical structure in 4.2, particularly reinforcing the four-position principle. The generalisation on alliteration and the constraints which formed them described in 4.4 were revealed in greater detail, and the status of numerals as high-ranking words within lexical progression was established, as well as the relative stress status of aspects of their composition morphology relating to forms of *hund*. 
6 Non-Germanic Names, derivational nouns and verse feet

Non-Germanic names can be found in many Old English verse texts, especially in those with a biblical theme. With the exception of Cain, there are none in Beowulf, so they have not been closely examined for metrical features. Names exhibit low flexibility in translated texts, and so can be used to reveal metrical features of translated poems which could otherwise be confounded by synonymy or other aspects of lexical choice; the inclusion of the name in the target text indicates its presence in the source text.

Unlike Germanic names and the nouns from which they are derived, there is no reason to assume \textit{a priori} that non-Germanic names come with a stress on the first root syllable. OE names are either short, in which case they occupy at most a single prosodic word (and therefore verse foot), or they are compound, in which case they behave similarly to compound nouns. This chapter shows that non-Germanic names can be analysed as prosodically comparable to derivational nouns, and in doing so, reveals the rules regarding the sorts of metrical functions derivational nouns can fulfil. However, names from other cultures may or may not fit into a single prosodic word in OE, and if they do not, their prosodic structure needs to be established in order to determine their metrical presence in the verse.

The analysis presented in this chapter reveals elements of the verse design and shows how longer words are adapted to the foot structure. In particular, non-Germanic names are shown to be metrically similar to derived nouns, and to occupy verses as if they were similarly stressed. This chapter underlines the morphological and metrical differences between Germanic and non-Germanic names as revealed by their inclusion into metrical structures in the poetry. An analysis is presented which not only explains the prosodic features of non-Germanic names, which allow them to occupy metrical structures in the verse, but explains the variable metrical status of derivational nouns, supporting the generalisations made in subsection 4.3.4.
6.1 An analysis of Germanic names in *PASE*

In order to establish a baseline for comparison between Germanic and non-Germanic names, names from *PASE*\(^{172}\) were collected. All the names in *PASE* were categorised according to language family of origin and length.\(^{173}\) This comparison led to the following generalisations. According to *PASE*, Germanic names can be from one to five syllables in length, although the modal length is three. Germanic names longer than two syllables are usually transparent compounds (as in example 81 below). Hebrew names, however, as rendered in the Old Testament poems in the corpus (*Genesis, Daniel* and *Judith*), range from one syllable (*Lot*) to six (*Nabuchodonosor*\(^{174}\)). The Latinised Aramaic and Greek names taken from the New Testament are not as diverse in length.

According to the data collected from *PASE*, Germanic personal names can be monothematic, like *Leofa*,\(^{175}\) in which case they occupy a maximum of three syllables and one prosodic word. They can be suffixed, for example with *-ing*, such as *Leafing*, which despite being a word with two components occupies one foot in its NOM/ACC form and for the purposes of the present study would be considered monothematic. Dithematic names are comparable to commonplace compounds in both semantic and metrical structure, and in *PASE*, the component words of dithematic names can be one or two syllables in length. These compounds may occupy part or whole of a verse foot or two heads across a foot boundary (§5). The possible prosodic structures of these names are shown in example 81, which also shows the stress changes caused by compounding.

81. Prosodic structures of OE dithematic names

\[
\begin{align*}
\text{a. } \&\text{Æþel } \text{‘noble’ + sige } \text{‘victory’} &= \text{Æþelsige} \\
\text{b. } \&\text{Æþel } \text{‘noble’ + stān } \text{‘stone’} &= \text{Æþelstān} \\
\text{c. Cūþ } \text{‘known’ + wine } \text{‘friend’} &= \text{Cūþwine}
\end{align*}
\]

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\(^{172}\) The *Prosopography of Anglo-Saxon England*, a database project containing biographical details for every human being recorded in documents from that period.

\(^{173}\) Old English and Old Danish names are apparently created according to roughly the same criteria. These and a handful of continental names with transparent Germanic structure were classed together as *Germanic*, which comprised a little under 50% of the total. Names of Latin and French origin were slightly fewer. There was also a small number of other source languages.

\(^{174}\) Usually ‘*Ne.bu.chad.ne.zzar*’ in PDE. Rendered “*Na.bo.cho.do.nos.sor*” in *Daniel*.

\(^{175}\) These examples are taken from Colman (2014).
d. Ėad ‘happy’ + weard ‘guardian’ = Ėadweard

In example 81, primary stress occurs in the first syllable of the root (some nouns have unstressed prefixes, but names do not). In these examples, the second element is given secondary stress.\(^{176}\) There is very little work on the metrical status of names in Old English, with the exception of Germanic dithematic warrior class names.\(^{177}\) The stress rules for these dithematic names were established in Pogatscher (1888) in the light of then recent conclusions concerning the stress rules for words in general. Bright (1899) concentrates mostly on the various possible interpretations of the stress patterns of *Abimelech* as well as addressing a few obvious errors found in edited versions of the time. Bliss also notes that “*Maria*”\(^{178}\) has been fitted into almost all the principal rhythmic types” (Bright, 1899, p. 351) and concludes that this name be granted one syllable per vowel. Similar findings confirm this approach to non-native vowel digraphs in section 6.4. Sievers (1900) incorporated an *ad hoc* analysis of foreign words and names into his analysis of OE vowels, but it is not until Pyles (1943) that Latin loans and foreign words in OE are addressed. Pyles (1943) shows that generalisations exist for specific non-Germanic names and describes how their stress patterns work, noting that “Latin words of three or more syllables in which the principal accent was not originally on the initial syllable were arbitrarily stressed heavily on that syllable in OE… the syllable receiving the principal accent in Latin usually received a secondary stress in OE” (Pyles, 1943, p. 895).

It is an assumption of this chapter that the authors of the poems in the corpus would have access to a working knowledge of Latin, if not individually then within the literate community. It is a further assumption that they would not have had access to comparable knowledge of Hebrew. There was no established Jewish community in England to consult before 1066 (Scheil, 2004), and even the consummate translator Bede never realised his ambition to consult a Hebrew bible (Fleming, 2013). It is known however that Anglo-Saxon religious scholars took an interest in the significance of the literal meanings of those names and their historical or religious significance (Robinson, 1968a, 176 Some nominal compounds can contain a non-Germanic element, almost always the first, and a Germanic element, e.g. *Sodomware* ‘inhabitants of Sodom’ (*Gen* 1996, 2453). In names like this, the stresses occur on the first syllables of the roots *Sódóm* + *wäre*, like any other compound.

\(^{177}\) A complete list with description of the composition possibilities is given by Searle (1969).

\(^{178}\) It is assumed throughout that modern pronunciations of these names are not reflexes of their OE pronunciations, but rather were reintroduced after the Reformation. The assumption is that 500 years of Latin liturgy prevents the OE pronunciations being reconstructed by studying sound change. Modern pronunciation is therefore not consulted as a reference point for the analysis.
1968b, 1973; Fleming, 2013). Nevertheless, Englishmen of the time could have claimed only a minimal knowledge of Hebrew, and it is not to be assumed that the translator of *Genesis A* was familiar enough with Hebrew to understand how its names should be stressed in the original.

For the study of non-Germanic names, all examples of personal names were extracted from the corpus. A comparison with the names from *PASE* showed that the generalisations on Germanic names applied without need for further investigation. The majority of non-Germanic names, for both people and places, came from *Genesis, Andreas, Daniel* and *Judith*, four longer poems with a Biblical or religious theme. In contrast to the data from *PASE*, very few were of Latin origin and unsurprisingly considering the source, most are of Hebrew or Greek origin. All lines containing non-Germanic names were extracted and analysed according to chapter 4. In the remainder of this chapter, a small selection of individual names are examined in detail to reveal their metrical status. Each of these names is shown to be representative of particular strategies resolving the metrical status of names, as well as those of derived nouns. Three key names, *Abraham, Andreas* and *Cain* reveal particular metrical features which reflect a consistent metrical rendering comparable to the commonplace derivational nouns *æþeling* ‘prince’, *frēondscipe* ‘friendship’ and *waldend* ‘master’ respectively. These findings in turn reveal aspects of the metrical structure which have informed the model developed in chapter 4. The following sections deal with the metrical realisations of these names in detail.

### 6.2 Abraham

The last half of *Genesis A* deals extensively with the life of Abraham. He is named 86 times in *Genesis* and 4 times in *Andreas*. Abraham inflects as a strong masculine noun and in *Genesis*, 30 examples are in the b-verse: 17 are NOM or ACC with 3σ (*Abraham*) and 13 are GEN or DAT with 4σ (*Abrahames, Abrahame*). Examples in the b-verse can be more informative because the Principle of Closure is in operation. The Principle of Closure is a heuristic which notes the general tendency across traditions to favour regularity or metrical simplicity towards the end of the line, so that “verse patterns of greater complexity are more appropriately used in the first half of the line… patterns of lesser complexity are more appropriately used in the closing half” (Denison, 2012, p. 17). In addition to this, shorter lines are more informative as they make plain the minimal limits of the metrical system.

