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A NEW LOOK AT OLD ENGLISH METRICS

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Abstract: In this paper I propose a scansion of Old English alliterative poetry in terms of a binary branching template. The analysis builds on work by Halle and Keyser (1971) and Maling (1971), but has two advantages over these analyses: (a) it provides a natural explanation of many apparently irregular verses, and (b) it makes more accurate predictions of the relative frequencies of different verse types.

If a metrical line of verse is one which 'typically divides into an integral number of repeated sequences' (Prince 1984:1), then Old English alliterative poetry presents a real challenge to the metrist, as neither the nature nor the number of its 'repeated sequences' is at all obvious. This paper is an attempt to describe the regularities of this particularly recalcitrant meter using principles of modern metrics. All examples are from Beowulf, a corpus comprising 3182 lines, composed in the eighth century; the text is Klaeber's third edition, one of the most conservative in terms of emendations.

1. The Problem

Old English verse is stichic, the largest metrical domain being the line, which is divided into two half-lines (or verses, or hemistichs), called for convenience the a-line and the b-line.[1] In the unmarked case, each half-line contains exactly two word-level stresses (with a number of lesser-stressed syllables), and the two stresses of the a-line (the supports) alliterate with the first stress of the b-line (the head stave). Two stressed syllables alliterate if they (a) share the same initial consonant, (b) share the same initial s-plus-obstruent cluster, or (c) begin with any vowel or h. In addition, k alliterates with c, and velar and palatal g alliterate with each other.

Thus far the pattern is straightforward: it remains to explore its difficulties. First of all, half-lines are resistant to any definition other than as a metrical abstraction. While clause boundaries usually coincide with half-line boundaries, and half-lines frequently consist of a single phrasal constituent, neither tendency is general

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enough to serve as a definition. The most that can be said is that the half-line breaks (almost) always coincide with at least one phrase boundary, as shown in (1).

(1) [$_{VP}$ egsode [$_{NP}$ eorlas] [$_{S}$ syððan aerest wearð
[$_{VP}$ feasceaft funden]]] [$_{S}$ he þaes frofre gebad]
B.6-7
'he terrified warriors even though he first was found an orphan; for this came a remedy'

Verses 6a and 6b are separated by an NP and at least one S boundary; 6b and 7a, by a VP boundary alone; and 7a and 7b, by two VP and two S boundaries. But even this generalization has exceptions, as shown in (2)-(3):

(2) [$_{S}$ ne hyrde ic [$_{S}$ cymlicor ceol gegyrwan]]
B.38
'I have not heard better a ship to be decked'

(3) [$_{S}$ Nalaes hi hine [$_{NP}$ laessan lacum] teodan]
B.43
'Nor did they for-him lesser gifts provide'

Line 38 divides an adverb from the verb it modifies (indeed, from the rest of the clause containing that verb); line 43 divides a noun phrase between adjective and noun.

The half-line is then not a syntactic unit; but it is no easier to define phonologically. The number of syllables in a verse ranges from two, as in the anomalous 2488a, hreas blac, through a norm of four or five to a maximum of ten, as in 1164b, þa gyt waes hiera sib aetgaedere.[2] Nor does it simplify matters very much to count only stressed syllables, for, even exclusive of dubious cases, the number of word stresses in a half-line may vary from one to three:

(4) hu ða áeþelingas B.3a
'how the princes'

éarfoðlice B.86b
'eagerly'

(5) bláed wíde sprág B.18b
'his fame spread wide'

fáeder éllor hwéarf B.55b
'his father having passed away'

For the same reason it is impossible to define half-lines in terms of phonological word boundaries.

What evidence is there then, beyond the purely scribal, for the existence of half-lines, or indeed lines? O'Neil[3] points out that recurring formulae occupy one half-line or the other (more rarely a full line) but do not straddle half-line or line boundaries. The line, furthermore, is the domain of alliteration, which serves to link the two half-lines together into one larger unit. Traditional metrists would add that the half-line is the domain in which stressed and unstressed syllables pattern rhythmically, but the reality of these patterns is to date at least questionable. The status of unstressed syllables will be discussed more thoroughly below.

Turning now to the alliteration, it is true that when an a-line contains two primary stresses, both of the stressed syllables usually alliterate with the head stave. But it is quite common for the first such stress to alliterate alone, or much more rarely, for the second stress to do so; there are even a few b-lines whose alliteration falls on the second stress. An a- or b-line containing only one word stress, obviously, alliterates on that stress; verses with three word stresses may alliterate on one of them, or (in the case of an a-line) on two, in various combinations. Alliteration, then, though obviously a 'repeated sequence' with some sort of metrical significance, does not present us with an 'integral number' of predictable occurrences.

The question of what counts as a word stress is a vexed one, complicated by attempts to force verses with one or three lexical stresses to conform to a two-stress pattern. The stress rules of Old English are deduced largely from the alliterative patterns themselves, although diachronic changes which were sensitive to stress provide some additional evidence. Here we will assume Halle and Keyser's (1971) account, which may be summarized as follows:

(a) Old English had an initial stress rule which applied to the word stem.

(b) This was combined with a stress retraction rule which moved main stress from the stem to a prefix, mainly in derived nouns and adjectives. The prefix ge (possibly for and be as well) was invisible to it.

(c) The compound stress rule was identical to that of Modern English.

All of these rules tell us the location of primary stress (word or compound stress); information about secondary stress is far more elusive, since secondary stresses, while debatably of metrical significance, do not participate in the alliteration, and so cannot be located with any accuracy. Most of the traditional metrists -- Sievers (1905), Pope (1942), and Bliss (1962), to mention a few -- treat Old English as though it were quantity-sensitive. They assume, for example, a secondary stress on the heavy derivative suffixes of words like áeþelìngas, 'princes'. The metrists working within the generative tradition -- Keyser (1969), Halle and Keyser (1971), Maling (1971) -- do not recognize secondary stress as metrically significant, even on second elements of compounds. Some arguments for the importance of secondary stress will be presented below.

Another still more fundamental schism between the traditional and the generative schools of scansion concerns the status of unstressed syllables. Traditional metrical analyses of Beowulf maintain that the 'falls' -- sequences of one or more unstressed syllables occurring around the 'lifts' or (primary) stressed syllables -- are rule-governed in position, length and composition. The more modern generative analyses ignore the unstressed syllables altogether, claiming that they are irrelevant to the meter. The question remains open, though a few possibilities will be discussed in section 5 below.

2. The Halle and Keyser Scansion

The most important of the generative theories is that of Halle and Keyser (1971). The authors present an account which is not only revolutionary but also strong and explicit, making it an excellent point of departure for discussion. Their rules are summarized below; recall that only primary stresses are considered to have metrical ictus.

A. Abstract Metrical Pattern Rules
   1. A verse-line [a line -- AKH] is composed of a first and second half-line.
   2. The first half-line is composed of (X)*X.
      ['By starring the parentheses we indicate the fact that when the enclosed material is omitted the line is more rather than less complex.' (Halle and Keyser 1971:149)]
   3. The second half-line is composed of X(W)*.

