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Chapter 4:
Prosody

Abstract: The chapter traces the development of word and phrasal stress from Old to Present-day English. Section 1 and Section 2 define the terms needed to describe the prosodic patterns of speech and address the notions of syllable structure and syllable weight. Section 3 surveys the methodological bases for prosodic reconstruction, focusing specifically on the interplay between meter and language in the recovery of rhythmic patterns in speech. Old English meter and prosody are covered in Section 4, where the basic principles of Old English alliterative versification provide the foundation for reconstructing word and phrasal stress. Middle English meter and prosody are covered in Section 5, again with specific references to metrical form, word stress, and phrasal stress. The section includes a discussion of the effect of lexical borrowing from French and Latin on the prosody of English. Section 6 is devoted to the major prosodic changes in English during and after the Renaissance.

1 Definition of terms

The term "prosody", as used in this chapter, refers to the properties and the organization of syllables into words, phrases, and sentences in speech. Outside of linguistics, the term prosody can also be used with reference to the study of verse and its properties; for the conventionalized rhythmic structures of verse we reserve the term "meter". The prosodic properties of speech are "suprasegmen-

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tal": their domain is larger than individual speech sounds, which are organized into higher-level units that are independently pronounceable, namely "syllables". The ability to divide an utterance into syllables is part of the intuitive knowledge that speakers have of their language. Very importantly, syllables are the carriers of "stress", the contrastive intensity that marks some syllables as more or less prominent. Phonetically, stress is associated with the use of a greater amount of respiratory energy on a syllable, increased tension of the vocal folds, and loudness. In terms of metrical structure, the prominent position is called an "ictus" (S); ictic positions are usually, but not always, filled by stressed syllables, while "non-ictic" (W) positions attract unstressed syllables.

Stress is binary in the sense that syllables are either stressed or unstressed. Further, a stress may range from a full primary/main stress, here marked with ´ (acute), to various levels of non-primary stress, here marked with ` (grave). Although informally we speak of "stressed" and "unstressed" vowels, and we place the stress marks over the vowels for typographic convenience, it is important to bear in mind that stress is a property of the entire syllable.

2 Syllable structure and syllable weight

The syllable is the smallest pronounceable prosodic unit, but it is also structurally complex in that it is further decomposable. At the core of the syllable is its "nucleus" or "peak", the segment of highest sonority in the string. Every syllable has to have one and only one nucleus, usually a vowel or a diphthong, but sometimes also a syllabic sonorant /r̩, l̩, m̩, n̩/. Consonants or consonant clusters to the left of the nucleus constitute the syllable "onset", and the consonants following the nucleus make up the "coda". The onset and the coda are not obligatory elements of the syllable. Universally, a filled onset is preferred to a filled coda. A coda consonant can contribute to the "weight" of a syllable, whereas an onset is commonly considered weight-neutral.

The division of a string of sounds into syllables follows the "Maximal Onset Principle". According to that principle, a single consonant between two vowels fills the onset of the syllable to the right (syllable divisions are marked with a period): *rea.son, e.ne.my, de.hu.mi.di.fy*. A two-consonant cluster is either divided or not, depending on whether the resulting onset is also a possible word-initial cluster: *com.post, prag.ma.tic, fic.tion*, but *hi.sto.ry, pa.tri.ot*. Three consonants between vowels are split again depending on the nature of the resulting cluster: *emp.ty, friend.ly, coun.try, um.bre.lla, a.strin.gent, o.sprey*. The Maximal Onset Principle does not apply across prosodically independent words, so *boil eggs* is not **boi.leggs*.

Syllable weight is a prosodic property tightly associated with stress: universally, heavy syllables attract stress and syllables that carry stress are likely to become heavy. In English a "heavy syllable" is any syllable whose peak is a long vowel or a diphthong: *see.saw*, *pay.ee*, or any syllable that ends in a consonant: *com.pul.sion, prac.tice*. A "light syllable" has a short vowel in the peak and no coda: *A.me.ri.ca, re.pli.ca*. In practice, in Present-day English all syllables except those ending in /ɪ, ɛ, æ, ʊ, ʌ, ə/ are heavy. Monosyllabic major class words (*clue, club, day, fry, three, wet*) cannot have a light syllable; it follows that /*clɛ, *frɪ, *sʊ/ would not be possible English words, while /clɛs, frɪn, sʊg/ are possible words which are accidental gaps in our vocabulary (see Minkova 2013: 39–45).

3 Historical sources of information for prosodic reconstruction

Reconstructing the prosodic properties of the earlier stages of English is a complex task. The types of segmental changes that occur in stressed and unstressed syllables are very dissimilar. Vowel lengthening, vowel shifting, and gemination typically occur in stressed syllables, while vowel reduction and loss and consonant lenition are expected in unstressed syllables. If we find textual evidence of such processes, we can make prosodic inferences: the progressive reduction and loss of the prefix *ge-* (OE *geriden* > ME *iriden* > PDE *ridden* 'ridden') is good evidence that *ge-* was unstressed in Old English and Middle English. Similarly, Middle English spellings *luved, luvd* for earlier *luvede* 'loved' indicate reliably that the form was initially stressed. Our most direct source of information about the prosodic structure of earlier English, however, comes from the way in which the forms of speech are matched to the structural positions in verse.

The greatest challenge for the use of verse as the primary evidence for prosodic reconstruction is circularity: since there are no records of instructions on what is permitted in early versification, we rely on templates extrapolated from the surviving poetic corpus. Our understanding of how the metrical templates worked is thus founded on a web of typological inferences about language and meter with no possibility of direct verification. The way we avoid *ignotum per ignotius,* explaining 'the unknown by means of the more unknown' is by applying testable quantitative and typological criteria to the formulation of the rules of meter and the reconstruction of prosodic patterns. The statistical data on some features, e.g., in 26,088 verses of OE poetry, only 36, or 0.001%, lack alliteration (Hutcheson 1995: 169), justify reliance on alliteration as the binding principle in the alliterative long line, here marked in boldface. Moreover, testably unstressed

syllables, such as inflectional syllables, never alliterate, which makes the co-occurrence of stress and alliteration a solid source of prosodic reconstruction. No matter what theory of Old English meter one adopts, there can be no doubt that in *Beowulf* (henceforth *Beo*) 102: *wæs se **g**rímma gæst / **G**réndel haten* 'was the grim ghost / Grendel called', the words *grímma* and *Gréndel* are initially stressed. Typologically too, all Germanic languages, including Present-day English, stress native unprefixed words on the first syllable; we can safely project that back to Old English and posit root-initial stress on *cýning* 'king', *démaþ* 'they judge', *hǽðen* 'heathen', *sóþe* 'truly'. The alignment of the main stress with the left edge of a simplex word in early English is known as the "Germanic Stress Rule" (GSR).