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179 Abraham is spelled with an initial <H> in Andreas. Nevertheless, it always alliterates with zero-onset words such as *Isaac*, as in *And*. This use of <h-> onset in words of foreign origin in medieval English is explored in more detail by Minkova (2009).
Abraham is borrowed into Old English via Latin ['a:.bra.ham] from Hebrew [a.vra.'ham]. In Latin, the form Ábrăham is used, with a long first syllable and a short second. The ecclesiastical Latin of Anglo-Saxon times would have a stress on the initial syllable (as the middle syllable has a short vowel). Bright (1899) considers Abraham to have long vowels on its first and third syllables (Ābrahām), in contrast with other sources both contemporary and subsequent to Bright (i.e. Bosworth and Toller 1898, Mitchell and Robinson 1999). This length assignment is a standard tool for Bright (1899), whose approach is to modify the stress value of the word to fit the metrical template provided by Sievers (1893). The notion that “the initial unaccented syllable of foreign names received an accent… in Old English, and that under this accent a short syllable became long” (Bright, 1899, p. 355) is the main point against which Bright contends, concluding that “the initial unaccented syllable of foreign proper names does not involve lengthening of the short vowels” (Bright, 1899, p. 355). Nevertheless, neither the manuscripts nor modern scholars mark any vowels in Abraham as long. The present study treats Abraham as if all its vowels were short, giving the name 3μ in NOM/ACC and 4μ in GEN/DAT. The adaption of the names to the metrical structures described in chapter 4 is shown in example 82.

82.  a. Abraham and Aaron; | þām eorlum wæs  
   Gen 1710 181
   b. āra gemyndig | Abraham sprecan  
   Gen 1899 182
   c. Abrahame | tewde selfa  
   Gen 1785 183
   d. ellenröfe, | and Abrahame  
   Gen 2036 184

180 Secondary stress in these transcriptions are not included for reasons which are explored in the rest of this section.
181 ‘Abraham and Aaron | to the noblemen, [He] was…’. In ecclesiastical Latin, Aaron was pronounced with two <a>s separated by a hiatus (Walker, 1815); however, in Genesis, there is sometimes a single <a>, sometimes a double <aa> in the text. This is taken always to be pronounced as [a:] in OE, similarly to <ā>. In Hebrew, this name is trisyllabic (אָרָהא) and usually anglicised ‘Aharaon’. This generalisation is not necessarily extended to other apparent geminate vowels in the text, whether of Hebrew origin or otherwise. According to Krapp “vowels are geminated to indicate length” (Krapp, 1906, p. 114). Despite the absence of the macron on oor ‘origin’ (And 649), this is marked as one syllable with two moras, as if it were ōr. Because of this, Isaac is assumed to be syllabified as /i.sāc/ with two stresses, and two moras in each syllable.
182 ‘mindful of honour, | Abraham [began to] speak…’
183 ‘to Abraham, | showed Himself’
184 ‘bold men, | and to Abraham’
In 82a and 82b, the NOM/ACC form *Abraham* occupies a single foot and fulfils a single head. The suffixed form *Abrahaem* shown in 82c and 82d can fulfil two heads and occupy two feet alone or with other unstressed items such as *and*. The suffixed form of *Abrahaem* with 4µ/4ø has an unusual variable metrical status in OE verse, as it can fulfil the length requirement of either a single foot, or two whole feet, or parts of two feet. In the case of examples 82c and 82d, two feet are occupied, and the alliteration clearly indicates the stress on the first foot. There must be a means of identifying the head of the second foot in order to meet the minimum requirements of the verse design, that there are four verse feet and that each head of each verse foot should be in more prosodically prominent syllable than other syllables in the foot.

### 6.2.1 Inflections of Abraham in the metrical analysis

According to the metrical analysis presented in chapter 4, *Abraham* has an initial stressed syllable which is the head of a prosodic word, and typically occupies a default verse foot at 3µ, as in example 83.

83. (m m)(m m) (m m) (m m)  
\[\mu- \mu- \mu- \mu- \mu- \mu- \mu- \mu-\]  
*Abraham castan | earum wîtan Gen 1794* 185

This line is prototypical, with the leftmost position of each foot carrying the prominent position, and is composed of four default 3µ feet, the first three of which alliterate (§ 4.2.1). *Abraham*, at 3µ/3ø, occupies one foot, as is always the case with this unsuffixed form. This is comparable in example 84a, where *Abraham(s)*, at 4µ/4ø occupies a single foot, which in turn is contrasted in example 84b, where a suffixed form is shown to occupy almost a whole verse and the heads of two verse feet.

84. a. (m m)(m m) (m m) (m m)  
\[\mu- \mu- \mu- \mu- \mu- \mu- \mu-\]  
*út mid ðehtum | Abrahames màg Gen 2012* 186

b. (m m)(m m) (m m)(m m)  
\[\mu- \mu- \mu- \mu- \mu- \mu- \mu-\]  
*ellenræfe, | and Abrahame Gen 2036* 187

---

185 ‘Abraham from the east | with eyes to gaze’
186 ‘oat with [his] possessions | Abraham’s kinsman’
187 ‘to the mighty | and to Abraham…’
In 84a, the a-verse comprises two default feet, and the b-verse a maximal third foot. This third foot contains *Abrahames*, which determines the alliteration for the line. The non-alliterating fourth foot is minimal. In 84b a compound takes up the whole a-verse. The proclitic *and* is attached to *Abrahame*, so there is a foot boundary within the name. The second foot is formed from the last two syllables. Example 85 shows that a suffixed form of *Abraham* only occupies the final, non-alliterating foot. The prominent syllables are underlined.

85. (m m)(m m) (mm) (m m)
   \[\mu \mul

The foot structure shows that *Abrahames*, with four short vowels, can alone occupy a maximal verse foot but no more. The minimal third verse foot *bryd* is limited by the fact that the stressed first syllable in *Abrahames* indicates the head of the fourth verse foot.

This analysis of the inflections of *Abraham* serves as a useful case study to confirm the generalisations made in chapter 4, without the need to rely on the internal morphological structure of longer words to control the assignment of stress. The variation in the metrical realisation of different inflections of *Abraham* can be explained by the ordinary operations of the phonology, which in turn reveals some elements of the system. This variation is comparable with that found in inflections of *æpeling*, as discussed in section 4.3.4.

6.2.2 Comparable derived noun *Abraham* and *æpeling*

Words composed of three syllables with one stress at the beginning are commonplace in OE; the final syllable is often a suffix on a disyllabic stem. Compound words composed of two free morphemes have been shown to have a secondary stress on the root of the second component, but 4σ words like *Abrahame* or *æpelinges* have a different morphological structure, and presumably therefore a different metrical realisation. In Table 23 and Table 24, the constraints are the same as those adduced for word formation in section 4.3.4, which addresses the same formation process for inflections of *æpeling*. In this analysis, it is assumed that a name is a lexical root, and that the root stress should therefore occur on the first syllable. This assumption is confirmed by alliteration.

---

188 ‘that in the inner room raised [her laughter], | the wife of Abraham’
In Table 23, several possible renderings of *Abraham* are shown with foot boundaries and primary and secondary stress marking. The optimal candidate is shown to be a single left-headed verse foot. This reading takes into account a-verses like *(ðā Abraham | ðēhte lǣdde* *Gen* 1873.189) In this line, *(ðā* is a time adverb, has a long vowel, and can occupy a foot alone, giving an xA|Ax alliteration pattern. In its suffixed form, however, it can shown that a more optimal word structure is produced by parsing the four syllables into two minimal PrWd. In the following tableau, it is assumed that the internal stress in *Abraham* is lexical.

In Table 24, it is shown that the variant *Abrahame*, with stresses on the first and third syllables, fulfils the default phonological constraints for stress assignment with no violations of the operative constraints. The realisation for variants of *æþeling* should be the same as for *a.bra.ham*, as they have the same syllable structure. The conclusions drawn from this section inform the constraints developed for derivational nouns on the pattern of *æþeling* as discussed in subsection 4.3.1 above.

---

189 *then Abraham | led what he owned*
The secondary stress in inflected forms serves to resolve confusion in lines like æðelinga helm | heht Abrahame Gen 1858, in which there is ambiguous alliteration. If Abrahame occupies only one verse foot, then the primary alliteration position should be under heht, which must occupy a foot on its own (despite only having 1μ). In this case, the alliterating item in the first line must be helm, a less preferred but acceptable alliteration pattern (§4.4.1). If Abrahame occupies two feet, the primary alliteration position will be on the first syllable. This is shown in example 86, where verse feet are marked showing that the first syllable of Abrahame, as a nominal, outranks the inflected verb heht to control the alliteration.

86. (μ μ μ-)(μ-μ-) (μ- μ-)(μ μ μ-)
   æðelinga  helm | heht Abrahame Gen 1858 190

The analysis shown in 86 is only possible if both Abrahame and æðelinga have a variable metrical structure much like metrical compounds.

6.3 Andreas

The name Andreas occurs 31 times191 in the eponymous poem, and this provides a good range of examples from which the metrical status of that word can be adduced. None of the 25 a-verses with the name Andreas also contains another nominal, so the foot structure in these verses is never made clear by the presence of two primary stresses. There are some middle-ranking items, however: the common adverbs ærest, ‘at first’ (1020a), ædre ‘quickly’ (189a, 643a), the exclamation Eala, and inflected verbs including scealt ‘shalt’ (950a, 1208a), gewāt ‘knew’ (1058a), and hogodest ‘devised’ (1316a).

It is notable that Andreas contains an <ea> digraph which in OE words usually represents a diphthong [ea] (Mitchell & Robinson, 2011). In this name, it should be pronounced with hiatus [an.dre.as], as in PDE. In Latin, as in Greek, Andreas has the stress on its second syllable. It is shown in this section that the metrical behaviour of the name Andreas confirms Pyles’ (1943) generalisation that “Latin words of three or more syllables in which the principal accent was not originally on the initial syllable were arbitrarily stressed heavily on that syllable in OE. In this group of words the syllable receiving the principal accent in Latin usually received a secondary stress in OE” (Pyles, 1943, 190 ‘the protector of princes | command [his people to exalt] to Abraham’
191 Most inflections are Andreas (BT lists the name as indeclinable), the dative is Andrea.
This grants Andreas a primary stress on its first syllable, and a secondary stress on its second. In example 87, instances of Andreas are shown in b-verses, revealing variation in its metrical status.