B. Correspondence Rules
   1. Each X corresponds to a single S,
      or
      One X in a half-line may correspond to an S and a W in either order.

   Definition: If in two or more stressed syllables the zero or more consonants that precede the vowel are identical or begin with an identical consonant or s-cluster, the syllables alliterate.

   2. Syllables in S positions alliterate; syllables in W positions do not alliterate.

C. Conditions
   1. No half-line is shorter than two syllables.
   2. If a line contains a line-internal clause or sentence boundary, the boundary must coincide with that of the half-line.

(Halle and Keyser 1971:153-4)

These rules allow 35 different templates for the line, containing a minimum of two (SS) and a maximum of six (e.g., SSWWSW) metrical positions.

One advantage of Halle and Keyser's approach is that it allows such problematic lines as B2488, hreas blac; hond gemunde, B.386, Beo ðu on ofeste, hat in gan, and B.376, heard her cumen, sohte holdne wine,[4] to be considered metrical, though technically complex. This very elasticity, unfortunately, predicts the occurrence of a number of line types that are nowhere attested. Halle and Keyser are unable to find exemplars of

(6) WSSSWW
WSSWSW
WSSWS
SWSSWW
SWSWSW
SWSWS

admittedly among the most complex in terms of their tension index; nor can they explain why there are no half-lines consisting of single disyllabic or trisyllabic non-compound words: in their view guma might as well be a half-line as ealdordagum.

Moving from empirical to theoretical problems, if X is the basic unit, it is certainly curious that a subpart of X (i.e., W) occurs in the template. Halle and Keyser found only 652 b-lines without final W -- roughly 20 percent of the total; this number dwindles to near-zero if the large number of final compounds are scanned with two stresses. On the other hand, there are 1659 a-lines with single alliteration (hence only one X). This amounts to 48 percent of a-lines. Apparently (W)* is much more obligatory than (X)*, but Halle and Keyser have no way to capture this difference.

Let us examine the authors' 'W' more closely. W in the a-line may be freely present or absent; it may occur before or after one or two S positions, or between two S positions. It would seem that W is simply irrelevant metrically, save for one thing: the a-line contains a maximum of one W. Therefore the occurrence of W is <u>not</u> free and must be constrained in the rule system. But this one fact about W is the one Halle and Keyser's expansion rules do <u>not</u> capture naturally: they must add a special condition limiting the number of Ws that may be generated.

In fact, it seems that Halle and Keyser's observation may be wrong. Joan Maling cites a number of three-stress a-lines containing two W positions, as shown in (7). There are almost as many WSW verses as Halle and Keyser found SWS, and SWW is likewise attested. This is not a trivial problem for Halle and Keyser. If one X in a half-line consists of <u>either</u> S or W, while the other consists of S, SW, or WS, something is seriously wrong with the definition of X.

(7)

```
 W       S    W
Haefdon swurd nacod                    B.539a
'We had swords naked'

 W      S       W
Heht ða eorla hleo                     B1035a
Het  ða eorla hleo                     B2190a
'Then the protector of earls commanded'

    W   S   W
Ða com non dagas                       B.1600a
'Then the ninth hour of the day came'

   W       S     W
Gewat þa twelfa sum                    B.2401a
'One of the twelve departed then'
```

S W W
stiðra naegla gehwylc B.985a
'each of strong nails'

What about W in the b-line? Here, by contrast, the position of W is more or less fixed: in the unmarked case, (one) W occurs to the right of S. The absence of this W is felt to complicate the line tremendously. (If we allow second elements of compounds to participate in the metrical patterning, the number of b-lines lacking this position is on the order of one percent. Halle and Keyser have tried to simplify the data by ignoring secondary stresses, but I believe this is misguided. More on this below.) Clearly the final W of the b-line has a different status than any W in the a-line. This is the fact Halle and Keyser try to capture with their ( )* notation.

By Halle and Keyser's rules, the only obligatory elements of the line are one S position in each half-line. Other facts, equally important but similarly obscured by the theory, are the following:

(a) The number of stresses in a half-line is usually two, but never more than three.

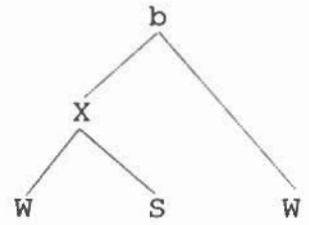
(b) There are never more than two Ss in the a-line, and never more than one in the b-line.

(c) The b-line contains a W position to the right of its S so often that we may as well call it obligatory (though see below).

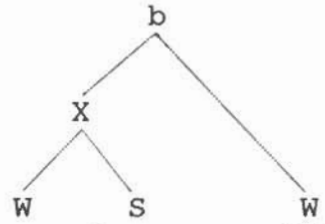
Halle and Keyser's use of an abstract metrical entity X gives an implicit constituent structure to the patterning of terminal S and W. Although it must be noted that they do not intend X to correspond to a syntactic grouping or a metrical foot, their rule system does look very much like a phrase structure grammar, and it would certainly be a point in their favor were the abstract X to correspond to some independently motivated grouping of terminal nodes. After all, any sense of a repeated sequence depends on X (or its obligatory daughter, S); insofar as there are 35 different expansions of the (X)*X X(W)* pattern, it would certainly be less of a strain on the poet's memory if the groupings had some psychological reality.

It turns out, however, that the groupings imposed by X often contradict syntactic bracketings, especially in b-lines (where the templates are necessarily left-branching):

(8)



sohte [holdne wine] B.376b
'he sought trusty friends'



secg [weorce gefeh] B.1569b
'man rejoiced in work'

The other possibility, that X corresponds to a foot, runs into difficulties with the optional elements of the pattern. If final W in the b-line is an optional extrametrical (non-footed) element, why is it not missing more often, and why is its absence felt to complicate the line? The optional X, which cannot be extrametrical, is still harder to justify, though similar solutions have been proposed more than once.[5] Halle and Keyser suggest a most peculiar precedent.

They claim, first of all, that Old English poetry has much in common with Modern English nursery rimes [sic] -- a truly astonishing statement, considering that nursery rhymes typically display a very regular isochronous meter, while the meter of Beowulf is distinguished by the irregularity of its stresses. At any rate, Halle and Keyser scan the familiar day-counting rhyme XXX(X), as shown in (9).

(9) Thirty days hath September
X X X
April, June and November
X X X
All the rest have thirty-one
X X X X
While February's days are twenty-nine.
X X X X

This seems to me to be the wrong scansion entirely. There is no shift from three beats to four beats, surely. The poem has four beats per line throughout, with one of two possible adjustments filling out the deficient lines:[6] either hath in the first line and and in the second are given heavy (metrical) stress, or else there is a silent beat at the end of each of the first two lines. It is very unnatural indeed to recite this poem without doing either of these things.[7]

Returning to the status of X as a grouping mechanism, a third option is to re-foot the Halle and Keyser patterns into something more closely resembling Liberman and Prince stress trees, which mirror syntactic bracketing.[8] This is, in effect, what Joan Maling has done, although she uses SPE numerical notation throughout.