Statistical and typological grounding of prosody-meter correspondences is our best recourse in spite of some inherent uncertainties. The historical poetic corpus presents cases where deviations from an established norm may be interpreted as deliberate creative choices. A poet may force an unstressed syllable into an ictic position to fit the expectations of the template: thus Chaucer rhymes *felaw*e : *awe, bid**dyng*** : *thing*. This convention of versification is of no use to us in trying to reconstruct the prosodic contour of Germanic *felawe* or *biddyng* in speech – the words were always initially stressed. On the other hand, Chaucerian rhymes such as *honour* : *flour, servise* : *wyse* have, all too freely, been taken as evidence for non-initial stress on the Romance borrowings *honour* and *servise*. Such evidence has to be evaluated carefully and compared to the evidence of the placement of such words in line-medial position. Similarly, placing *réady, únder, máketh* at the left edge of an iambic (W S) line is a metrical inversion which breaks the monotony of repeated identical structures, but it tells us nothing new or special about the prosody of these native words. However, placing loans such as *citees, justice, poynaunt* line-initially is open to both WS and SW meterical scansion and can be considered good evidence that such words maintain their Romance stress contour. We will return to these metrical issues in Section 5.1. For now we just note that decisions on the prosodic history of loanwords will have to be based on fine-grained and comprehensive coverage of the placement of individual items in the verse.

4 Old English meter and prosody

Germanic and Old English versification is notoriously difficult to model. Although new theories of Old English meter continue to appear, most recently in Getty (2002), Bredehoft (2005), and Terasawa (2011), no new approach rivals the descriptive adequacy and scholarly acceptance of the observations and patterns in Sievers (1893); see Stockwell and Minkova (1997), Minkova (2008a).

4.1 Basic principles of Old English alliterative verse

Sievers's hypothesis about the metrical structure of Old English verse rests on the following configurations:

- a line consists of two verses, the "on-verse" ("a-verse") and the "off-verse", ("b-verse"), linked by alliteration;
- each verse contains two feet and at least four positions;
- each foot contains an ictus (S), also known as a "lift", and at least one non-ictic position (W), also known as a "dip".

This allows us to represent the structure of the line as in Figure 4.1, where the numbers at the bottom stand for positions:
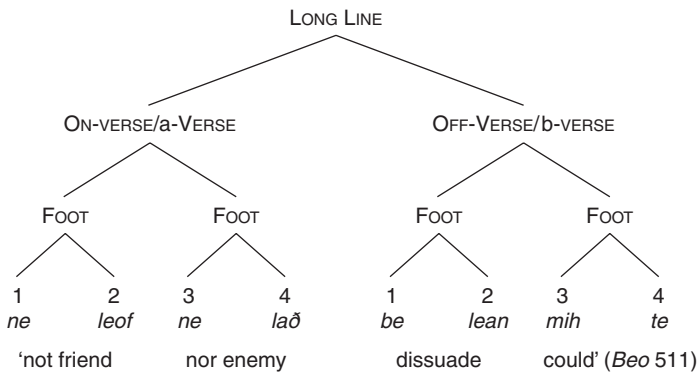

Figure 4.1: The structure of the Old English verse line

The binary representation in Figure 4.1 is an abstraction based on the minimal line structure in terms of syllable count. The prominence relations are unspecified; within the feet, lifts and dips can appear in either order. Each position is ideally filled by a single syllable, and an S position must be filled by at least one syllable. Unlike the familiar notion of classical metrical feet, positions and feet in Old English verse may be of uneven size, due mainly to the expandability of the non-final weak positions in each verse, thus in *þégnas syndon geþwǽre* 'thanes are united' (*Beo* 1230a) the template S W S W has the first W position filled by four unstressed syllables: *-nas syn.don ge-*. The one-to-one correspondence between a syllable and a position may be disregarded for S-positions under special metrical conditions; this is known as "resolution". Resolution is a metrical equivalence: one and only one heavy syllable can fill a lift, but a light syllable and any other syllable may jointly fill a lift to avoid an unacceptable metrical violation, such as

an expanded dip at the right edge of the verse. Thus in the S W S W verse **r**éceda under **r**óderum 'of halls under heavens' (*Beo* 310a), the syllables *ró.de-* are metrically subsumed under the second S position to avoid the unacceptable matching of the last W to *-de.rum.*

The conventions of alliteration which help us separate relevant from irrelevant metrical information are:

– in the on-verse both S positions may alliterate.
– in the off-verse only the first S position is allowed to alliterate.

Nearly all verses are complete syntactic units. The smallest linguistic units that occupy a verse are compounds, e.g. **þ**eodcyninga 'of tribe-kings' (*Beo* 2a), **w**ilgesiþas 'willing companions' (*Beo* 23a), **l**andgemyrcu 'shore-boundaries' (*Beo* 209b). Most often, however, a verse is coextensive with a clause or a syntactic phrase: *Hi hine þa ætb*eron | to *b*rimes faroðe 'they him then carried / to the sea's current' (*Beo* 28).

An intriguing convention, not fully understood, describes the hierarchy of syntactic elements within the verse with respect to alliteration. In a verse where the S-positions are filled by a noun and a verb, the noun will consistently be strong, whether it is an NP-VP string as in *Him ða Sc*yld gewat 'Then Scyld departed' (*Beo* 26a), or a VP-NP: *Gebad w*intra worn 'Lived to see winters many' (*Beo* 264a). This alliterative regularity is known as Sievers's "Rule of Precedence" (Sievers 1893: Sections 22–29); it states that if an inflected verb precedes a noun it does not have to alliterate, that it must not alliterate if the noun does not alliterate too, and that a non-alliterating noun can never be followed by an alliterating finite verb. The rule does not exclude double alliteration: þenden **w**ordum **w**eold 'when with words ruled' (*Beo* 30a), **g**eafon on **g**arsecg 'gave in ocean' (*Beo* 49a), so projecting the Rule of Precedence on to the prosody of Old English speech is not always straightforward. The significance of alliteration in the reconstruction of phrasal and utterance prosodic contours will be discussed further in Section 4.3.