87. a. in Achaia, | Andreas, wæs  
    b. Him þā ofstlice | Andreas wið,  
    c. ða ofer þōda geswing | Andreas ongann  
    d. ofer ārgeblond, | Andreas þā git,  
    e. ellþēodigra, | þone ic Andreas

In the first four examples, Andreas is at the left boundary of the b-verse, occupies one foot, and is followed by material occupying a further foot. It can be argued that wæs and wið are displaced syntactically and can be shown to occupy the heads of feet. Onginnan is one of the anomalous quasi-auxiliaries and should therefore not be used to draw conclusions (Bliss, 1962). In example 87d, both the þā and the git are common (underived) adverbs and share a foot together. In 87e, however, the alliteration shows that the head of the third foot must be the first syllable in Andreas. There must also be a second lift, which has to occur in the last two syllables of Andreas.

Andreas never occurs in a verse with another nominal. It is possible within a Sieversian model to interpret every verse that includes the name Andreas as a divergent “light” verse with only one stress. However light verses, according to Bliss (1962), typically feature an inflected verb, which according to his analysis should not be considered stressed elements, and this is not the case with most instances of Andreas. It is worth considering the input form. In Latin (as in most modern versions of the name) the stress is on the medial syllable in Andreas. These examples suggest that in this name, not only is the initial syllable stressed so that it can alliterate, but that the medial syllable inherits a secondary stress from the Latin source word. This can be represented with an OT treatment.

192 “in Achaia, Andreas was…”
193 “to him, then, speedily | Andreas with [words said]…”
194 “then over quivering waves | Andreas began”
195 “over the mixing of the oars | Andreas then…”
196 “one of the foreigners | whom I, Andreas…”
6.3.1 An OT treatment of the name *Andreas*

The foot-building constraints described in section 4.3.4 do not take into account the stress conditions of foreign loanwords, neither do those adduced for *Abraham* in 6.2.2 as the input stress in the Latin *Abraham* coincides with the preferred place for OE stress assignment. In order to show the influence of the input stress, a faithfulness constraint needs to be added.

**88. IDENT-IO (STRESS)**

The stress conditions of the syllables in the output must be identical to the stress conditions of the syllables in the input.

The adjacency of the stresses in *Ándrē,as* causes a clash, but the alliteration marks the first syllable as being the most prominent due to primary stress. Thus, the sequence ROOTSTRESS >> IDENT-IO can be induced, as shown in Table 25.

**Table 25. Possible metrical renderings of *Andreas***

<table>
<thead>
<tr>
<th>Input</th>
<th>Root Stress</th>
<th>Ident-IO (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[án,dré,as]</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(án,dré,as)</td>
<td>*!</td>
<td>*</td>
</tr>
<tr>
<td>(án),(dré,as)</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

In Table 25, the candidate most resembling Latin pronunciation (*Andrēas* with the stress on the medial syllable) is dominated by the ROOTSTRESS constraint, which assigns a primary stress to the left boundary of the prosodic word, regardless of stress conditions in the source language. Note that in this candidate, as in all polysyllabic words, the second stress must be a secondary stress, and two prosodic words are formed within one graphological word. For the purposes of prosodic word building, there is no reason to assume that only vowel moras are counted. It should rather be assumed that the usual phonology of OE applies, and so the coda should contribute to syllable weight. In contrast to *Abraham*, the first syllable of *Andreas* therefore contains two moras and so can form a PrWd alone (as discussed in §2.1.4). This can be supported by the interpretation of OE phonological foot structure presented by Minkova and Stockwell (1994).

The prosodic structure of *Andreas* is comparable to the derived noun *frēondscipe* ‘friendship’, which has the apparent stress pattern shown in 89. In this word, suffixation does not affect syllable count. Inflection on this suffix adds only a coda, i.e. *frēonds cipes*. 

156
89. frēond + scipe
   friend + -ship (state or condition of being)

This word typically occupies the heads of two feet, but can also be shown to occupy a foot on its own, as in example 90, in which foot boundaries and stress marking are added.

90. ( : (: (: . (: ) (: ) (: .): .)
   a. folcbearn freoðo | and frēondscipe, *Gen 1760 197
   ) (: (: (: . (: ) (: ) (: .): .)
   b. onfeng frēondscipe | bē frean hǣse, *Gen 2737 198

In 90a, alliteration shows that frēondscipe occupies the heads of both verse feet in the b-verse, while in 90b, it occupies a foot on its own. This shows that both this word contains both a primary and secondary stress, which occur regardless of clash avoidance. This implies that IDENT-IO>>*CLASH.

91. *CLASH
   Stressed syllables may not occur adjacenty.

Table 26. Possible metrical renderings of frēondscipe

<table>
<thead>
<tr>
<th>input: [fréond].scípe</th>
<th>Root-Stress</th>
<th>Non-Final (stress)</th>
<th>Ident-IO (stress)</th>
<th>*Clash</th>
</tr>
</thead>
<tbody>
<tr>
<td>(freond.scí.pe)</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>✗</td>
</tr>
<tr>
<td>*(fréond).(sci.pe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table 26, the root frēond, which as a free morpheme already has the status of a lexical word, is marked with square brackets. The derivational suffix -scípe, as a bound morpheme does not have the status of a lexical root. However, the input stress in its first syllable is not affected by the nonfinality constraint and so the full word continues to have two stresses in its optimal form, similarly to Andreas. This becomes significant when compared with the example pair Abraham and æþeling (§§2.1.2, 2.4.2, 4.3.1, 6.2.2).

197 ‘children of men [shall receive] peace | and friendship’
198 ‘receiving friendship | by the Lord’s command’
The digraph <ai> and Cain.

The presence of the <ai> digraph in the name Cain represents a vowel sequence not found in OE words. Although <ai> is a common sequence in Greek, <ai> is not common in classical or late Latin, but is found, particularly in commonplace names like Gaius. In Hebrew, Qayin has two syllables, as is indicated by the spelling יקן (K*Y*N), or קַיִן with diacritics. Sievers suggests in passing that Cain might be “diphthongische” (1900). In context it is not clear if it should be considered a single gliding articulation, and therefore one syllable /kɑın/, or as two separately articulated vowels with hiatus, and therefore two syllables ['ka:ın]. Klaeber’s (2008) echoes Sievers, noting that Cāin/Cāines may be rendered perhaps with a diphthong, presumably allowing the possibility that it might also be rendered with hiatus. Bliss enigmatically refers to an ambiguous use of ‘Cain’ as being “confirmed by the metre” (1962, p. 41), in contrast to the manuscript’s cam. Bliss does not usually show his working on examples, so one often has to work backwards from his conclusions. Neither instance of ‘Cain’ in Beowulf is in a minimal line, although a monosyllabic reading of Cain in Beo 1261 cealde streamas, | sīðan Cain weard would produce an unprecedented right-heavy line. In examples 92 and 93, Bliss (1962) and Kendall’s (1991) analyses are used to show the constrast between their readings of the lines and their concept of acceptable types.

92. in Cāines cynne. | Þone cwealm gewræc Beo 107 200

In example 92, 107a is Bliss type 2C1a, Kendall type F (II) xA(n)x|Ax. F type in Kendall (1991) refers to a verse which does not fit his typology. However, 2C1a is also the Bliss type for the a-verses of lines 1073 and 1352 (among others), shown in example 93.

93. a. beloren lēofum | æt þām lindplegan, Beo 1073 201
    b. on weres wæstmum | wræclāstas træd, Beo 1352 202

Kendall (1991) gives 1073a as an A3 (Ib) and 1352a as a C1 (II) which serves to show the contrast and inconsistencies between their analyses. In Bliss (1962), the lines in 93 have resolution in effect, so that the two short vowels in -loren and weres are considered equivalent to a nucleus in Cain. In this interpretation, the <i> may be assumed to be part of a diphthong or to in some other way not contribute to the structure of the pronounced word. In the other

\[\text{Neidorf (2014) provides an overview of alternative interpretations of this anomalous word.}\]

\[\text{‘on Cain’s kindred | [the Lord] avenged the killing [of Abel]’}\]

\[\text{‘deprived of dear ones | at that shield-battle’}\]

\[\text{‘in the form of a man | paths of exile trod’}\]
example of this name in Beowulf, Bliss (1962) and Kendall (1991) are in closer agreement.

94. cealde strēamas, | siþðan Cāín wearð Beo 1261

Bliss (1962) gives 1261b as type 3B1b and Kendall (1991) gives it type B1 (I) \(\text{wx|Ax|N}\). Both of these models require that \textit{Cain} has two syllables, as the alternative is a right heavy \((xx/\) \) line (§ 2.3.2). By this evidence, the pronunciation [ˈkɑː:n] is confirmed for Beowulf as well.

In contrast to Andreas and similarly to Abraham, NOM/ACC \textit{Cāin} is always paired with another lexical word (and therefore another prominence) in the verse. The GEN form \textit{Cāines} occurs alone, as shown in examples 95.

\[
\begin{align*}
( & : ) ( : . ) ( : . ) ( \text{P} ) \\
\text{95. a.} & \text{ on Cā...ines | cwealme mīne, } \quad \text{Gen 1095} \quad \text{204} \\
\text{b.} & \text{ on Cā...ines | cynne sēcan, } \quad \text{Gen 1249} \quad \text{205}
\end{align*}
\]

In these examples, the structure of the NP is divided by the caesura so that the possessor \textit{Cāines} is separated from the head noun, which occupies the primary alliteration point. The heads of the feet in the a-verse occur in the first and second syllables of \textit{Cāin}.