3. Maling's Scansion

Maling (1971) points out that one of the flaws in Halle and Keyser's theory is its inability to predict the position of Ss in a line. A three-stress a-line, for instance, could align with the template as SSW, WSS, or SWS, constrained not even by the complexity metric (see section 4). 'Certain primary stresses,' says Maling (1971:380), 'are said to fill S positions because they alliterate, and to alliterate because they fill S positions. This circular definition ignores the regularities of alliterative patterns.'

Maling suggests that the Modern English rule of Compound Stress,

(10) $V \rightarrow 1 / [_{A}\ X \_\_\ YVZ]$,

where A ranges over lexical and syntactic categories and Z contains no 1 stress (Maling 1971:381),

applied in Old English not only to compound words but also to phrasal categories such as NP, VP and S. To this she adds a convention that

> [i]n any half-line, a word bearing 1-stress must alliterate; in initial half-lines, a word bearing 2-stress may alliterate, and will do so approximately 70% of the time.[9] Words bearing

less than 2-stress never alliterate.
(Maling 1971:391)

The combination is surprisingly successful.

Maling's examples are very compelling. She begins with a survey of half-lines consisting of noun phrases, pointing out that two-stress NPs (adjective-noun or noun-noun combinations, either order) without exception alliterate either on the first word or on both. Assuming the compound rule, these phrases are stressed 1-2 and thus conform to her alliteration convention.

Out of 13 three-stress NPs with the constituent structure of (11), all of them alliterate as Maling predicts.

(11) S S W (Halle and Keyser notation)
maga [mane fah] B.978a
1 2 3
'man guilty of crime'

Out of four three-stress NPs bracketed as in (12), one is a b-line and one an a-line with single alliteration on the first formative,[10] and the other two have double alliteration as predicted.

(12) S W S
[twelf wintra] tid B.147a
1 3 2
'twelve winters' time'

Three-stress noun phrases with no internal bracketing -- typically consisting of a head noun, an adjective which agrees with the head, and a genitive noun/NP, in any of several possible orders -- unfortunately require a special metrical convention. Maling's rules stress such combinations 1-2-2 (stress rules apply cyclically after all rules of syntax except verb movement), so that one would expect SWS and SSW patterns to be equally numerous and even SSS to be possible. In fact 11 out of 12 a-lines are SSW and both b-lines SWW. (The twelfth a-line is SWS.) Maling simply stipulates that the first of two equal stresses, or the first two words of such a noun phrase, are preferred for the purpose of alliteration, with no further discussion.

On the domains of VP and S, Maling assumes an SOV deep structure and orders verb movement after stress assignment, in order to account for the fact that the verb is never the

obligatory S position, even when initial. This is quite a clever solution to a very troublesome problem: the status of verbs has been a stumbling-block in every theory proposed to date. Verbs frequently share in the alliteration, but at the same time, verses whose second stress of two alliterates alone, or whose second and third stresses of three co-alliterate, always have a verb as their first stressed element. The verb is somehow not a preferred alliteration-bearer, a fact Maling captures by manipulating rule ordering to deny it 1-stress.[11]

Maling notes that the proposed SOV base structure entails that Old English had no Nuclear Stress Rule. She speculates that

> English developed an NSR as a result of the change in base order from SOV to SVO, and that the domain of the NSR was then extended to include the other syntactic categories; but this leaves unexplained the introduction of the NSR into German. (Maling 1971:382, fn. 1)

She goes on to note that German retains the Compound Stress Rule on the VP; it is not unreasonable to assert that Old English employed it for NP and S.

At any rate, Maling's theory makes the correct prediction in the vast majority of cases. For instance, in verses consisting of object plus verb, there is always either double alliteration or alliteration of the object alone.

(13)
```
 S      S
gomban gyldan                          B.11a
 1      2
'tribute to pay'

  S      W
dream gehyrde                          B.88b
  1      2
'laughter (he) heard'
```

In verb-plus-object combinations, single alliteration usually falls on the object:

(14)
```
    W          S
Gemunde ða ða are                      B.2606a
   2          1
'then he remembered the property'
```

The same patterns hold of subject-verb and verb-subject combinations: in the former, single alliteration is always, and in the latter almost always, on the subject. (The 30 exceptions, in all of which an initial verb alliterates instead of a following subject or object, will be discussed shortly.)

In parallel cases where the verse has three stresses because of an adjective or genitive in the NP, single alliteration always falls on the first element of the NP, as predicted.

(15)
```
  S    W      W
[sunu deoð] wrecan                    B.1278b
  1    3      2
'son's death to avenge'
```

```
 W          S        W
wiste [his fingra geweald]            B.764b
 2          1        3
'knew his fingers' strength'
```

If the verb is final, double alliteration falls on the first element of the NP and the verb, again as predicted:

(16)
```
  S      W      S
[seofon niht] swuncon                 B.517a
  1      3      2
'for seven nights (he) toiled'
```

When the verb is initial, double alliteration usually falls on the first element of the NP and the verb:

(17)
```
S     S       W
yðde [eotena cyn]                     B.421a
2     1       3
'destroyed ettins' kin'
```

but frequently falls on the two elements of the NP instead:

(18)
```
 W       S    S
haefde [mare maegen]                  B.518a
 2       1    3
'had greater strength'
```

And finally, in half-lines containing a full clause -- subject, object and verb -- double alliteration always falls

on subject and object, single alliteration on whichever NP comes first. There are no exceptions to this last pattern.

To summarize, the problems for Maling's theory are as follows:

(a) She needs an ad hoc rule to account for the SSW alliterations of three-stress noun phrases without internal structure.

There is also one exception to her rule: the following verse is SWS.

(19) S W S
heard swyrd hilted B.2987a
1 2 2
'hard, hilted sword'

(b) There are 30 cases of a two-stress verse with initial verb and following subject (10 cases) or object (20) where the verb alliterates alone. (These contrast with at least 140 cases where the subject or object alliterates alone.) Most of them are b-lines.

(20) S W
Gemunde þa se goda B.758a
2 1
'Then the good (one) remembered'

(c) There are 16 examples of verb-plus-complex NP where the two elements of the NP co-alliterate instead of the first such element and the verb. (The latter pattern occurs 28 times.) Again, most of them are b-lines.

There are a couple of additional problems concerning which Maling gives insufficient information for a thorough analysis. For instance, in discussing $[N\ (N)\ V]_{VP}$ -- a verb phrase with an extra (indirect or prepositional) object -- she states, 'I found 139 half-lines where the verb co-alliterates with the initial noun, and 1126 half-lines where the initial noun alone alliterates, of which 87 are first half-lines, and 1039 are second half-lines' (Maling 1971:393). All of the examples she gives are $[N\ V]_{VP}$; thus it is impossible to tell whether $[N\ N\ V]_{VP}$ ever occurs in the first half-line. If it does, there is apparently no N-N alliteration, which is certainly surprising in view of Maling's metrical convention for $[N\ A\ Gen]_{NP}$. Another construction that Maling glosses over is V N Inf, of which she says, 'There are about 25 examples of this sequence, of

varying syntactic structure, including simple modal verbs which take an infinitive. Whether object or subject of the infinitive, it is the noun which alliterates' (Maling 1971:397). She lists only six examples, most of which I would bracket V [N Inf]. It is difficult to tell whether the bracketing or the stressing is correct in the absence of double alliteration, though we may reliably put 1-stress on the N. These examples will be discussed further in the next section.