4.2 Old English word stress

As noted in Section 3, Old English word stress falls on the first stressed syllable of word roots. The acoustic prominence of stress is thus, unsurprisingly, an important and consistent morphological boundary signal. All root-initial syllables are stressed. The weight of the root-initial syllable is irrelevant; both heavy and light syllables can be stressed: *drí.fan* 'drive', *fúl.tum* 'help', *mén.gan* 'mix', *sṓ.na* 'soon' (heavy), and *cý.ning* 'king', *gá.fol* 'tax' *mé.du* 'mead', *scá.mu*, 'shame' (light). A

very important difference between Old English and Present-day English is the stability of stress on the first root syllable in a derivational set: while suffix-induced stress-shifts in Present-day English can leave root-initial syllables completely stressless: *chronic–chronólogy*, *ídiot–idiótic, sólid–solídity*, Old English word roots are always marked by the presence of stress:

géogoð	*géogoðhad*	*wóruld*	*wóruldlic*
'youth'	'youth-hood'	'world'	'worldly'
hláford	*hláfordscipe*	*wúldor*	*wúldorfull*
'lord'	'lordship'	'glory'	'glorious'

The addition of suffixes in Old English never affects the primary prominence. The suffixes themselves can bear some degree of non-primary stress because they can be ictic, but they are automatically excluded from the positions of obligatory alliteration, the first ictic positions in each verse.

Inflectional suffixes are always unstressed, while derivational suffixes exhibit complex behavior in the verse and it is likely that their prosodic realization in speech was gradient, ranging from non-primary stress to absence of stress. The variability is attested both synchronically and diachronically. The position of the suffix with regard to the word boundary is of relevance, and so is vowel quality and quantity. When inflected, heavy suffixes with non-high vowels (-*lēas*- '-less', -*dōm*- '-dom', -*fæst*- '-fast' -*hād*- '-hood') are regularly scanned as lifts, e.g. *wísdòme heold* 'with wisdom ruled' (*Beo* 1959b), *of cíldhàde* 'from childhood' (*Elene* 914a), but uninflected -*dōm* '-dom', -*fæst* '-fast' are not ictic: *word ond wísdom* 'word and wisdom' (*Andreas* 569a), *wísfæst wórdum* 'wise with words' (*Beo* 626a). The placement of the word linearly in the verse is also significant: the suffixes -*sum* '-some', -*scipe* '-ship', -*ian* '-en' (v) occupy ictic positions only in the coda of the verse; for full coverage see Fulk (1992: 197–216).

Further indeterminacies arise from the difficulty of assigning suffixal status to morphological units which are also attested as independent words: *dōm, fæst, full, hād, lēas* are separate lexical entries, and their semantic autonomy may be related to the preservation of stress. Additionally, as demonstrated in Minkova and Stockwell (2005), the full prosodic history of native suffixes has to refer to rhythmic factors linked to the types and frequency of derived words in the lexicon. Thus the equally productive OE suffixes -*hād* and -*dōm* would be expected to emerge either both with a full vowel, or both with a reduced vowel in Early Modern English. However, in Middle English close to 70% of the -*dom* derivatives followed a monosyllabic root (*earldom, freedom, kingdom, wisdom*), where stress-clash avoidance resulted in de-stressing of the suffix to [-dəm/-dm̩], while during the same period 73% of -*hood* derivatives had a disyllabic

stem (*bishophood, maidenhood, womanhood*), allowing the preservation of secondary stress on the affix and raising of the long vowel to [uː] prior to 17th-century shortening to [-hʊd]. In summary, all factors identified above – syllable weight, vowel quality or quantity, semantic independence, and rhythmically induced changes – must be considered in the account of Old English suffixal stress.

Derivational affixes often have their diachronic roots in independent words. Within the larger family of affixes, suffixes are cross-linguistically more likely to lose their independent word status than prefixes, and therefore one would expect more word-like behavior from prefixes. Identifying the exact range of prefixes in Old English is a widely recognized problem, precisely because outside of the invariably bound forms: *æf-, and-, be-, ed-, fær-, for-, ge-, mis-*, etc., there is no clear-cut divide between prefixes such as *ofer-, on-, wiþ-, ymb-* and words. Moreover, the metrical treatment of both bound and free prefixal forms may differ for nouns and adjectives, where main stress aligns with the left edge of the whole word, leaving the root with secondary stress, and verbs and adverbs, where the main stress is kept on the root: compare *swylce óncỳþðe* 'such grief' (*Beo* 830a) to *he onféng hraþe* 'he seized quickly' (*Beo* 748b)

As argued in Minkova (2008b), both syllable weight and the grammatical nature of the base are determiners of stress in OE prefixation. Light prefixes behave like clitics; they do not form independent prosodic words and are consistently unstressed, while prefixes capable of forming independent prosodic words get stressed in accord with the word class of the derivative.
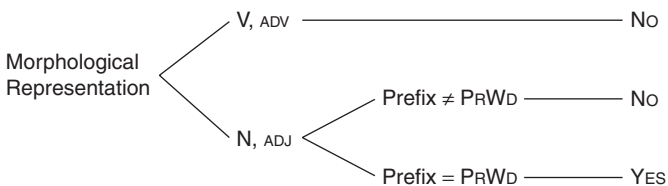

Figure 4.2: Prefixal stress in Old English (adapted from Minkova 2008b: 36)