The metrical status of different inflections of \textit{Cāin} can be explained by the following arrangement of standard constraints already used in this chapter and in chapter 4. Borrowed words, including names like \textit{Cāin}, enter the language and are subjected to these constraints which then determine how they should be stressed and therefore what sort of metrical structures they can occupy. The word formation constraints used here are those demonstrated in section 4.3.1 for compound words. Note that, in contrast to previous names, an input stress has to be reconstructed for \textit{Cāin} based on its metrical rendering in OE. This places the input stress on the final syllable in the input. In the unsuffixed output, this is realised as a stress on the first syllable as shown in Table 27.

---

\(^{203}\) ‘cold streams | after Cain became…’

\(^{204}\) ‘at Cain’s | death [defiled] my [hands]’

\(^{205}\) ‘among Cain’s | kin to seek’
Table 27. Possible metrical renderings of *Cain*.

<table>
<thead>
<tr>
<th>input:</th>
<th>Root-Stress</th>
<th>NonFinal</th>
<th>Ident-IO (stress)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ca.in</em></td>
<td><em>(cā.in)</em></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>(ca.in)</td>
<td>*!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(cā).(in)</td>
<td>*!</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

In Table 27, it is shown that the input stress is rearranged from a right-headed PrWd, which is disfavoured in OE, to a left-headed form. Similarly, it is shown in Table 28 that a suffixed form with two stresses is preferred despite fact that the inserted primary stress causes a clash.

Table 28. Possible metrical renderings of *Caines*

<table>
<thead>
<tr>
<th>input:</th>
<th>Root-Stress</th>
<th>NonFinal</th>
<th>Ident-IO (stress)</th>
<th>*Clash</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ca.in, es</em></td>
<td><em>(cāînes)</em></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cāînes</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>cāînes</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cāînes</td>
<td>*!</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Personal names are not usually subject to further compounding. However, one of Cain’s descendants was Tubal-cain, which is compounded (Wenham, 1987, p. 113). That name occupies a whole verse, as shown in example 96, where stress marking and foot structure is added.

96. in þā ilcan ūtīd | Tubalcain, *Gen 1083*\(^{206}\)

This can be used to further demonstrate that the -cain element has two syllables, in order to meet the four-position principle. Unfortunately, there are only three instances of the name of *Cainan*, in *Genesis* and not enough significant contrasts to make a similar assessment.

A comparable derived noun to *Cain* is *waldend* ‘the Lord’, which is derived from the verbal root *weald-* ‘wield’ and the agentive suffix -*end*. This word can also be shown to have a primary stress on its first syllable and a secondary

\(^{206}\) ‘in that same time | Tubalcain’
stress on its second syllable when given an additional suffix. The suffixed form can occupy a whole foot, or parts of two feet, as shown in example 97, to which stress marking and foot boundaries have been added.

97. (i : ) (P ..) (i : ) (i)
   a. wærfest wunode, | wælde leof,  
   (i : ) (P ..) (i : ) (i)
   b. wæbed wærhton | and lēa wælde  
   Gen 2598 207
   Gen 1791 208

In 97a, wældele occupies the whole of the third foot alone, while in 97b it occupies the heads of both feet. This variation, along with those demonstrated in other words and names in this chapter, confirms the status of secondary stress in non-Germanic names and derivational nouns as well as reinforcing the verse structure proposed in chapter 4.

6.4.1 Achaia

In the corpus used for the present study, the <ai> digraph is also found three times in the name of Achaia, but never with another stressed element. Foot structures and stress marking is added to the examples in 98 on the basis of the findings of this chapter and chapter 4.

98. (i :) (.) (i :) (P)
   a. in Achaia, | Andrea...as, wæs,  
   (P ..) (i :) (i :) (P ..)
   b. swa du in Achaia | ondsæc dyest  
   (i :) (.) (P ..) (i :)
   c. Achaiae | ðære síde  
   And 169 209
   And 927 210
   And 1700 211

Taking the findings of the present study into account. The only syllabification possible to retain an acceptable verse foot structure in 98c is /a.ch.a.i.a/. The stress pattern in Achaia is comparable to Æbraheim, and it can occupy either one foot alone, as in 98b, two whole feet alone, as in 98c, or the heads of two feet along with other unstressed material as in 98a.

207 "[Lot, the noble and] faithful, dwelled, | beloved of the Lord"  
208 "an altar wrought | and then to the Lord"  
209 "in Achaia | Andreas was..."  
210 "as you in Achaia | gave resistance"  
211 "Achaia | a second time"
6.5 Further observations on names

As well as the names mentioned in the sections above, which occur frequently and allow for fairly robust claims, there are other significant examples which provide some lesser insights.

6.5.1 Nabochodonossor

The longest name in the corpus is *Nabochodonossor*, which occurs six times in *Daniel*.212 This name has six syllables and has no attested inflectional variants, and always occupies a whole a-verse, and in example 99, in which verse feet are annotated for vowel quantity.

99. (µ µ µµ)(µ µ µ µ) (µ µ µ µ) (µ µ µ µ)
   Babilô...nes brego, | on his bethstede,

   (µ µ µ µ)(µ µ µ µ) (µ µ µ µ) (µ µ µ µ)
   Nabochô...donossor, | purh ñïð...hete,

   *Dan* 47-48 213

On the basis of the conclusions made above in this chapter regarding other long names, *Nabochodonossor* occupies two default feet, with a stress on the first and fourth syllable, limiting the flexibility in the rest of the verse. The only options available to the poet would be to add 1 µ words to either side of the name, or to borrow a mora over the caesura. This does not occur in *Daniel*.

6.5.2 Noah

The name of Noah214 appears 16 times in *Genesis* as *Noe*. This name causes some problems regarding the metrical model described in 4.2. The digraph *<oe>* is found in some Old English words, usually as a variant of long or short *<æ>, <œ> or *<æœ>* or in hiatus in compound words across a morpheme boundary in *cneohel* 'knee-like' (of plants 'geniculate') or *tēōcan* 'besides', where a morpheme boundary coincides with a syllable boundary (BT). *Noe* frequently occurs in a verse with other items unambiguously amounting to two syllables, such as in 100 below, where it seems as though it must occupy a

212 There is a further mention in *Azarias* 113, which is not included in the corpus for this study.
213 'Babylon's prince: in his city-place || Nebuchadnezzar through wickedness...'
214 Given the morphology of the nominative of *Noe*, one might expect it to inflect as a weak neuter noun like *æge* 'eye', with nominative *Noe* and genitive *Neæ*, but this is not the case. *Noe* takes strong masculine inflection with nom/acc/dat *Noe* and gen *Noæ*. Strong masculine nouns ending with *-øe* are not found in OE, and those ending with *-e* (BT), excluding derived nouns, are unusual (*æce* 'ache' is a counter-example).
foot alone, a monosyllabic reading of Noe would force the verse to be below minimum length.

100. a. Noe wæs gōd, | nergende lēof,  
    b. nergend usser. | Noe hæfde  
    c. wuldris aldor | word to Noe:  

However, there are instances where no interpretation of the text can allow for an acceptable verse. Even if Noe, like Cain, contains the potential to fill two ictuses, that does not explain the examples in 101.

101. a. gefæstnod wið flōde, | fær Noes,  
    b. nergend usser, | þā hē Noe

Example 101a includes a reduced form of fæðer, which is one of those words in which resolution is supposedly suspended, so it could be considered disyllabic. 3σ verses as part of 7σ lines have similar phenomena, as addressed in 4.2.5. If Noes is also disyllabic, as it is shown to be above, then Gen 1323 becomes an acceptable A1 verse. In example 101b, however, Noe is too short to occupy both the head of the third foot and the whole of the fourth foot, so the line cannot be considered well-formed according to the model presented in chapter 4, nor the models described in chapter 2, with the exception of Golston and Riad (2003b). 3-syllable verses are very rare in OE verse, although another is caused by Noe in the a-verse, as in example 102.

102. earc Noes, | þe Armenia

In 102, Noes is paired with the unambiguously monosyllabic earc, which, while being a long-attested and naturalised OE word (in its borrowed form meaning 'box'), is similar enough to the Latin arca to inspire some doubt as to whether in this specific case it should be considered a Germanic common noun or a Latin proper noun. If so, a final vowel could be added to placate the template. Obviously, insufficient data is present here to support such a claim.

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215 ‘Noah was good | beloved of the saviour.’
216 ‘our saviour, | Noah had...’
217 ‘lord of miracles | a word to Noah’
218 ‘secured against the flood | the ship of Noah’
219 ‘our saviour | when he [blessed] Noah’
220 ‘ark of Noah | which in Armenia’
6.6 Names summary

In translated texts, personal names and numerals are among the simplest lexical items to translate, as there is typically only one possible way to express these items in each language. This lack of flexibility allows these items in the source and target texts to be compared closely to reveal the underlying structures. Metrical and syntactic constraints can then be adduced from these structural comparisons, while excluding the influence of lexical choice.

Germanic personal names are transparently formed in the same way as ordinary nominal compounds. Two common nouns are combined into a single prosodic word, each of which has a stress on the first syllable of its root with the main stress on the first component (Campbell 1959). These cause no real problem for the metricist. Non-Germanic names, like Cain, Andreas or Abraham have no transparent internal morphology, and so how they are to be syllabified, or in longer names, where they have internal stresses, is a matter which needs to be resolved to be able to include the longer biblical poems Genesis, Andreas and Judith in a metrical analysis. A comparison of alternations of various case inflections of the biblical names shows that they mirror the metrical value of derived nouns, in that they have an initial stress, and a lexical stress elsewhere within the word which, if in final position, only reveals itself when suffixed.