4. A Solution

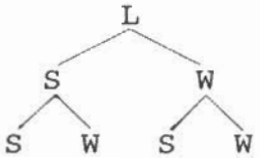
Maling's analysis, though ingenious, is still subject to some of the specific criticisms leveled at Halle and Keyser in section 2, and has in addition the set of empirical problems just discussed. The goal at this point is to invent a theory which will avoid the former while accounting for the latter. In this section I will propose a first approximation to such a theory.

First of all, I think we must reject the idea of a line containing a variable number of metrical positions. It seems clear, both from the large number of two-stress half-lines and from the upper limit on number of alliterating syllables, that the abstract metrical template must contain exactly four metrical positions, two in each half-line. The normal patterns for these are, in Halle and Keyser's notation, SSSW and SWSW. Lines never contain an extra S position; stresses that Halle and Keyser describe as additional Ws we will show to be extrametrical.

Two facts need accounting for with respect to our two metrical patterns. First, why does the b-line always have a fixed final W? and secondly, why is the second metrical position in the a-line sometimes W and sometimes S?

To explain the difference between a- and b-lines and combine the two templates into one, I propose that we change our notation slightly and add some hierarchical structure. Let us define S and W, not as alliterating and non-alliterating word stresses, but simply as strong and weak metrical positions. Let us further group them into a strong and a weak foot, as shown in (21).

(21)



The terminal nodes, SWSW, represent four metrical positions which map onto stressed syllables. The higher level structure serves three important purposes. First, it ties the four metrical positions together into one domain for the purpose of alliteration. Second, it groups the terminal nodes into two feet corresponding to the two half-lines. And third, the higher level labelling differentiates the first or strong half-line from the second or weak half-line.[12] The a-line is strong in that it shows a great deal more freedom in its alignments to actual verses; moreover, its terminal nodes participate more heavily in the line's alliteration. The rule of alliteration has a natural formulation:

(22) Terminal Ss must alliterate with each other; W dominated by S may also alliterate; W dominated by W does not alliterate.

Assuming that this template is the correct one, and that we can write correspondence rules explaining how it maps onto the diverse line types which occur in Beowulf (and no others), we now have a representation of an Old English verse line that conforms to Prince's generalizations about foot-based meter. Consider:

> I admit a limited set of categories of structure (metrical position, foot, metron), hierarchically related, whose iteration determines a metrical pattern. Structural articulation is assumed to be maximal, i.e., binary. A strength-weakness relation (S/W) is imposed on sister nodes, determining strong and weak metrical positions and, in certain cases, strong and weak feet within a superordinate metron. The strength relation is constrained by [a] principle of uniformity: within a metron (pair of sister feet) a single pattern of strength-weakness obtains at both levels; e.g. in a metron of iambic feet, the feet themselves are related [WS].
> (Prince 1984:1)

Notice, too, that most of the problems of Halle and Keyser's account have been resolved. For instance,

(a) One alliterating position (S in their terms, but to avoid confusion I will confine S and W to my sense during this discussion) in each half-line is obligatory. There is one position of obligatory alliteration (S) in each foot or half-line.

(b) There is a maximum of three word-level stresses per half-line. The third stress, being unaligned, is simply extrametrical. There cannot be a fourth stress because this would induce an extra foot -- an unacceptable aberration. ('Ghost feet' will be discussed more thoroughly when we formulate the correspondence rules.)

(c) There are never more than two alliterating positions in an a-line, and one in a b-line. Since each foot is binary and the nature of the two Ws is different with regard to alliteration, the upper limit follows naturally.

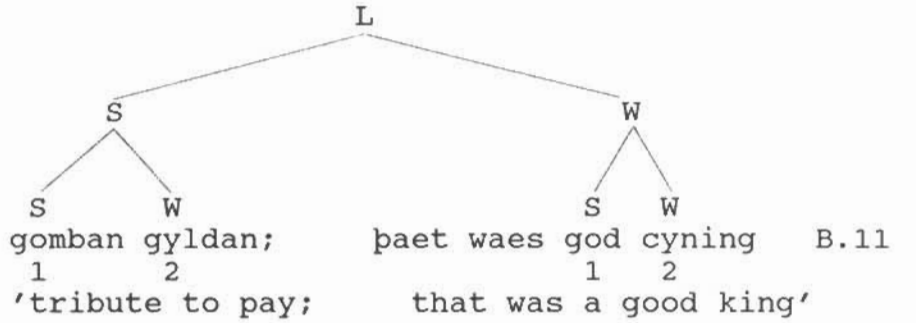
(d) A final, non-alliterating stress in the b-line (Halle and Keyser's (W)*) is far less likely to be absent than a second alliterating position (Halle and Keyser's (X)*) in the a-line. Again, the template specifies a final non-alliterating position in the weak half-line, whose alignments are much harder to shift; but W in the first half-line may be freely alliterating or non-alliterating, giving the illusion of an optional (X)* corresponding to an alliterating syllable.

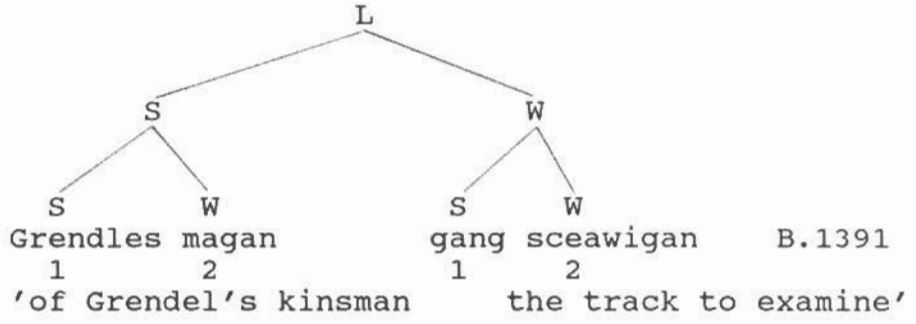
(e) Contrary to Halle and Keyser, an a-line may contain two non-alliterating with one alliterating stress. The alliterating stress and one of the other two align with the template, the third is extrametrical. Such verses do occur.

In the unmarked case, each terminal node aligns with a syllable bearing word stress in the appropriate half-line. With Maling and Cable (see section 5), we will assume the generality of the Compound Rule over phrases; we will also assume Maling's ordering of verb movement after stress assignment. And finally, we will adopt the hypothesis that, in verses of identical syntactic structure, the locus of single alliteration is consistently the S position; the W position aligns with whatever syllable co-alliterates with (independently motivated) S in verses having double alliteration. Terminal W is then considered to fall in that same position even when it does not alliterate.

And in fact we find that, in almost every case, terminal S aligns with the strongest stress in the verse -- whether designated as a 1-stress or a grid column or the DTE of a stress tree -- and terminal W maps onto the second strongest stress, which occurs to the right of the strongest.