The principle of root-initial stress persists in compounding, where roots get their first syllables stressed as if they were independent words. Within the larger domain of compounds the stress to the left is primary, marking off the left boundary of the entire word, while compound-internal stresses are secondary. In the verse, the obligatory alliteration is consistently placed on the first stressed syllable onset, e.g. *ofer **h**rónràde* 'over whale-road' (*Beo* 10a), ***w**óroldàre forgeaf* 'worldly honor gave' (*Beo* 17b). The second stressed syllable may alliterate only if the first stress alliterates too: *wið **þ**éod**þ**rèaum* 'against people's calamity' (*Beo* 178a), ***h**éard**h**ìc-

gende 'hard-minded' (*Beo* 394a). Such self-alliterating compounds are restricted to the on-verse by definition, since alliteration is prohibited from the second ictus in the off-verse. This restriction does not extend to affixal elements, thus *láðlìce* 'hatefully' is found at the right edge of the off-verse. The inference is clear: in *þéodþrèa* 'people-calamity', **h**éard**h**ìcgend 'hard-minded', both roots retain their semantic independence and strong prosodic prominence. Such forms present an analytical problem: they are interpretable both as compounds and as freely formed syntactic phrases. Another difficulty comes from the fact that many of the self-alliterating compounds in the Old English corpus are *hapax legomena*, single-instance forms: *béarn-gebỳrdo* 'child-bearing', *éall-ìren* 'all of iron', *fén-frèoðo* 'marsh refuge', *grýre-gèatwe* 'terrifying armor', *grýre-gìest* 'terrible visitor', *héard-hìcgend* 'hard-minded, *héoro-hòcyht* 'savagely hooked', *hílde-hlæ̀mm* 'battle crash', *swát-swàðu* 'bloody track', *sýn-snæ̀d* 'huge cut', *þéodþrèa* 'people-calamity' are some examples of such unique forms in *Beowulf*. The status of these constructions is an area deserving further inquiry; cf. Giegerich (2009) who shows that end-stress on noun-noun compounds in Present-day English: *steel brìdge, apple pie, Madison Avenue*, may reflect the syntactic provenance of incompletely lexicalized forms, and that nominals of the form attribute-head can be both lexical and syntactic.

4.3 Old English phrasal stress

In connected speech words are grouped together in larger prosodic constituents: clitic and phrasal groups. Clitic groups are made up of a fully stressed head-word and a clitic, an unstressed function word such as an article, a preposition, a conjunction, or a pronoun: *the bóok, at schóol*, etc., are clitic groups. Such groups behave in the same way in Old English: *se **r**íca* 'the ruler', *on **b**éarme* 'on bosom'.

The stressed words in a sentence are syntactically organized into noun-, verb-, adverb- and adjective phrases, coordinate phrases, and clauses. In Present-day English such syntactic units are right-prominent; i.e., the highest prominence is on the rightmost stressed syllable, while other stresses are secondary: *càreful respónse, drìve cárefully, vèry cáreful, qùick and cáreful, Bèn cáres*.

Recovering the corresponding prosodic features of Old English from the existing textual records is challenging, and therefore the issue of phrasal prosody is under-researched and controversial. We know with certainty that the poets treated finite verbs differently from nouns; see Section 4.1 for Sievers's Rule of Precedence. Clause-final intransitive verbs (*oþþæt **s**ǽl alàmp* 'until time came' (*Beo* 622b)) are metrically weaker, but this convention may not match speech prosody. Clause-initial finite verbs may be skipped by the alliteration, e.g. *Còm þa to **r**écede*

'came then to building' (*Beo* 720a), *Forgèaf þa **B**éowulfe* 'gave then to Beowulf' (*Beo* 1020a), although the verbs also occupy ictic positions. Like the second elements of compounds, finite verbs may alliterate only if the other stressed word in the verse alliterates: *w**èox under w**ólcnum* 'waxed under the clouds' (*Beo* 8a), ... *w**órdum w**èold* '... with words ruled' (*Beo* 30a). Throughout the modern Continental West Germanic languages and in older Germanic, complements are stronger than their verbs, irrespective of the linear order. This typological comparison and the consistency with which complement-verb prosodic relations are observed in the verse – the complement always alliterates – is a good argument for projecting this prosodic contour to Old English.

Prominence in noun and adjective phrases and coordinate phrases is not directly recoverable from the verse. In this area the rules of alliteration may be more of a handicap than help. The frequent assumption that obligatory alliteration on the first word in such phrases (***l**ange hwile* 'a long while' (*Beo* 16a), ... ***h**ond ond rond* '... hand and shield' (*Beo* 656a)) translates directly into left prominence in the prosody is unfounded. The linear alliterative arrangement is a purely metrical convention, as can be seen from the freedom with which the poet switches components to fit the scheme in the line: ***G**eata dryhten* 'lord of the Geats' (*Beo* 2561b) vs. ***d**ryhten Geata* (*Beo* 2901a); ***m**adma fela* 'of treasures many' (*Beo* 36a) vs. ***f**ela missera* 'many of half-years' (*Beo* 153b), ***m**anig oðerne* 'many other (men)' (*Beo* 1860b) vs. *æ**þeling manig* 'hero many' (*Beo* 1112b). Some other facts also prompt skepticism about the link between alliteration and linguistic prominence: the default contour (no special focus) for noun phrases and coordinate phrases in the modern Germanic languages is right-prominent; for German see Selkirk (1984: 225–230). Right-hand prominence is attested also in copulative combinations of the type *Anglo-Sáxon, Native Canádian*; they also typically align with syntactically coordinated phrases. The density of double alliteration in on-verses co-extensive with noun + prepositional phrase (*bat under beorge* 'boat under cliff' [*Beo* 211a]) and in conjoined phrases (*word ond wísdom* 'word and wisdom' [*Andreas* 569a]), exceeds by far the overall 47% ratio of double alliteration in the on-verse, as reported in Hutcheson (1995: 112). This asymmetrical distribution precludes a linguistic bias towards left-prominence, but does not rule our equal or right-hand prominence. The absence of double alliteration in the off-verse can only be metrically determined; see Russom (1987: 114), Hutcheson (1995: 271). The most economical account that does not require a historical shift, therefore, is that the right-prominent prosodic contour of phrasal stress has been in the language since Old English times (Minkova and Stockwell 1997).

5 Middle English meter and prosody

The Norman Conquest of 1066 coincides roughly with the abandonment of the structural principles of Classical Old English alliterative versification. The last surviving pieces of alliterative poetry that conform to the norms outlined in Section 4.1 are two short poems: *Durham*, c.1100, and *The Grave*, c.1150. Early Middle English compositions such as *The Proverbs of Alfred*, *The Worcester Fragments of the Soul's Address to the Body*, *The Bestiary*, and Lagamon's *Brut*, are "hybrid" compositions, mixing rhyme, alliteration and syllable-counting in often erratic patterns. Being grounded in the prosodic pattern of stress on the first root syllable, alliteration as a cohesive device survived, and a significant portion of the literary activity in the 14th century was channeled into the reinvention and composition of alliterative verse, culminating in masterpieces like *Sir Gawain and the Green Knight, Piers Plowman,* and *The Alliterative Morte Arthure.* At the same time new modes of versification based on rhyme, stress alternation, and syllable counting were gaining popularity. The relative rigidity of the new forms provides a solid basis for reconstructing the prosodic properties of Middle English.