Each name has to be assessed separately, but they fall into a small set of categories which can be mapped onto a similar set of categories of derived nouns. Abraham, for example, can be mapped as metrically equivalent to the derived noun æþeling, ‘noble’+PATRONYMIC = ‘prince’, with one stress on the first syllable, and a lexical stress on the derivational suffix which only reveals itself when followed by a further inflectional suffix, so that NOM Abraham (Sww) can only occupy one foot, but DAT Abrahame (Sww) can occupy two. For each biblical name, the stress value must be determined individually. For analytical purposes, each name can be associated with a metrical prototype representing one or two feet. It is shown that these names gain stresses on the first syllable during borrowing as well as retaining the stress from the input language as a secondary stress which is then revealed under particular phonological circumstances. Polysyllabic names are granted secondary stress according to default foot structure. The status of these stress patterns match those found in derived nouns, so that each non-Germanic name can be granted metrical equivalency to a prototypical derived noun which can then be subjected to the same set of phonological constraints which underlie all words in the language. This presents a standard set of constraints. This analysis supports the notion that derivational suffixes are stressed in the input, including the less controversial notion that lexical stress itself is present in the input. This lexical stress must be distinguished from root stress, which is not affected by suffixation.
Since at least Sievers (1893), it has been a general assumption of Old Germanic verse studies that the three substantial extant verse traditions in the Germanic mode, Old Norse, Old English and Old Saxon, must be composed according to the same metrical rules. Of course, the verse traditions which underlie these three textual cultures have a common source and are at least superficially similar. The purpose of the present chapter is to compare statistical data on the line lengths of representative samples of Old Saxon and Old Norse verse with that of the larger corpus of OE discussed in chapters 3 and 4, to determine whether the same analysis is appropriate to all three corpora.

Sievers notes that Old Norse verse lines are the shortest, “the predominating verse-line has four syllables” (1968, p. 267). Old English has a good deal of these four-syllable half lines, whereas Old Low and Old High German verse is substantially longer. Sievers groups ON and OE together against the German, with “the essential difference being the way in which each ‘fills’ the verse (concisely on the one hand, diffusely on the other)” (1968, p. 267). Part of Sievers’ objective was to use the extant data to produce a metre of common Germanic verse, and notes that “one cannot say from the form alone which of the two groups represents the more original state. A comparative historical study shows, however, that the original Germanic verse probably held the mean between them” (Sievers, 1968, p. 268). This suggests that Old English verse, which holds the median and also the mode between the Old Norse and Old Saxon examples, would be typical of the common Germanic verse, but Sievers does not make this clear.

7.1 Old Saxon

Old Saxon poets were challenged in composing in the Germanic verse paradigm because of “radically changed prosodic conditions”, but attempted to “follow the central rules and conventions of the inherited versecraft as fully as possible” (Suzuki, 2004, p. xv). I have considered Suzuki’s suggested analysis for Heliand but, as it is fundamentally based in a Sieversian typology, whose limitations I note in section 2.3.2, I have not been able to take advantage
of his study except in the most superficial terms. The data demonstrate that at least in terms of line length, there is a statistically significant similarity between the quantity of Helian and the Old Saxon Genesis, while there is a significant difference between the lengths of the two poems' lines in syllables. This supports the hypothesis that the two poems are written in the same metre to some extent.

7.1.1 Phonological anomalies in Old Saxon

The principles of the phonology of OS which inform the present study are taken from Robinson (1993) and Rauch (1992). There are five cardinal vowels each with long equivalents. The distinction between the two forms of <e> as described by Robinson (1993, p. 119) is assumed to have no bearing on vowel moras, as both forms are short. For this analysis vowel quality is not a significant factor. There are seven Old Saxon short vowels and five long vowels. The long vowels are long equivalents of the short vowels, with the exception that there are no long front rounded vowels. The digraphs <io>, <ia>, <ie>, <iu> represent commonplace diphthongs, the rarer digraphs <ei> and <ou> also represent diphthongs. These are considered to occupy a single syllable. Digraphs beginning with <u> and followed by another vowel such as <uuV>, <uo>, <ua> are assumed to represent a glide-vowel combination in Saxon words, and a fricative-vowel combination in Latin loans (such as evangelicum) rather than separate articulations. Latin-source digraphs which represent vowel combinations with separate articulation are annotated with separate syllables, i.e. /mat.hes/. It is assumed that double consonants in intervocalic position are geminate.

7.1.2 Vowel Moras in Saxon Verse

The Saxon lines were analysed for vowel mora length. Figure 12 shows the distribution of line lengths in vowel moras.

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221 For vowel moras p=0.031, for rhyme moras p=0.029, for syllables p=0.190.
As shown in chapter 4, the number of vowel moras in OE lines is normally distributed around an average of twelve. An absolute minimum of 8 and a statistically significant maximum of 16 moras per line can also be adduced. This distribution of vowel moras in the OE line, in combination with generalisations drawn from earlier scholarship on the metrical structure of the OE verse line allows for an analysis taking line length and footing into account. There is no such orderliness in the Saxon Data. The data show a leftward skew. Some lines are comparable in length to OE or ON lines, most are longer, and not all of these are hypermetric or even ‘heavy hypermetric’ (in the terms of Simms, 2009). A hypermetric verse is distinguished by having three primary stresses (and therefore three verse feet) instead of the usual two (Bliss, 1962). According to Simms (2009), heavy hypermetric lines have eight apparent metrical heads. Simms (2009) asserts that the purpose of these lines is to “catch the audience’s ears and redirect their attention to passages of particular import” (NP). This rhetorical function is of course possible, but difficult to determine evidence for. Why this should be required so frequently in the Saxon poems is not evident, but what it means is that lines in Saxon verse can happily accommodate lines of 20 vowel moras and longer. An attempt to describe the Saxon line using the same method as described in chapter 4, with a

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222 The mean length of a verse of Heliand is 14.26μ; and the mean of Genesis is 15.85μ.
branching generative structure would require an analysis with 32 possible final nodes, undergoing extremely frequent catalexis at several levels, a far more complex and flexible analysis than required for Old English, and one neither suggested by nor appropriate to the quantitative data shown in Figure 12.

7.1.3 Rhyme moras in Saxon verse

![Histogram showing frequency distribution of rhyme moras.](image)

Figure 13. Rhyme Moras in the Heliand and the Genesis.

The picture for rhyme moras per line is even less clear than those for vowel moras, the normal line is quite flat compared to the various peaks, none of which are in a position which would suggest any significance of a particular value of rhyme moras. A range between 15 and 34 with no clear distribution does not suggest that an analysis in which these figures are divided into 4 feet would be suitable.
7.1.4 Syllables in Saxon verse

![Graph showing syllable distribution in Saxon verse]

Figure 14. Syllables in the Heltand and the Genesis.

The syllable count for the Saxon verse shows a flattened curve which arranges itself around peaks of 12 and 14 syllables, which are perhaps overrepresented due to the relatively small size of the sample. Nevertheless, these data are no more helpful in developing an analysis than the syllable lengths for OE in Figure 4 (§4.1.3).

7.2 Generalisations on Saxon

The analysis of Saxon shows a huge variation in all the countable items except for stressed positions. Of the available theories, that presented by Halle and Keyser (1971) and Fabb and Halle (2008) for Beowulf deals principally with assigning stressed positions to the verse. There are no constraints on line length whatever, apart from those which are forced by limitations on the number of words which may occur around words with primary stresses. The data from Saxon shows that there is a minimum length of 8 syllables. This is a development of Wackemagel’s analysis (1872) in which feet “are dispensed with, defining a verse as consisting of two stressed syllables plus an unlimited number of weakly stressed syllables” (Stockwell & Minkova, 1997, p. 55).
with the additional proviso that the verse should be congruent with a phrase. It would seem that the constraint which parses phrases into verses is high-ranking in Old Saxon, as in the other languages, and this limits the length of verses. In case of Saxon verse, Wackernagel’s claim should be narrowed to note that every stressed syllable must be accompanied by one or more unstressed syllables. The variation in the length of lines and verses means that an analysis involving feet will be put under unsustainable strain.

Robinson (1993, p. 132) gives an example of an Old Saxon line, shown in 103a, which according to his criteria, has eight syllables in anacrusis. There are even longer anacruses in the sample, however, such as in example 103b.

\[ \text{In example 103, the anacruses after the caesuras extend far beyond what can be allowed for in any model of OE, even those which claim to be able to account for OE and OS with a similar analysis, such as Sievers (1968). This apparent anacrusis contrasts with Bliss’s (1962) generalisation that Old English allows a maximum of five syllables in anacrusis. Syllables which cannot be accounted for by metrical structures must be considered extrametrical. In Old Saxon, extrametricality has to be taken into account in the analysis of OS verse, as verses in general and verse pairs in particular can be of wildly varying lengths. It is possible to consider the Saxon line as being a Sievers-type line with unlimited anacrusis. Sievers’ generalisations about the verse line are confirmed by the fact that in the Saxon data, no inflected verb occupies an alliteration point, except in the fourth, unalliterating position in the line, as below. The association between primary stress and alliteration is much stronger in OE than in OS. Note that in \textit{SGen} 178a, as in many Saxon verses, three items with primary stress (a derived adverb, an adjective and a noun) are evident, and the alliteration is found on the adjective and the adverb rather than the noun, as in example 104, in which stress marking is added.} \]

\[ \text{223 ‘loyal words, | He stood himself then by one water’s shore’. There are several orthographic traditions for rendering the Old Saxon writing system. My source for Heliand (Sievers, 1878) uses <uu> where Robinson (1993) uses <w>, and <ou> where Robinson has <ô>.} \]

\[ \text{224 ‘terror in the temple, | he saw thereafter the only angel of God’} \]
Double alliteration in the a-verse is also much more frequent in OS than in OE. These generalisations substantiate Sievers’ claim that it is the verse which must be considered the object of study for Old Saxon verse, but does not defend the generalisations concerning the extent of the segmental material in anacrusis.