(23)





Most of the patterns Maling identifies in three-stress verses can be naturally accommodated with the above correspondence rule. The most subordinated of three word stresses remains unaligned and is simply extrametrical -- in an otherwise normal verse, it never alliterates:

(24)

Where this correspondence rule is inadequate is in the numerous verses in which -- always because of verb movement -- the second strongest stress in the verse occurs not to

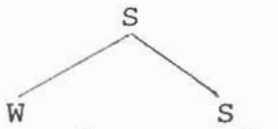
the right of the 1-stress but to the left of it. In a two-stress verse, the result is

(25)

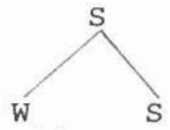
Gespraec þa se goda ? B.675a
2 1
'Then the good (one) spoke'

In the majority of a-lines of this sort, the foot simply inverts, aligning as WS, with the second stress the locus of obligatory alliteration.

(26)



Gespraec þa se goda
2 1

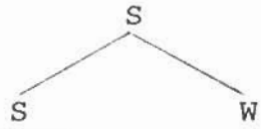


Setton saemeþe B.325a
2 1
'sea-weary ones set'

A verse with this alignment is technically more complex than an SW verse. Maling counts 1676 normal SW verses consisting of subject or object plus verb, and at most 417 WS verses consisting of verb plus subject or object.

There is one other adjustment that the SW foot can make to a 2-1 stress pattern. In 30 'exceptional' half-lines, the foot retains its SW structure and maps as is onto the rising stress contour:

(27)

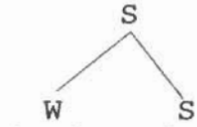


Gemunde þa se goda B.758a
2 1
'Then the good (one) remembered'

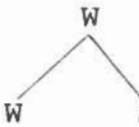
This mapping is relatively infrequent, and therefore we must consider a strong-weak mapping mismatch as more highly marked than foot inversion, at least for the a-line. Nearly all of the examples like (27) occur in the b-line; the mapping in (26), on the other hand, is more frequent in a-lines.

A similar paradigm appears in the case of three-stress verses with an initial verb and a complex NP. By the Compound Rule and verb movement, the stress pattern is 2-1-3. In fact, the first element of the NP alliterates alone in 89 cases (five of them a-lines) and the verb co-alliterates with the noun in 28 more. The normal adjustment thus seems to be

(28)



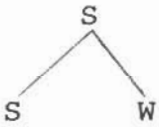
drefan [deop waeter] B.1904a
2 1 3
'stirring up deep water'



geseah [steapne hrof] B.926b
2 1 3
'he saw a steep roof'

But this time the 16 'exceptional' cases involve mapping W to a 3-stress:

(29)

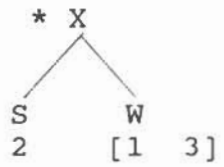


gebad [wintra worn] B.264a
2 1 3
'he experienced many winters'

In this case the W, finding no 2-stress to the right, settles for a 3-stress. Again, the inverted foot is apparently preferable to any adjustment that involves aligning S with any but the strongest stress or W with any but the second strongest. The 1-3 option, since it involves only one such misalignment, is preferred to the 2-1 option

(in non-inverted feet): there are no verses at all with the pattern

(30)

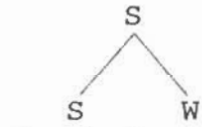


That is, there is no V $[N\ N]_{NP}$ (letting N range over N, A) where V alliterates alone. Notice, incidentally, that our theory accommodates those verses which contradict Maling's statement that 'words bearing less than a 2-stress never alliterate.'

We have the rudiments of a complexity metric here, though eventually we must account for the fact that b-lines are much less liable to inversion -- the least complex marked option -- than a-lines are. In section 5 we will consider a constraint disfavoring medial troughs, so that SWWS is a very complex pattern. For now, it is sufficient to note that in many other kinds of verse, the end of the line conforms more closely to the base metrical pattern.[13]

What about Maling's ad hoc metrical convention for three-stress NPs without internal structure? By her rules, this configuration is always stressed 1-2-2; she must stipulate, then, that double alliteration falls on the first two words and that triple alliteration is impossible. These facts fall out naturally from our template. We have already ruled out triple alliteration in a half-line by postulating a binary-branching template; now, if W is to map to a 2-stress to the right of S, surely there is no need to look beyond the first 2-stress. The normal mapping is

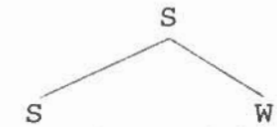
(31)



[swutol sang scopes] B.90a
1 2 2
'sweet song of the scop'

At the same time there is really nothing to prevent the W from aligning with the second 2-stress, should the poet permit it: in fact this does occur once in 12 examples of the construction. The numbers show that this is a marked option.

(32)



heard swyrd hilted B.2987a
1 2 2
'hard, hilted sword'

The one other sequence which presents problems for Maling is V N Inf, 'of varying syntactic structure, including simple modal verbs which take an infinitive' (Maling 1971:397). She counts 25 instances, in each case with the noun alliterating alone.

Of the six examples she cites, all are b-lines, making it impossible to tell with any accuracy where W aligns. One involves a modal:

(33) þa sceall brond fretan B.3014b
'then fire must consume'

Four have a matrix verb and dependent clause:

(34) leton holm beran B.48b
'let the ship bear off'

wolde hyre maeg wrecan B.1339b
'she wished to avenge her kinsman'

heht his sweord niman B.1808b
'commanded (him) to take his sword'

leton weg niman B.3132b
'let the wave take'

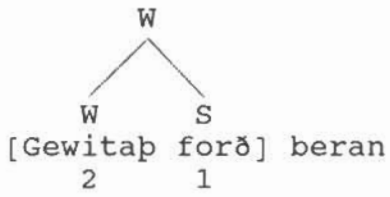
And the sixth has a complex verb:

(35) Gewitaþ forð beran B.291b
'depart forth to bear'

In the case of the modal, verb movement still seems plausible, yielding a 3-1-2 stress pattern by Maling's rules. This presents no problem for our template, which maps straightforwardly. In the four cases with a dependent clause, it is necessary to disallow cycling of stress assignment across a clause boundary, since in this case the matrix verb is apparently base-generated in initial position. The [N Inf] sequence then retains a 1-2 stress contour, and again mapping is straightforward, with the verb

extrametrical. If this restriction of the cycle is correct, then the only possible mapping for the last example, B.291b, is

(36)



one of the few cases of an inverted foot in a b-line. It may be that the template somehow maps SW regardless, but in b-lines it is difficult to tell. In any case, this is not a problem for the theory.

All full-clause patterns align straightforwardly, as SW, since the verb is always least stressed on each cycle unless its two neighbors form a constituent, which is never the case when they are subject and object. Of the latter two, whichever comes first maps to S, the other to W, since the compound rule follows all NP movement rules.

What remain to be discussed are the various verses containing a single formative: verses Maling, concerned with sentence stress, does not mention. Halle and Keyser, like most of the traditional metrists, accept these verses as fully metrical, though technically more complex than two-stress verses. Our concern now is to show how single-formative verses align with a binary template.