5.1 Middle English metrical innovations: isosyllabicity, rhyme, iambic feet

Verses of equal numbers of syllables – "isosyllabic verses" – are not uncommon in Old English poetry, but the recurrence was not structurally regulated; a verse could have from a minimum of four to fourteen syllables. Isosyllabism is an imported metrical feature in Middle English. Schemes based on the iteration of isosyllabic lines – the octosyllabic line, the septenarius, and, with Chaucer, the decasyllabic iambic pentameter – are at the core of Middle English verse composition. All of these forms allow an unstressed syllable after the last ictus; such "extrametrical" syllables are outside the metrical template and their presence or absence does not affect the isosyllabicity of the line. The lines were often linked in couplets or larger groups by end-rhymes. Rhyming did appear occasionally as an ornamentation in Old English verse, but the influence of Anglo-Norman made it the verse-line marker of choice.

The third component of the new type of versification is the "iamb", a binary sequence of a weak and a strong position (W S). Iambic feet could occur in Old English verse as a subset of a larger right-strong metrical type: the first three feet in *ne léof ne láð / beléan mihte* 'not friend nor enemy / dissuade could' (*Beo* 511; see Figure 4.1), happen to be iambs. In Middle English isosyllabic verse, however,

the iamb became the dominant metrical foot. The earliest post-Conquest long non-alliterative compositions, *The Owl and the Nightingale* and *The Ormulum*, both late 12th century, are strictly iambic. Chaucer's poetic works are also iambic. (All Middle English verse examples in this chapter are from Chaucer; abbreviations are from *The Riverside Chaucer* [Benson ed. 1987: 779].)

The reconstruction of stress based on the new type of versification is most reliable line-medially. The interplay between prosody and meter at the two edges of the line is complicated by specific properties of the first and the last foot. The left edge of the line is rhythmically malleable, so that the expected W S / W S metrical cadence of the first two feet may be filled by:

- a prosodic /s w w s/. An inverted foot S W followed by a regular W S foot is known as a "triple": *Thón.ked be Gód* ... (*WBT* 5), *Ún.der his belt* ... (*GP* 105). Triples may appear elsewhere in the line, but the probability of a triple decreases sharply from left to right.
- a prosodic /s w s w/, resulting in trochaic inversion in both feet: *Spóones and stóoles and* ... (*WBT* 288). Occasionally whole lines can be trochaic: *Bléssinge hálles, chámbres, kíchenes, bóures* (*WBT* 869).
- by /Ø s w s/, where the W of the first foot is unfilled and the line is headless: **Twénty bóokes**, *clad in blak or reed* (*GP* 294), **Swére and lýen**, *as a womman kan* (*WBT* 228).

The strong position in the rightmost foot of the line, where the rhyme is located, is metrically demanding in that it enforces prominence on the syllable filling that position. This is a verse convention, possibly observed in recitation, but it does not carry over into the prosody of speech. In Middle English rhyming practice, some suffixes appear to acquire metrically-induced secondary stress: *bóldelỳ*, *drónkenèsse.* The metrical strictness of the last strong position is such that it can even invert the prosodic contour of a native derived word by suppressing the primary stress and using the suffix as the single carrier of prominence, as in: ... *and make a thyng* : ... *at his writỳng* (*GP* 325–326), ... *in hir drónkenèsse* : ... *that I took witnèsse* (*WBT* 381–382). The convention is linguistically motivated only to the extent that derivational suffixes, but *not* grammatical suffixes, are subject to such metrical promotion.

The fashion for iambic versification in Middle English was a cultural import from the Continent, but it could not have been adopted with such ease if the prosodic conditions had not been favorable. The gradual loss of final <-e> and inflections in Middle English resulted in a growing number of words realized as monosyllables, allowing flexibility in the prosody-to-meter matching. Increased use of prepositions compensating for inflectional loss created new W S clitic groups: *at níght, to rést, with chéer*. Prefixed verbs and adverbs supplied another

set of natural iambic structures: *befóre, forgíve, perfórm, asléep*. Phrasal stress continued to be right-strong; phrases made up of stressed monosyllables easily match an iambic foot: *five bóoks, tall mén, full glád, God knóws*. The poets also draw from an inventory of handy "fillers", semantically dispensable monosyllabic words, e.g. *and, now, for, some,* and the grammatically redundant "pleonastic" *this, that*. Thus, although individual underived words retained root-initial stress, in connected speech metrical W S cadences were frequent and easy to construct; this permits an effortless "fit" between language and meter.

Except for the metrical conventions at the line edges, iambic verse provides a reliable framework for reconstructing the stress of Middle English words on the basis of meter-to-prosody correspondences.

5.2 Native and non-native word stress in Middle English

The continuing stability of the GSR, aligning primary stress with the left edge of all words and with the left edge of the root for prefixed verbs and adverbs, is easily demonstrated in verse, as in *dróppyng, hóuses, smóke, chídyng, wýves, máken* in Chaucer's *Wife of Bath's Tale* (*WBT*), 278–279:

> *Thow seyst that dróppyng hóuses, and eek smóke,*
> *And chídyng wýves máken men to flee*

Words derived by suffixation also show the expected main stress on the leftmost root syllable, as *kíngship, wísdom, wítness, hóly, blíssful*: *The hóoly blísful …* (*GP* 17). Again predictably, the first syllable of compounds is regularly aligned with a metrical S: *… for ány **léchecràft*** (*KnT* 2745), *with wílde **thónder-dỳnt** …* (*WBT* 276), *to bé me **wárde-còrs** …* (*WBT* 359). Compounds usually start in even (S) positions, but since both roots carry a degree of prominence, if the first part is monosyllabic, it can be placed in W, while the second root is in S, e.g. *Óf **clooth-mákyng** she hadde swich an haunt* (*GP* 447, headless), *He wás **short-shóldred**, brood, a thikke knarre* (*GP* 549).