7.3 Old Norse

Old Icelandic verse encompasses those examples of Old Norse verse which were written in Iceland during the Old Norse period. Eddic poetry was chosen for the ON examples, as it is believed to be the most ancient form, and therefore nearest in time to both OS and OE sources. The extensive extant text record of Old Norse verse allows for the verse form to be better understood, as it has not had to be painstakingly rebuilt from fragmentary sources by philological methods in the same way as the other traditions. The various styles of Eddic verse address both the structure of the stanzas and the verses. The three poems chosen for the present study are written in the most traditional fornyðrislag metre, as this is the least deviant from the common Germanic (Harris, 2005).

During the annotation process, the question arose as to how syllabic final <r> should be treated. Normal practice is to consider it non-syllabic. Despite the temptations of being able to force apparently three-syllable verses into a four-syllable template by considering the final <r> to be syllabic. During the time the Eddas were composed, the value of the fricative /r/ was completely consonantal and vowel epenthesis had not yet taken place (Schulte, 2002). This causes lines like example 105 to appear shorter than would be allowed in OE. Stress marking is added.

105. var kalfr soðinn | krāsa beztr  
Rígsþula 18cd  
In example 105, both kalfr ‘calf, veal’ and beztr ‘best’ have a final <r> which is not considered a separate syllable. This causes the second verse to be read

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225 ‘wholly devoted man, | how my mind wanders’
226 Other metres and verse styles and how they relate to the fornyðrislag are described thoroughly in brief along with other terminology from the Icelandic tradition by Gade (1995).
227 ‘[it] was boiled veal | the best of dainties’
as having 3 syllables, an issue which recurred in the ON data but not in the OE or OS.

7.3.1 Vowel moras in Norse Verse

![Frequency vs. Norse Length Distribution](image)

Figure 15. Vowel Moras in the *Rígsþula*, the *Völuspá* and the *Hymiskviða*.

The distribution of the vowel moras in the ON sample does not at first seem much different to the OE. There is a slight skew to the left, comparable to the OE data, and the columns representing individual lengths match to the curve showing normal distribution. However, in contrast to OE, which shows an average length of 12 μ, Norse lines are shorter with an average 10.5 μ. There is also a rapid drop-off after 11 μ. In the context of OE, the presence of seemingly complete 7 μ lines is something of a surprise. It should be noted that some of the 8 μ and 9 μ lines also have one verse with three vocalic moras. The significance of this phenomenon in the context of the common features of Germanic verse becomes clearer in the syllabic analysis. Golston and Riad (2003a) suggest that the vowel mora line length constraint which they posit for OE also fits the data for Old Icelandic verse, and that claim is consistent with the data in Figure 15. However the distribution is very different in Figure 5 (p. 79), which has a much greater incidence of longer lines, a much more normally distributed set of values, an average of 12 μ and no dramatic drop on the right half of the graph.
7.3.2 Rhyme moras in Norse verse

Figure 16. Rhyme Moras in the *Rígsþula*, the *Völuspá* and the *Hymiskviða*.

The Norse data for rhyme moras is very neatly normally distributed around 15.5μ, with a slight skew to the left. The adherence to this average length is shown in all the data for the Norse material and is not in itself instructive. While an average of near-16μ could suggest the significance of an underlying binary structure, the distribution being spread between 10μ and 20μ cannot support a structure similar to the one suggested in chapter 4.
7.3.3 Syllables in Norse verse

![Graph showing frequency distribution of syllables in Norse]

Figure 17. Syllables in the *Rígsþula*, the *Völuspá* and the *Hymiskvida*.

Figure 17 shows a tight distribution around an average length of just over 8σ. These data show that just under 95% of verses have 8–10 syllables. 8σ lines are slightly more common than 9σ lines, while 10σ lines are considerably fewer. In contrast to the OE and OS data, 7σ are fairly frequent, and occur roughly as often as 11σ lines.

7.3.4 Generalisations on Norse

The distribution in Figure 17, suggests that the Sieverstian verse prototypes described in section 2.3.2 are being closely adhered to, without adding extra syllables to dips or extended anacrusis. Most verses are 4 or 5 syllables, in which the fifth syllable is caused by the operation of resolution or a single syllable of anacrusis. This distribution of line lengths is indicative of a selection of lines in which resolution is used infrequently, occasionally once per line, rarely twice per line, and is combined with a sparing use of anacrusis, principally for grammatical purposes (such as the inclusion of a coordinating conjunction or preposition in its obligatory position). Unlike OS and OE, it is common for verses in ON to have only three syllables, and for line pairs to
have a sum of seven syllables, such as example 106, where the b-verse has only three syllables.

106. hörvi svartan, | hétu Þræl.  *Rígsþula* 7cd
   “in swaddling, swarthy, | named Thrall”

This versification phenomenon supports the notion that the basic line length for the verse is four syllables but that the minimum length is not controlled by as strong a constraint as in OS and OE. The shortest line by rhyme moras is 10 and the shortest by vowel moras is 6, which continues to be not particularly informative given the infrequency of these lines.

Sievers’ five-types system allows for a distribution of lifts which is typified by excluding right-heavy verses. Within a frame of four metrical positions, any combination of two lifts and two dips is accepted except that in which two dips are followed by two lifts (xx/ /). Forms like this do not occur in *Beowulf* (Bliss 1962; Kendall 1991), Kendall’s F classification means only that the verse does not fit any of the approved subtypes.

107. ok í höll Hárs | hana brendu;  *Völuspá* 21ef
   “and in Har’s hall | burned him”

The alliteration in example 107 shows a clear right-heavy pattern in the a-verse. This suggests that the left-headedness constraints for feet and verses are lower-ranked in Old Norse than they are in Old English, which would be consistent with the notion that the verse structure is based on syllable count rather than quantitative verse feet.

### 7.4 Old English verse in a comparative context

It could be argued that the quantitative data described in this chapter is a vindication of Sievers in a similar way that chapter 2 could be regarded as a critique. The Old Saxon data is a vindication of his generalisations on flexibility and the Old Norse a vindication of his conclusions on verse structure. However, the generalisations are not a close match for Old Norse and the conclusions not a close match for Old Saxon. This, combined with the contrast between the analyses in this chapter and the analysis for Old English presented in chapter 4, supports the argument that an approach which attempts to combine the three extant ancient Germanic verse traditions has to encompass a compromise between the flexibility of Old Saxon and the terseness of the Old Norse. This compromise covers enough ground to allow Old English verse, which on average is intermediate between Old Norse and Old Saxon in all line length criteria, to be included, but does not provide a precise or parsimonious
analysis of any of the three. The contention of the present chapter is that the vowel mora analysis is appropriate only to Old English, and that Old Saxon and Old Norse verse forms are described with greater success by Sievers’ analysis than Old English is by Sievers-Bliss.

A possible explanation for this divergence is that as Germanic tribes split during the migration period, the different traditions adapted their metrical style to the changing phonology of their language. This led to an ON system with very short lines, where a minimal line of 2x4 syllables was the norm, an OS system, where there was perhaps no constraint on line length other than those brought by the limitations of the phrase structure. The much closer association between lexical stress and alliteration in OS is perhaps best explained by the analysis presented in Halle and Keyser (1973) and Fabb and Halle (2008). These systems are contrasted with the OE system, which is shown to be based on a line comprising four verse feet of variable length. Investigations into these traditions, which may one day be freed from the hegemony of Beowulf studies, could show how they split from the source tradition and how their metrical system developed as a result of their changing phonology.

It is important to note while considering hypermetric lines that Genesis B, which comprises lines 235–851 of the Old English version of Genesis were included in the data set for some parts of the study, but are not considered either standard or hypermetric. According to the generalisations made in the present study they are not lines of Old English verse at all in a metrical sense.

One of the conclusions from the present chapter in comparison with chapter 4 is that each of the Germanic verse traditions should be studied separately for its metrical structure, and it is the attempt to incorporate all of them in one analysis and ignore line length issues that has caused the problems present in modern applications of the theory. The implication of the conclusion that an analysis of the OE line based on the asymmetric foot is incompatible with continental forms is that at some point in the prehistory of the Germanic peoples a common verse form existed, based on a basically trochaic four-lift line, marked by alliteration, but subject to other requirements as well. As the cultures and the languages of the Germanic diaspora changed, their verse form changed with them and each tradition developed a different set of constraints to address what sorts of verses were acceptable.
8 Conclusion

It has been argued that the primary object of study for Old English metrical studies should be the line rather than the verse. Based on this assumption, it has been shown that the variation in the features of the Old English verse line is caused by deviation from a metrical template, which preferentially creates prototypical lines. The metrical template is based on a preference for verse feet to be congruent with prosodic words. The deviation is shown to be forced by the interacting demands of lexical choice, alliteration, grammatical relations.

The main metrical study is complemented by analyses of two minor and understudied word classes, non-Germanic names and compound numerals. These two word classes exhibit very low flexibility in translation and so allow for the conditions which inform the translation of *Genesis* to be considered, without the confounding influence of synonymy. These findings in turn inform some parts of the model developed for the metrical analysis, including some first steps towards considering the interaction between metrical and syntactic constraints. The model represents a shift away from previous studies which have been based either on the stress condition of syllables, or on the prototypical rhythmic patterns which they produce. It is also shown that this model is applicable only to Old English verse, and not to the closely related Old Norse and Old Saxon verse styles, which can be explained according to other existing models which in turn match the phonology of the respective language.