First of all, the majority of these verses contain a compound word. Halle and Keyser assume that the secondary stress in compounds has no metrical significance, simply because the second halves of compounds never alliterate. But as Bliss points out,

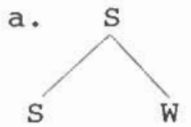
> Of course it is not to be expected that double alliteration should be very common, since the number of alliterating compound words is strictly limited, so that verses of this kind could scarcely exist at all if double alliteration were insisted on. (Bliss 1962:67)

Moreover, even Halle and Keyser do not attempt to deny that the vast majority of the verses in Beowulf contain two word stresses: surely it is reasonable to normalize verses whose only idiosyncrasy is that both word stresses occur in the same word. And finally, it has long been recognized that

most of these verses are identical in rhythm to normal verses containing two independent word stresses. Compare

(37)

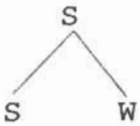
a.



lange hwile B.16a
1 2
'for a long time'

aþumsweoran B.84b
1 3
'to son-in-law and father-in-law'

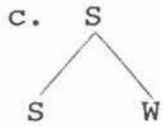
b.



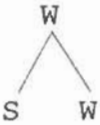
Oft Scyld Scefing B.4a
1 2
'Often Scyld Scefing'

of feorwegum B.37a
1 3
'from distant parts'

c.



leof landfruma B.31a
1 2
'beloved leaders of nations'



landbuendum B.95b
1 3
'for earthdwellers'

Each pair of verses (reading across) is rhythmically identical;[14] in our terms, the verses containing compounds differ from the normal verses solely in the alignment of W with a 3-stress rather than a 2-stress. As currently formulated, our original correspondence rule accepts the compounds as instances of the base pattern: W must align with the second highest stress in the verse, which in this *case happens to be a 3-stress. Although I have not yet done* a formal count, such half-lines are very numerous indeed and could easily be unmarked.

Halle and Keyser neglect secondary stress on compounds for a very good reason: since they have no extrametrical stresses nor any mechanism for stress subordination, they face a tremendous complication in predicted patterns if they count compound words as having two metrical stresses. For instance,

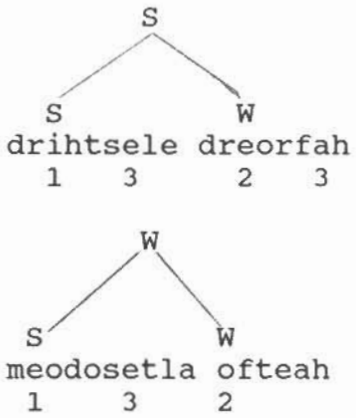
(38) drihtsele dreorfah B.485a
'the splendid hall stained with blood'

and

(39) meodosetla ofteah B.5b
'seized meadbenches'

would have to be SWSW and SWW respectively, instead of simple SS and SW. In the present theory the problem does not arise. In the verses cited, the second elements of the compounds do not align with the template and hence are extrametrical, because a stronger stress is available whenever a compound and another formative share a half-line.

(40)

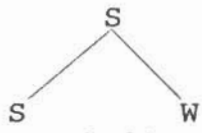


The second element of a compound has metrical ictus only in default of an independent content word.

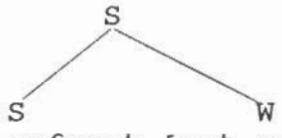
When it does participate in the metrical mapping, the second half of a compound is always W and the first half S, since, as we have seen, even a misalignment of W with a 3-stress must be strongly preferred to a mapping which misaligns both branches of the foot as well as inverting it. Fortunately neither foot requires W to alliterate. Interestingly, the recurrent formulae in Beowulf are frequently compounds or two-word phrases in which the first element varies to fit the requirements of alliteration: for instance, Beorht-Dena, Gar-Dena, Hring-Dena (Bright Danes, Spear Danes, Ring Danes), all designating the same tribe.[15] If the poet has memorized a stock of compounds to fill out lines as he chants, it is useful to have them interchangeably appropriate for a-lines and b-lines; Reed goes so far as to suggest that formulae are among the least marked of all metrical patterns.[16]

On the subject of compounds, notice that our notion of why four-stress verses are prohibited -- because they are ambiguously one foot or two -- makes a prediction about the distribution of compounds in three-formative verses. A compound in such a verse may come first, since the W will pass over its second element to align with a heavier stress to the right; it cannot come last, lest it align as an SW 'ghost foot' on its own account. A medial compound is probably ruled out for similar reasons, though it is dubious whether a WS foot straddling the second half of the compound and the following word could actually be constructed (or perceived). At any rate, the only two compounds occurring in three-formative verses are in fact initial:

(41)



aescholt ufan graeg B.330a
1 3 2 2
'ashwood (i.e., spears) from-above gray'



arfaest [aet ecga gelacum] B.1168a
1 3 2 3
'kind at the edge's (i.e., sword's) play'

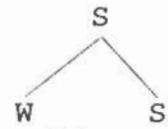
It is interesting to note that Reed scans the so-called hypermetric lines[17] in five old English poems as SS(W)*(W)*SW (Halle and Keyser notation).[18] Apparently six stresses in the line are permitted only when (1) the 'ghost foot' straddles the half-line (usually also a syntactic) boundary, and (2) the 'ghost foot' contains no alliteration, hence no S position, and therefore cannot be a foot. (I.e., lines like *WSS WSW, containing three otherwise viable feet, do not occur.) These conditions are strongly reminiscent of Schlerman's constraints on the adjacency of pre- and extra-metrical syllables in the verse of John Webster: a clause boundary must separate them and they must both be unstressed.[19]

We are still left with a residue of single-formative verses containing non-compounds. In many cases metrists have traditionally assumed a kind of quantity-sensitivity that stresses heavy derivational endings (ing, lic, est,

enne), and second elements of inflected proper names (Bēowulfes, Hrōðgāre). In a few of these cases -- especially ing, occurring in inflected æðelingas, gǽdelingas, and lic, in ēadiglīce, ēarfoðlīce -- the secondary stress could equally come from beat addition (Selkirk 1984), operating on a stretch of three unstressed syllables. Notice that all single-word half-lines are at least four syllables long; this fact, combined with the initial stress rule, makes beat addition seem quite likely.

Another kind of 'light' verse consists of a series of particles followed by a single non-compound content word. Bliss points out that the average number of syllables before the stress is four (almost twice as many as are ordinarily found before the second stress of two), with a minimum of two and a maximum of six.[20] Although Bliss includes initial verbs in this count, the pattern of extra unstressed syllables in a verse lacking an expected stress is quite clear. It seems that one of the particles may well be promoted by beat addition at least sufficiently that an inverted foot may align with it, for instance:

(42)

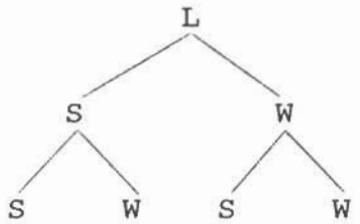


ond ge him syndon B.393a
4 1
'and you to-him are'

Two unstressed syllables is, of course, the minimum domain for beat addition.

In sum, then, our account of Old English meter looks something like this:

I. Abstract Metrical Pattern



Where: Terminal S must alliterate.
W dominated by S may alliterate.
W dominated by W may not alliterate.