Phrasal stress is not testable in iambic verse if there is a buffer weak syllable between the stressed syllables: *of sóndry fólk* (*GP* 25), *and máde fórward* (*GP* 33), *týme and spáce* (*GP* 35). Monosyllabic adjectives in noun phrases do provide some corroboration for continuing right-prominent phrasal stress: *ne pólax, **né short knýf*** (*KnT* 2544), *Gret swéryng is* (*PardT* 631), but the stress-alternating nature of the verse and the availability of optional *-e* and metrical slot-fillers obscure the picture. As argued in Minkova and Stockwell (1997), there is no good reason to posit any dramatic changes in the prosody of phrasal stress from Old English to Present-day English. Even if we assume a more level phrasal stress in Old English

than in Present-day English, the right-hand prominence of Old French and Anglo-Norman would have contributed to the present contour.

The introduction of a large non-native component into the vocabulary of Middle English is a central theme in any account of the history of English word stress. The non-native vocabulary of Old English never exceeded about 3%, while the portion of the Romance vocabulary at the end of the Middle English period is estimated at about 25%. Once again, attestations in verse provide our best test for the realization of loanwords in the spoken language. Thus we can safely posit initial stress on *seson* in: *Bifil that in that **séson** on a day* (*GP* 19), *And eek the lusty **séson** of that May* (*KnT* 2484). The word was first attested in English 1340–1370 (OED, Simpson [ed.] 2000–), roughly during Chaucer's lifetime (1343–1400), yet out of the 15 times Chaucer uses the word in *The Canterbury Tales* and in *Troilus and Criseyde*, there is one single attestation of the word in rhyme (*... thy declinacion : ... tyme and his seson* (*FrT* 1033–1034)) where one could possibly posit right prominence. Such evidence suggests that a metrical promotion to *sesòn* is not different from the treatment of native *writỳng, witnèsse* discussed in Section 5.1, i.e., there is no reason to differentiate between native and borrowed words at the line end. The 13th-century loanword *country* is used 45 times in *CT* and in *Tr*, 21 of which are in rhyme position and are realized as end stressed. Of the 24 line-internal attestations, however, there is not a single example of end stress on the word; they are all of the type illustrated by *SumT* 1710: *A mersshy **cóntree** called holdernesse*. Such findings lead to a serious methodological amendment to the way of collecting verse data for prosodic reconstruction. As argued in Minkova (2000, 2006), the blanket assumption that the verse-final foot provides reliable information on stress is flawed. When we take rhyme position out of the picture, the rate of assimilation of the foreign prosodic contours to the native stem-initial prominence is significantly faster than has been previously acknowledged.

The new Romance words coming into the language after the Conquest could be direct loans from the Classical languages, or they could be coming via Anglo-Norman or Old French. Latin (and Greek-via-Latin) disyllabic words would be stressed initially by default: *áxle, érgo, hýmnal, hérpes, mórtar, stúpor, ónyx* were all borrowed in Middle English. According to the Latin Stress Rule, in words of more than two syllables stress falls on the penultimate syllable if it is heavy, otherwise, on the antepenultimate syllable. The Latin Stress Rule in polysyllabic words is thus weight-sensitive, but since many early Latin borrowings lost their inflectional markers (*-a, -(t)is, -us, -um*, etc.), the picture was often obscured, thus *júncture < junctūra, húman < humānus*.

Anglo-Norman and Old French words were stressed depending on the weight of the final syllable: if heavy, the final syllable attracts stress: *author, chaplain, jargon, merchant*. Light final syllables are unstressed: *able, chambre, piece.* Since

final syllables containing schwa are unstressable, in initially polysyllabic words like *bataille*, *folye, justice, servise, visage* the stress was on the penultimate, as in Latin.

The extent to which weight-sensitivity at the right edge of the new words affected the prosody of Middle English has often been overestimated, mostly because of misinterpretation of the verse evidence; see Section 5.1. Both disyllabic and trisyllabic pre-Renaissance borrowings show a strong tendency of leftward stress-shifting, in conformity with the GSR, as in *juncture, human, chaplain, merchant, battle, folly, novice, service*. The leftward stress-shift disregards syllable weight; indeed in many cases the stress shifts leftwards from a heavy to a light syllable, as in *chaplain, battle, folly, justice, novice*. Table 4.1 shows the stress profiles of borrowed disyllabic simplex nouns and adjectives in alliterative and syllable-counting verse; the search ignores attestations in the final foot of iambic verse:

Table 4.1: Romance loans in Middle English verse (from Minkova 2006: 114)

Text	Tokens	Initial Stress	Non-initial Stress
Sir Gawain and the Green Knight	283	276/97.5%	7/2.5%
The Siege of Jerusalem	87	84/96.5%	3/3.4%
Troilus and Criseyde	266	223/84%	43/16%
Henryson's poetry	151	137/90.7%	14/9.3%

It is evident that the initial wave of borrowing did not upset the stem demarcation on the left. Verbs in which the prefixation is transparent behave like the native prefixed verbs discussed in Section 4.2.: **Perfóurme** *it out …* (*Tr* III 417), *ye nát* **discóvere** *me* (*MerT*, 1942). Prefixed nouns and adjectives vary. Chaucer uses both initial and final stress on *proverb*, a word first recorded in his works (OED, Simpson [ed.] 2000–): *Wel may that be a* **próverbe** *…* (*WBT* 284), And *therfore this* **provérbe** *is …* (*RvT* 4319). Etymologically non-transparent prefixed nouns and adjectives tend to follow the native rule: *Ben humble* **súbgit** *…* (*Tr* II 828), *… in joye and* **pérfit** *heele* (*KnT* 1271). The history of stress on prefixed loanwords in Middle English is an area which has not been fully researched yet – it is an inquiry that promises to throw light on the continuity and/or reintroduction of functional stress-shifts in English of the type *ábstract* (N, ADJ)–*abstráct* (V); *récord* (N)–*recórd* (V).