8.1 Old English verse and paradigms of study

Sievers’ system represents a sort of ontological project in which the lines of verse (which definitely exist) are sorted into sets of categories representing Platonic ideals of verses (which might not). Tolerable examples of these verses can be found by anyone with the patience to search for them. Nevertheless, most lines fail to conform to the types, but the system is designed with enough flexibility to address most of the lines in *Beowulf*. Bliss (1962) produces a comprehensive analysis which has inspired similar further attempts to accommodate Sievers’ system to the data. These systems use a proliferation of subtypes of lines to account for roughly 98% of standard verses, as well as
developing extensions of the system to account for hypermetric verses. Most subsequent scholars have followed the assumptions of this system. Other systems, such as those by Pope (1942), Halle and Keyser (1971) and Russom (1998) make analyses based on other assumptions but have equally limited practical application when, for example, determining the relationship between syntactic and metrical constraints.

The most successful previous studies in the metrical structure of OE verse have focused on categorising syllables by stress contour. This has led to the development of a consensus view of OE verse which is based on a highly detailed and precise categorisation of the types of half-lines within *Beowulf*. This sort of typology is based on a number of assumptions, not least the idea that the composer would have a more-or-less conscious knowledge of a battery of acceptable half-line types which may be represented by a group of very common formulaic lines. The necessary corollary, that there are criteria for unacceptability, is an understudied area. The weaknesses of studies based on stress are examined in detail in chapter 2, and statistics on the length of lines in syllables are presented in chapter 4.

Golston and Riad (2003b) developed an innovative method of measuring verse lines for *Beowulf* based on length of the line measured only by the weight of their vowels. In the present study, this approach has been developed, refined and applied to a larger corpus of mixed texts. This is based on a model for standard lines consisting of four verse feet, each of which comprises two metrical positions with a default size of three vocalic moras. These can then be modified by adding or removing syllables containing further moras, allowing for a range of 2-4 vocalic moras per foot and therefore 8 to 16 vocalic moras per line. The counting of vocalic moras alone is a highly controversial method of deriving the quantitative value of OE syllables and is not coherent with most of the understanding of the phonology of OE. Nevertheless, the distribution of lengths of verses allows for the development of a reliable heuristic for determining the range both of lines and the distances between prominent positions. It is unlikely that the distribution of vowel moras is a coincidence and it may be indicative of a more plausible phonological explanation which has been overlooked in this study and its predecessors. A modification to Golston and Riad’s means of measuring the line can be made in which syllables with single-segment codas are considered light and those with complex codas are considered heavy. This distinction is shown not to have a significant effect on the quantitative data used in this study.

In its basic form, this analysis accounts for 98% of verse lines in the corpus. Further minor modifications account for hypermetric lines and standard lines longer than 17μ. This approach represents the establishment of a new paradigm in the study of the metrical structure of the Old English verse line.
8.2 Optimality treatments

To determine the main causes of the variation in the metrical structure of the OE verse line and to take into account deviant constituent order and other grammatical idiosyncrasies, a model was developed which takes into account the effects of both phonology and syntax. In order to investigate the interaction between phonology and syntax it was deemed necessary to find a theoretical approach which could describe both these aspects of language using roughly the same terms. At the time of writing, Optimality Theory (Prince & Smolensky, 1993) represents the only current, well-established and theoretically rigorous approach which could technically account for the interaction between verse design, phonology and syntax. Choosing OT for this purpose, however, is controversial. OT phonology and OT syntax have inspired each other’s developments, but are not designed to be compatible, and have not been previously combined in any serious way, presumably because phonology and syntax do not interact significantly in prose. There is also a weakness in combining these two fields in that it opens up the question of what other aspects may influence composition, a question which is touched on very lightly and quite speculatively in the sections on translation and alliteration (§§4.4.1, 5.3). At the time of writing, no other approach could have accounted for the interaction between these different aspects of language. The OT approach, however, can appear clumsy, as some constraints are organised into discrete groups, in others different aspects of the language function interact and, perhaps controversially, some are expressed not as subconscious preferences, but as explicit rules. This is a consequence of the fact that poetry is an art form with formal rules, and that these rules need to be explicitly understandable so they can be transferred to others through teaching or apprenticeship. These formal rules interact with other constraints which are acquired subconsciously as a competent practitioner or are acquired through the language function as a native speaker, and thus have the usual form of OT constraints.

The metrical structure of the line is explained in terms of a hierarchy of stylised prosodic structures using the terminology of metrical phonology (Hayes, 1989). This approach has been combined with OT since its inception and can be used either for prose metrical structures or their formalised poetic counterparts. In OE poetry, some of the metrical structures are strictly enforced in every line, and others are found less frequently. This allows for the development of a discrete group of very high ranking constraints—which in themselves create most of the structural features of the poetic genre—and other lower-ranking constraints which interact to create deviant or non-standard features.
8.2.1 Constraints for prosodic word formation

OE allows for quite extensive affixation and compounding which affects the prosodic structure of the components of words which have undergone the formation process. A set of Optimality constraints are presented which systematically describe the formation compounds and affixed forms, and shows how they occupy elements of the verse structure. Once the verse structure is established by the line structure, the metrical structure of individual words becomes important. These must conform to minimal and maximal word size within the verse and it must be established how certain words can vary in the types of metrical or prosodic structures they can occupy.

It is shown that the default metrical foot is equivalent to the prosodic word, and that the half-line represents a comparable prosodic structure to a prototypical compound word. Word formation constraints follow. In the present study, they are mainly used for determining the metrical structure of graphological words which are longer than one prosodic word including compounds, derivational words and non-Germanic names.

These constraints allow for a word of any length to be given its proper metrical structure which can then be fitted into the verse and allow for footing and alliteration requirements to be fulfilled. In compounded and affixed words, the lexical root comes already formed with a stress in place in the input. The addition of further input stresses not associated with lexical roots, allows for long names to occupy metrical structures longer than a foot without the need to add prominence in an ad hoc way to fulfill footing requirements. These are shown to occur in borrowed words and names.

8.2.2 Alliteration constraints

The alliteration constraints only address surface features. It is assumed for the purposes of the present project that they are completely subject to conscious choice for artistic purposes within the line. The composer picks an alliterating onset for each line based on the available lexical items. Alliteration is also associated with listeners being able to recover the verse design from verse instances. Some of the alliteration constraints are very high-ranking, along with the highest ranking metrical constraints, and apply to every line.

These constraints create the alliteration between one of the alliteration points in the first half-line and the primary alliteration point in the second half-line. At this stage lexical choice constraints intervene. As discussed in the preceding chapters, the constraints regarding lexical choice are complex and not well
understood. They have been explored in the present study only insofar as can be revealed by translation choices. They must, nevertheless, in some way out-rank the constraint which causes two alliterating positions to occur in the a-verse. Although an alliteration pattern AA\Ax is presumed to be preferred and prototypical by essentially all previous studies, the pattern Ax\Ax is only slightly less frequent. The second alliterating point in the a-verse is described as being allowed by lexical choice in some cases.

8.2.3 Line building constraints
In the present study, a metrical template is presented, based on four verse feet, each with a prominent syllable and a head, but with a variable length which is measured quantitatively by the weight of the vowels in the nucleus of each syllable. Variation from a default foot of 3\mu, and a default line of 12\mu, is described in terms of metrical complexity which can be expressed using Optimality Theory constraints. These constraints govern the building of the foot and the line according to the following sequence. The metrical model which represents the relationship between the line and the feet is broken into high-ranking constraints, which represent the features common to each line, and low-ranking constraints, which reflect those aspects of prototypical lines. These aspects can be altered by the interference of syntactical, alliterative and lexical choice constraints.

108. OE LINE (GROUP) >>
All words must fit into a line comprising four verse feet.

MAX-IO (GRAMMAR) >>
All grammatical operations in the input must be rendered in the output.

VERSEFEETPARSEPHRASES >>
The prosodic edge of a phonological phrase must align with the metrical edge of a verse.

VERSEFEETPARSEPRWDS >>
The metrical edge of the verse foot must coincide with the edge of the prosodic word.

RIGHTPOS 1\mu >>
The right position of each verse foot comprises one vocalie mora.

LEFTPOS 2\mu >>
The left position of each verse foot comprises two vocalie moras.
SYLLABLESPARSEPOSITIONS
Each metrical position must be occupied by one syllable.

Due to the fact that lexical choice is a very poorly understood area of linguistic study, the defence of this sequence of constraints is not particularly robust. A visual (i.e. printed in tableaux rather than computer automated) application of OT is suitable only for dealing with small numbers of constraints and candidates. Large grammatical operations such as line building are hard to adduce even if all constraints are known, and the void in scholars’ knowledge of what underlies lexical choice causes problems in determining all the factors underlying the constraints for most lines. However, some examples where low flexibility is exhibited have been investigated in chapters 4 and 6, which support this sequence of constraints, particularly in comparison to similar earlier studies in the same vein.

8.3 Objectives and research questions

The current project was originally envisaged as a means of developing metrical constraints which could interact with syntactic constraints. This has been fulfilled and demonstrated with reference to particular syntactic features associated with particular word classes. The possibility to extend this to grammatical structures in OE verse in general remains open. The research questions addressed the underlying structure of the line, the prototype line, and how the variation from a putative prototype should be formed.

8.3.1 Develop a model

A model is presented which derives a template of four verse feet for standard lines. Each foot comprises two metrical positions which may be one or two vocalic moras in length. One of these positions must contain a syllable which is more prominent than the others, and this prominent position attracts alliteration. This model is presented as an underlying metrical structure, and accounts for 98% of standard lines, a comparable number to previous models, but within a single template. A minor modification to the model accounts for hypermetric features.