II. Correspondence Rules (order of increasing complexity)

C1. Terminal S maps to the strongest stress in the verse and terminal W maps to the second strongest stress, which lies to the right of S.

C2. If the second strongest stress lies to the left of the strongest stress, a foot may invert to WS.
Constraint: the derived terminal string SWWS is disfavored.
Constraint: two such inversions in one line render it so complex as to be unmetrical.[21]

C3. If the second strongest stress lies to the left of S and another, lesser-stressed formative lies to the right of S, W may map onto the latter, leaving the second strongest stress unassociated.

C4. If the second strongest stress lies to the left of the strongest stress and there is no other word stress available to the right, S may map to the weaker and W to the stronger stress.

The complexity hierarchy, when fully formulated, will be based on the following rules:

1. Foot inversions cost less than misalignments.
2. One misalignment costs less than two.
3. Line-medial troughs are strongly disfavored.
4. Lines with an extrametrical stress are always more complex.
5. Extra unstressed syllables may replace a stress line-initially.
6. A line with two inverted feet is unmetrical.

Notice that the resultant partial ordering matches Halle and Keyser's 'actual', as opposed to their 'predicted', complexity hierarchy[22] in a couple of important ways. Halle and Keyser were forced to invent an idiosyncratic rule for the Beowulf poet to account for the fact that three-stress half-lines are less numerous than two-stress half-lines: they had predicted the reverse for a-lines. I, on the other hand, expect three-stress half-lines to be always more complex, since they contain an optional extrametrical element. Further, Halle and Keyser have glossed over the fact that their theory predicts no difference in metrical tension between SW and WS feet. My theory on the other hand predicts the actual frequencies. It is to be hoped that further work on the complexity metric will make the relative markedness of the remaining metrical mappings more explicit: the present discussion is necessarily very superficial.

Having completed our account of the patterning of stressed syllables, it is worthwhile to reconsider some of the older scansions of Beowulf, in which the unstressed syllables as well as the stressed are considered metrically significant. While an in-depth analysis of stressed-unstressed patterning is beyond the scope of this paper, I do want to mention a few interesting problems and coincidences.

5. Stressed and unstressed syllables

The starting-point for any discussion of traditional scansion must be the work of Eduard Sievers, for many of the subsequent accounts are based on Sievers' (1905) scansion. He was the first metrist to propose a more or less successful regularization of the seeming irregularities of Beowulf, using a small set of abstract metrical patterns and a set of correspondence rules. Like most of his successors, Sievers considered the two-stress verse to be basic: he normalized 'heavy' verses by means of stress subordination and 'light' verses by promoting one of the introductory particles.

But Sievers, and the school of scansion he founded, consider the stressed syllable to be only a part of the rhythmical patterning of Beowulf. In Sievers' view, each metrical stress is part of a one-, two-, or three-position foot, with two feet to the verse; moreover, the feet must combine in such a way that the verse contains a total of four metrical positions. The result is the following set of half-line types:

(43)	A	/ x | / x	gómban gýldan
	B	x / | x /	Þaer at hýðe stód
	C	x / | / x	Oft Scýld Scéfing
	D	/ | / \ x	féond máncynnes
		/ | / x \	flét innanwèard
	E	/ \ x | /	wéorðmyndum þáh
		/ x \ | /	mórþorbèd stréd

where / is a metrically full-stressed syllable (a lift), \ is a secondary stress (a half-lift), x is a series of one or more unstressed syllables (a fall), and | is the foot boundary. Notice that there is no falling-rising verse, / x | x /, since x x in succession is equivalent to x; such a verse would be short one metrical position. The fact that the stressed-syllable template discussed in section 4 also disfavors medial troughs (SWWS) is interesting in this

regard. Perhaps Old English had a pervasive constraint against that particular configuration.

Although there are a number of difficulties with Sievers' correspondence rules (see especially Keyser (1969)), the Five Types are in the main quite an accurate description of the rhythms found in Beowulf. The central problem is to find a rationale for the occurrence of these five patterns, and (almost) exclusively these five patterns, in the poem.

Daunt (1946) endorses the null hypothesis with respect to Sievers' Types, as do all of the generative theorists, at least implicitly. The patterns, says Daunt, are syntactic and phonological, but not metrical.

> A may be A because it is the most frequent, but it is the most frequent because it is the shape of nouns and adjectives grouped together, and nouns and adjectives appear most frequently in the spoken language....The pattern / x / x (or / xx / x, etc.) is likely to appear in a language with [initial] root accent and a large number of disyllabic forms in noun and adjective. (Daunt 1946:291-2)

In her sample of 200 half-lines, B-lines tended heavily to end in preterite singulars of strong verbs; C-lines are largely preposition-NP combinations or whole or part sentences and clauses; and the three-position feet of D and E verses are nearly always trisyllabic (especially compound) nouns or adjectives. Daunt demonstrates that even Modern English prose passages can be scanned via the Five Types.

Against Daunt's claim must be placed Cable's (1974) observation concerning patterns which seem to be specifically excluded from Beowulf. One example is

(44) x x / x / x
in a somer seson

(Cable's x is a single unstressed syllable); this pattern is common in Middle English and even in Old English is perhaps the 'syntactically most probable' pattern, but it is almost unknown in Beowulf (Cable 1974:8-9). Cable also remarks the non-occurrence of x x / /, as in

(45)
```
    x   x   /   /
* þaet waes god þegn

    x   x   /   \
* þaet waes Beowulf
```

by the side of the perfectly regular

(46)
```
    x   x   /   / x
þaet waes god cyning

    x   x   /   \  x
þaet waes Beowulfes
```
[23]

Apparently we need something a little stronger than the null hypothesis.

Bliss (1962), after devoting one hundred pages to a multiplication of five types to 130 types, proposes, as an afterthought, a sort of algorithm for deriving the five original types from one basic pattern. 'There can be no doubt,' he says,

> that the norm in Old English verse is the rhythm / x (x) / x, which underlies nearly 40 per cent of the verses in Beowulf. If now, abandoning the chronometric theory, we assume that the stresses in the verse may be displaced forwards or backwards in time, the following rhythms may result: if the first stress is displaced forwards the result is x (x) / / x, Type C; if the second stress is displaced forwards the result is / x x (x) /, Type E; if both stresses are displaced forward, the result is x (x) / x /, Type B; if the second stress is displaced backwards the result is / (x) / x x, Type D. These are the only possible displacements, and the displacement theory thus explains the five types which actually occur and no others. (Bliss 1962:108).

Unfortunately this 'explanation' gives no account of how or why a stress should be 'displaced'; nor does Bliss' notation make explicit the fact that, of two adjacent x's, one must be a secondary stress if the sequence is to be metrical. On the other hand, Bliss' account does exclude the non-occurring x x / /, since he does not allow the same stress to be displaced twice.

Cable's (1974) account of the Five Types not only avoids the problems of Bliss' account, but also lends support to Maling's assumption of compound stress on the half-line. Cable argues for compound stress on the following grounds, none of them conclusive on its own, but collectively and with Maling, quite compelling (Cable 1974:67-73).