In iambic verse, polysyllabic words may be hard to fit to a metrical frame of alternating prominences. In Section 5.1 we noted how native suffixes appear to acquire metrically induced secondary stress: *bóldelỳ, drónkenèsse, dóutelèes, mártyrdòm*. The combination of dominant word-initial stress and the rhythmic preference for stress alternation in borrowed words produces a comparable effect in the new Romance vocabulary: the linguistic /w w s/ in the source language is

realized in English as /s w s/: *àmoróuse*, *chàritée, làxatíf, òpposít, òrisóun, plènte-vóus, règióun,* only in this case it is probably the left edge of the word that carried secondary stress at first, judging from the strong preference for placement of such words in rhyme position: *wróoth was shé : chàritée* (*GP* 451–452), *whít : òpposít* (*KnT* 1893–1894), *hóus : plèntevóus* (*GP* 343–344), *adóun : règióun* (*KnT* 2081–2082). The switch from word-initial secondary to primary stress on such trisyllabic words probably started during Middle English, but the precise dating is not recoverable from iambic verse, where both primary and secondary stresses may fill S-positions. The preservation of some degree of stress on the final syllable in Romance loans comfortably beyond Middle English is well documented in Early Modern English, see Dobson (1957: 830–860).

The placement of secondary stress on the initial syllable of four-syllable words with an unstressable final syllable: *dìgestíble : Bíble* (*GP* 437–438) *sàcri-fíce : wíse* (*KnT* 2369–2370), *dýe : of bìgamýe* (*WBT* 85–86) is also attributable to the principle of rhythmic stress alternation enhanced by the native left-edge prominence pattern. If the final syllable is stressable, the additional stress appears on the second syllable to the left: *relìgióun : tóun* (*GP* 477–478), *comànde-mént : ysént* (*KnT* 2869–2870). The Middle English stress alternation and the eventual demotion and loss of the original primary stress in the foreign vocabulary was attributed to the school pronunciation of Latin in Middle English by Danielsson (1948: 26–29, 39–54) who used the term *countertonic accentuation* to describe the shift of e.g. post-Classical Latin *melancholía* (1375) to *mélanchòly*, in line with the native model of *máidenhòd, drónkenèsse*.

6 Post-Middle English prosodic innovations

The rise of literacy in Early Modern English was accompanied by a parallel rapid expansion of the lexicon. Barber (1997: 219–220) estimates that as many as 95 new words were recorded in English during each decade between 1500 and 1700; his counts are based on sampling entries in the OED. This exceeds by far the rate of borrowing in Middle English, which he estimates at 17 new words per decade, using the same methodology. Two-thirds of the new forms in Early Modern English were based on already recorded roots and affixes and about one third were straight borrowings. The large majority of these words were coined or adopted by English speakers who were proficient in Latin and Greek and who would therefore automatically apply the Latin Stress Rule to the novel "English" forms: *ablátion, cathédral, demócracy, meánder, términus.* The density of these forms and the shared literate understanding of their prosody gave rise to a new, parallel model of stress in English, which is weight sensitive, and which can apply to new words such

as *Óregon* (1765, possibly Connecticut pidgin Algonquian, OED, Simpson [ed.] 2000–), *kaínga* 'village' (Maori, 1820), *palachínka* 'pancake' (Slavic, 1884).

The tenacity of the GSR continued during the Early Modern English period in spite of the unprecedented influx of foreign loans, however. Consolidation of the primary stress on the initial syllable of the stem went beyond the disyllabic shifts recorded in Section 5.2 and affected trisyllabic nouns and adjectives: *ámorous, chárity, láxative, ópposite, órison, plénteous, région* have changed their Chaucerian pronunciation in accord with the GSR, similarly *ínfantry, mércury, órient, cálendar, génial*. Stress shift to the initial syllable often proceeds in spite of the etymological heaviness of the penultimate syllable, as in the early loans *ámorous, fórtunate, ínfantry, ínterval, órient* and many post-Middle English forms such as *vértebra* (1615), *tálisman* (1638), *sýnergy* (1660), *Cávendish* (1839), *bádminton* (1845), *állergy* (1911), *bóondòggle* (1935).

The emerging picture is complexly layered: the prosody of native words follows the Old English left-alignment of word or stem with the main stress. The non-native vocabulary displays hybrid patterns, and no single model covers all realizations without exceptions, so we can only define strong tendencies. New words can fall in with the native left-strong Germanic model, or they can follow a weight-sensitive model whereby stress in non-derived words is assigned by word class and by syllable weight. Verbs with heavy final syllables are generally end-stressed, e.g. *paráde, dený, maintáin, oblíge, protéct*. Nouns may be stressed depending on the weight of the penultimate syllable in accord with the Latin Stress Rule: *agénda, cánopy, horízon, ínfidel, Torónto*. Although the considerable overlap between the patterns noted in Section 5.2. for disyllabic nouns and adjectives continues, end-stressed nouns like *abýss, baróque, cabál, canál, duréss, elíte, maláise, ravíne* do occur. The extent to which such words retain their prosodic "foreignness" may vary in British and American English. Table 4.2 shows some examples with first attestation dates from the OED; some of these are simply "majority" pronunciations in variation with the alternative pronunciation.

Table 4.2: Stress differences between American and British English

American English	Date	British English
ínquiry	(1440)	*inquíry*
pólice (also políce)	(1450)	*políce*
frústrate	(1447)	*frustráte*
premíer	(1500)	*prémier*
móustache	(1585)	*moustáche*
debrís	(1708)	*débris*
café	(1802)	*cáfe*
garáge	(1902)	*gárage*

The hybridity of the Present-day English stress system is also evident in the variability of stress patterns within the last century. Bauer (1994: 96–103) records items which have undergone a recent shift to penultimate stress, e.g. *ábdomen, ácumen, ánchovy, étiquette, molýbdenum, précedence, quándary, sécretive, sónorous, vágary*. He notes a further complicating factor: stress placement in derived words can ignore the nature of the suffix and preserve the prosody of a pre-existing and frequently used base, thus *cápital, prefér* are the bases which trigger the change of old *cápitalist* to current *cápitalist*, and of old *préferable* to *preférable*.