8.3.2 Accommodate current theory

The model is based on metrical phonology, a theory which describes metrical phenomena, including verse metre, as being phonological features. In metrical phonology, the prominence of a linguistic object—in the case of this model, a syllable—is defined as relative to nearby syllables. This prominence and its
nearby syllables are grouped together into feet. Deviation is explained in terms of metrical complexity and explained using interacting constraints expressed according to Optimality Theory.

Within an Optimality framework, the variation in the length of lines and the distribution of the prominences is forced by the interaction between constraints regarding binarity and headedness in the verse structure, and constraints regarding grammatical relations and vocabulary choice in the phrase structure. The most common variations are included within the model.

Breaches of the model can be forced by high-ranking syntactic constraints, such as subordinated clauses requiring an initial subordinating conjunction. These outrank metrical constraints, such as those governing the inclusion of all syllables into feet. This accounts for those deviations from the model caused by large numbers of unstressed syllables to the left of the first foot in a line, a phenomenon previously explained in terms of anacrusis.

The analysis presented here is based on a single template, which as well as being compatible with current analytical techniques in phonology and syntax is more efficient and comprehensive than the approaches favoured by previous studies.

8.3.3 The present study in comparative Germanic metrics

The model presented in the present study was developed based only on a corpus of Old English. A much smaller corpus of Old Norse and Old Saxon verse lines was collected to see how useful this analysis would be for those traditions. The model was shown not to account for either ON or OS verse to a satisfactory extent, and it was argued that more conventional analyses come effectively with the line length variation found in these traditions.

8.3.4 Corpus-driven sections

While annotating the corpus, two minor word classes were identified which do not occur in Beowulf and therefore have not been closely studied for their metrical features. Non-Germanic names and compound numerals have certain morphological and syntactic features which make them informative when testing the limits of the metrical system. Because these words are not subject to synonymy, they can be studied without considering word choice constraints, which are complex and not well understood.

Compound numerals represent the sort of precise counting which was not a feature of the world presented in Beowulf. The arrangement of the component numerals in the verse of Genesis shows the interaction between metrical and
syntactic constraints in creating word order phenomena in verse which are radically different from those in prose. This allows for provisional constraints for comparable syntactic structures – including coordinated noun phrases – to be developed.

Non-Germanic names occur most frequently in Bible stories, which Beowulf references only incidentally. Non-Germanic names must be treated separately from Germanic names, not only because they can be longer than compound Germanic names, but also because they have no obvious internal morphology. The metrical features of these names are used to support the default metrical structure of the foot presented in chapter 4.

8.3.5 Summary
The metrical analysis presented in the present study is complemented by a series of prosodic analyses. These serve to show the separation between the prosodic structure, a feature of spoken language, and the metrical structure, an abstract representation of preferred phonological structure which takes into account variation caused by the interaction between metrical and syntactic constraints. These claims are supported by analyses which take into account those aspects of this interaction which reveal translation choices in which low flexibility is exhibited in relation lexical choice. In the present study, the quantity of the syllabic nuclei is shown to be a heuristic which controls both the length of the line, and the relative length between prominent syllables. Prominences are shown to be assigned first to nominal roots within a verse foot, which then attracts alliteration. In the absence of a nominal root, other words compete to be the head of the verse foot according to the word class to which they belong, in strict lexical succession. The connection between primary stress and alliteration in OE, an assumption of many previous studies, is shown to be relatively weak. It is shown that there is no need for a typology of stress contours to explain variation in line structure, and an alternative, more general analysis is presented. The analysis shows that Old English verse design can be explained in terms of one single metre.
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Sammanfattning på svenska

En förenad beskrivning av den fornengelska versraden.

Fornengelsk poesi kännetecknas av en enda versradssort som i sin tur kännetecknas av fyra metriska höjdpunkter med framträdande stavelser, inom en versrad med varierande längd. I denna avhandling påvisas det att all fornengelsk vers kan beskrivas med en enda metrisk modell.

Versens struktur visas i prototypiska rader genom att de framträdande stavelser är betonade och att en eller två betonade stavelser i första halvraden allitererar med den första betonade stavelsen i andra halvraden, som i exempel 1, där de första tre orden börjar med <f>. De betonade stavelserna ska ha huvudbetoning, som ligger på rotstavelsen för, till exempel, substantiv och adjektiv. I exemplen visar gränsen mellan halvrader, eller verser.

1. feondes fācne, | folcstede gumena
   'genom fiendens svek | människans bostad'

   Enligt de viktigaste tidigare studier kan ett ord som inte har en betonad stavelse bli betonat om det har flyttats från sitt typiska syntaktiska läge. Trots generaliseringen över prototypiska rader finns det ett antal rader som har ungefär samma struktur och allitteration men som inte innehåller huvudbetoning alls, och där alla ord är i typisk ordning som i exempel 2.

2. is nū swā hit | næfre wǣre
   '[det] är nu som om | [det] aldrig vore'

   Avhandlingen påvisar att det är effektivt och enkelt att beskriva versradens struktur utan att förlita sig helt på huvudbetoning och syntaktisk omflyttning. En hierarki baserad på ordklassens lexikalitet används utan behov av överordnade kategorier.
Corpus analys och den metriska modellen


Figur 1. Standardradernas längder mätt i vokaliska moror.

Den prototypiska raden ska ha 12 vokaliska moror, som i exempel 3, där raderna från exempel 1 och 2 upprepas.

3. (μμ μ-) (μμ μ) (μ μ μ(μ μ μ-
   a. fēondes fācne, | folcstede gumena Andreas 20
   (μ μμ-)(μμ μ)(μμ μ-)(μμ μ-
   b. is nū swā hit | næfre wære Wife’s Lament 24

I exempel 3 visas det att 12 moror fördelas över fyra versfötter. En analys av en prototypisk rad beskrivs, baserat på en versfot som består av tre vokaliska moror. Versfoten kan variera mellan 2 och 4 vokaliska moror fördelad över 1 till 4 stavelser. Varje standardrad påvisas bestå av fyra av dessa versfötter. Det påvisas också att det är den begränsade variationen inom versradernas fonologiska vikt som orsaker den större variationen i de fornengelska versradernas

<table>
<thead>
<tr>
<th>Line</th>
<th>Metrisk rad</th>
<th>V</th>
<th>Vers</th>
<th>Versfot</th>
<th>Vers</th>
<th>Metrisk position</th>
<th>kvantitet</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFt</td>
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</tbody>
</table>

*dēndon drihtenes* | *dugeþum wāron*  
*Genesis 17*

<table>
<thead>
<tr>
<th>PrWd</th>
<th>PrWd</th>
<th>PrWd</th>
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<tbody>
<tr>
<td>PhP</td>
<td>PhP</td>
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</tbody>
</table>

Fonologisk fot  
Fonologisk fras  
Prosodiskt ord  
kvantitet

Figur 2. Versrad med fyra normala verser med metriska och fonologiska strukturer.

I Figur 2, antas det att VC stavelser (de som har en kort vokal och en konsontant i kodan) räknas som lätta stavelser, med 1 mora (Lass, 1994). I en prototypisk rad som *Gen 17*, motsvarar den prosodiska strukturen och den metriska strukturen varandra väldigt nära. I rader som avviker från den prototypiska strukturen finns det en eller flera fotgränser som överskrids, som i figur 2, där en längre och mer komplex rad har några versfötter som är kongruenta med prosodiska ord, och andra där fotgränserna överskrids.

Dessa aspekter bidrar till en förklaring om hur meningar och fraser interagerar med versstrukturen för att producera den stora inventarielista av acceptabla versformer, som har beskrivits i tidigare studier (Sievers, 1968; Bliss, 1962; Kendall 1991). Den uppenbara variationen i versfötens och versradens längd har orsakat att tidigare modeller har överproducerat acceptabla versformer eller har utvecklat komplexa och detaljerade typologier av dussin- eller hundratals acceptabla former. Analysen på en lång rad där flera missanpassningar mellan versfötterna och prosodiska orden förekommer visas i figur 3. Raden är maximal, med 16 vokaliska moror över fyra versfötter, *efne swä wide | swä dā witelāc* 'just så vida | som förbannelsen [drabbade Sodom]'.


Figur 4. En hypermetrisk rad med dess metriska struktur.

Tre stödjande studier


Texten i exempel 4 översätts från en formulering i första delen av bibeltexten *et facti sunt dies Thare ducentorum quinque annorum et mortuus est in Haran* 
'Och Teras ålder blev två hundra fem år; därefter dog Tera i Haran' (1 Mosebok 11:32). Medan räkneord återges, används extra fraser med begränsad betydelse för att bygga ett acceptabelt radpar med alliteration. Avgränsningar gällande frasstruktur härleds från dessa upptäckter, som då stöder utvecklingen av de avgränsningar som beskriver skillnaden mellan satslösningen i prosa och det uppenbara avvikandet från detta satsschema i poesi.


5 a. (m m) (m m) (m m) (m m) (m m) (m m)

Abraham ēastan | ēagum wlītan

‘Abraham från östern | med ögonen att blicka’

Kapitel 7 diskutera skillnaden mellan avgränsningar med avseende på versradslängd som styr fornegelsisk versdesign och sådana som gäller fornordiska och fornsaxiska. Trots att tidigare studier ofta har slagit ihop dessa tre nära besläktade traditioner, påvisas det att versdesignen som beskrivs i denna studie gäller all fornegelsk vers, men varken fornordisk eller fornsaxisk vers, detta de gemensamma karaktärsdragen till trots. Denna studie låter att den enda fornegelska versradstypen beskrivas enligt en enda metrisk versdesign.