As noted in Section 4.2, suffixation in Old English was never associated with main-stress reduction; the highest level of prominence for derivational suffixes was secondary stress. The adoption of a large number of foreign affixed words along with their prosodic contours changed this situation. Present-day English suffixes can attract main stress themselves or they can trigger the placement of main stress on one or two syllables to the left of the suffix. Among the suffixes attracting primary stress and reducing the original stress of the base to secondary stress are: *-ette* (1849), as in *màjorétte, -een* (1551) as in *vèlvetéen, -ese* (1898), as in *jòurnalése, -eer* (1704) as in *mòuntainéer.* Final main stress appears also on word endings that may not be etymologically productive suffixes: *-ade* as in *lèmonáde, -ique* as in *boutíque, -oo* as in *kàngaróo.*

Main stress usually falls on the syllable immediately preceding the suffixes *-ic, -id, -ion, -ity/-ety*: *numéric, carótid, rebéllion, tranquílity.* Among the borrowed suffixes that place the main stress on the antepenultimate syllable of the derived word are *-acy, -ast, -ose, -tude*: *démocracy, icónoclast, cómatose, simílitude.* The antepenultimate is stressed also in combining forms such as *-ólogy, -ósophy, -ógraphy, -ólatry, -ócracy* etc. These new patterns of stress-assignment extend to native roots under foreign suffixation as in *Icelándic* (1674), *weatherólogy* (1823), *speedómeter* (1904), *Chàplinésque* (1921). The placement of stress in derived words has been the subject of much linguistic research. A good descriptive coverage is found in Fudge (1984); the analytical problems are addressed in Giegerich (1999).

Another innovation in the post-Renaissance period is the growing productivity of functional stress-shifting in homographic pairs, the *áddict* (ɴ)–*addíct* (v), *présent* (ɴ)–*presént* (v), *pólice* (ɴ)–*políce* (v) model, where the shift of stress from one part of speech to another is no longer a matter of prefixation, as in the native shifts in *úpset* (ɴ), *óverhang* (ɴ). The new stress-shifts do not require compositionality; on the other hand, they are directional (right-to-left) and subject to syllabic and segmental restrictions on the base, not applicable to the native pairs (Minkova 2009).

In conclusion, the prosody of Present-day English presents a mixture of word-stress patterns, some inherited from Old English, some introduced in Early

Modern English. What we share with Old English is an uninterrupted line of left-edge marking of compounds, unstressable function words and head-prominence in clitic groups, and right-hand phrasal prominence. Many relevant details in the prosodic history of English remain under-researched: we lack good documentation of the prosodic behavior of borrowings in Middle English and we still need to evaluate the relevance of competing factors such as phonological composition, frequency, morphological marking and transparency, social prestige, spelling. The relationship between innovations in verse form and prosodic innovations is also of considerable linguistic and cultural interest. Other areas that invite further inquiry are the prosodic patterns in the regional and ethnic varieties of English, and the contact-induced changes in the English spoken in countries where it is an official second language.

7 References

Barber, Charles. 1997. *Early Modern English*. Edinburgh: Edinburgh University Press.

Bauer, Laurie. 1994. *Watching English Change*. London: Longman.

Benson, Larry D. (ed.). 1987. *The Riverside Chaucer*. 3rd edn. Boston: Houghton Mifflin.

Bredehoft, Thomas. 2005. *Early English Metre*. Toronto: University of Toronto Press.

Danielsson, Bror. 1948. *Studies on the Accentuation of Polysyllabic Latin, Greek, and Romance Loan-Words in English: with special reference to those ending in* -able, -ate, -ator, -ible, -ic, -ical, and -ize. Stockholm: Almqvist and Wiksell.

Dobson, Eric J. 1957. *English Pronunciation 1500–1700*. Vol. II. Oxford: Clarendon Press.

Fudge, Eric. 1984. *English Word-Stress*. London: George Allen & Unwin.

Fulk, Robert D. 1992. *A History of Old English Meter*. Philadelphia: University of Pennsylvania Press.

Getty, Michael. 2002. *The Metre of Beowulf. A Constraint-Based Approach*. Berlin/New York: Mouton de Gruyter.

Giegerich, Heinz. 1999. *Lexical Strata in English. Morphological Causes, Phonological Effects*. Cambridge: Cambridge University Press.

Giegerich, Heinz. 2009. Compounding and Lexicalism. In: Rochelle Lieber and Pavol Štekauer (eds.), *Handbook of Compounding*, 178–200. Oxford: Oxford University Press.

Hutcheson, Bellenden Rand. 1995. *Old English Poetic Metre*. Cambridge: D. S. Brewer.

Minkova, Donka. 2000. Middle English prosodic innovations and their testability in verse. In: Irma Taavitsainen, Terttu Nevalainen, Päivi Pahta, and Matti Rissanen (eds.), *Placing Middle English in Context*, 431–461. Berlin/New York: Mouton de Gruyter.

Minkova, Donka. 2006. Old and Middle English Prosody. In: Ans van Kemenade and Bettelou Los (eds.), *The Handbook of the History of English*, 95–125. Oxford: Blackwell.

Minkova, Donka. 2008a. Review of Thomas Bredehoft, Early English Metre. *Speculum* 83(3): 673–675.

Minkova, Donka. 2008b. Prefixation and stress in Old English. *Word Structure* 1(1): 21–52.

Minkova, Donka. 2009. Continuity or re-invention in functional stress-shifting. Paper presented at ICEHL 15, Munich.

Minkova, Donka. 2013. *A Historical Phonology of English*. Edinburgh: Edinburgh University Press.

Minkova, Donka and Robert Stockwell. 1997. Against the emergence *of the nuclear stress rule in Middle English. In:* Jacek Fisiak (ed.), *Studies in Middle English*, 301–335. Berlin/New York: Mouton de Gruyter.

Minkova, Donka and Robert Stockwell. 2005. Clash avoidance in morphologically derived words in Middle English. (Why [-hʊd] but [-dəm])? In: Nikolaus Ritt and Herbert Schendl (eds.), *Rethinking Middle English. Linguistic and Literary Approaches*, 263–280. Bern: Peter Lang.

Proffitt, Michael (ed.). 2000–. *The Oxford English Dictionary*. 3rd edn. online. Oxford University Press. www.oed.com/

Russom, Geoffrey. 1987. *Old English Meter and Linguistic Theory*. Cambridge: Cambridge University Press.

Selkirk, Elisabeth O. 1984. *Phonology and Syntax: The Relation Between Sound and Structure*. Cambridge, MA: MIT Press.

Sievers, Eduard. 1893. *Altgermanische Metrik*. Halle: Niemeyer.

Stockwell, Robert and Donka Minkova. 1997. Prosody. In: Robert Bjork and John Niles (eds.), *A* Beowulf *Handbook*, 55–85. Lincoln: University of Nebraska Press.

Terasawa, Jun. 2011. Old English Metre: An Introduction. (Toronto Anglo-Saxon Series, Vol. 7.) Toronto: University of Toronto Press.