(a) All verses with clashing stress (i.e. C and D verses) which have single rather than double alliteration alliterate on the first stress. Cable, like Maling, considers that alliteration prefers the strongest stress.

(b) Compounds regularly occur as C and D verses, and we have independent reason to believe that the first stress of a compound is the stronger.

(c) Of 1118 C verses, 504 have a short (i.e. light) unresolved[24] syllable for the second lift. As for D verses, both lifts are usually long but if one is short and unresolved it is always the second. 'Resolution' aside, Cable is assuming that light stressed syllables are perceived as less stressed than heavy syllables and so are more natural in second position.

(d) If Pope (1942) is right and there is a constraint towards isochrony on the verse, the first stressed syllable of a D-line must be drawled out to take up the same amount of time as the following three syllables. The extra length would correlate with heavy stress.

Cable goes on to say,

> ...either the rule for nuclear stress is an innovation, a rule added to the language since Beowulf, or else the metrical patterns of Old English often contradict the patterns of ordinary speech. If the second alternative is the case, then Sievers' traditional division of the verse into feet is called into question [since stress is not compared across foot boundaries -- AKH]....If the first alternative is the case, then Sievers' system can stand as it is, but we must radically revise our view of the history of English stress....Of the two possibilities, a reconsideration of Sievers' feet would be the less ambitious and more promising effort... (Cable 1974:72)

Arguments (c) and (d) above reflect Cable's assumption that compound stress is a metrical rather than a phonological phenomenon. We have adopted Maling's view that in fact the nuclear stress rule is an innovation. Cable's discussion fortunately does not depend on this point.

Having one way or another established a constraint that the first of two clashing stresses be the stronger, Cable is in a position to derive the Five Types. Assuming four metrical positions, between each two of which the level of stress must rise or fall, there are eight possible patterns:

(47)	1	\	2	/	3	\	4	A
	1	/	2	\	3	/	4	B
	1	/	2	\	3	\	4	C
	1	\	2	\	3	\	4	D
	1	\	2	\	3	/	4	E
	1	/	2	/	3	\	4	*
	1	/	2	/	3	/	4	*
	1	\	2	/	3	/	4	*

The last three patterns are ruled out by the clashing stress constraint; the first five are the Five Types.[25]

This account has the merit of accounting naturally for the distribution of secondary stress. It also explains the absence of x x / /, since, as Cable's diagram makes clear, a syllable is not perceived as a lift unless it is more strongly stressed than at least one adjacent syllable.

If we assume, with Maling, that the compound stress rule was general in Old English for prose as well as poetry, then we no longer need Cable's clashing stress constraint: the constraint is not a metrical convention but simply part of the stress-assignment to phrases. What differentiates Cable's proposal from the null hypothesis is not this constraint but rather his observation that a lexical stress which is not heavier than one adjacent syllable <u>is not a metrical stress</u>. This makes sense in terms of our mapping of templates to lines: a terminal S or W will not map to a syllable that is not in some sense a stress peak.

While there is clearly a great deal more to say before the meter of <u>Beowulf</u> is fully explicated, I believe the analysis proposed in this paper comes closer to an explanatorily adequate account than any theory proposed to date. A complete scansion of <u>Beowulf</u> in terms of my branching template will clearly be necessary before all the

details can be worked out, but the outline should be much like that set forth above. At the very least, this solution should contribute to the formulation of a better one.

NOTES

1. Half-line boundaries are marked in the manuscript by a point, in modern texts by a space.

2. 1164b is one of a group of so-called hypermetric verses, 1163-1168, 1705-1707, and 2995-2996, also 2173a, 2297a, which are atypical in being so very long. The maximum number of syllables in a normal verse is probably closer to five.

3. O'Neil, Wayne, personal communication to S.J. Keyser, quoted in Keyser (1969), 'Old English Prosody' (College English 30(5).333).

4. B.2488a is the only half-line in the poem with no unstressed syllables at all; B.386b has only three syllables, the normal minimum being four; and B.376 is overly long, having three word stresses in each half-line.

5. The notion of a "light" verse, proposed by A.J. Bliss in 1962, is essentially an attempt to make one of the supports optional (though not extrametrical).

6. I am indebted to Emmon Bach for the second scansion of this particular rhyme, although I had noticed the same phenomenon in one of Halle and Keyser's other examples.

7. Silent beats, like optional metrical elements, have long since been proposed for Old English meter. John C. Pope in 1942 suggested an isochronous scansion of Beowulf involving an optional initial rest, supposedly filled by a beat of the harp. This hypothesis, unfortunately, seems impossible to prove.

8. I did attempt to use binary trees, with labelling based on Maling's account of phrase stress, to see if I

could find a way to make terminal S, W (in Halle and Keyser's sense) fall out from the particular branching or other structural factors. I was unsuccessful: among other problems, such trees cannot handle identical syntactic structures with differing alliteration patterns, in particular double versus single alliteration; moreover, even if one W in the single-alliteration case is held to be a position of optional alliteration, there are examples of three-stress verses which show that either of two Ws (structurally differentiated) can alliterate in the right circumstances. Yet a third difficulty is the ambiguity involved in imposing binary structure on a three-stress phrase with no internal bracketing: such ambiguity is not reflected in the alliterative patterns.

9. Halle and Keyser's figure for double alliteration is 52%; I have not yet located the source of the discrepancy.

10. Note that the latter is a problem for Halle and Keyser, though not for Maling.

11. Traditional metrists -- see especially Bliss (1962) and Kendall (1983) -- usually consider the verb to be a particle, without metrically significant stress. Its normal position, they claim, is among the other unstressed particles at the beginning of the (half-) line, and it only acquires a metrical stress if it is displaced to some other position. Unfortunately for this claim, verbs in initial position often alliterate with a following NP. Bliss goes so far as to consider all such alliteration 'accidental', but as Cable (1974) points out, the phenomenon is much too frequent to be unintentional. Moreover, initial verbs occasionally bear the sole alliteration for the verse, so that even Bliss must admit certain exceptions.

12. I originally thought that the second half-line should be the strong one, since its alliteration almost always falls on the same syllable, while the a-line's alliteration varies between the first and second stress. One way of looking at this difference is to assume that the b-line is independent (strong) in terms of alliteration: the onsets of the stressed syllables in the b-line are arbitrary, while the onset of at least one stress in the "weak" or a-line is externally determined (by the head stave). Unfortunately the internal structure of the a-line presented such difficulties that I was forced to abandon this notion.

13. See Kiparsky (1975), (1977).

14. For instance, in Siever's terms, the verses in (37a) are both A-lines, those in (37b) are C-lines, and those in (37c) are D-lines.

15. Reed, Ann, Applications of an Alliterative Theory of Meter (unpublished manuscript, 1970), p. 9.

16. Reed, Ann, Prosodic Theory and the Formula (unpublished manuscript).

17. Those with at least five and possibly six stresses in the line.

18. Reed, Applications, p. 16.

19. Schlerman, Betty, personal communication.

20. Bliss, A.J., The Metre of Beowulf (Oxford: Blackwell, 1962), pp. 61-68.

21. Ann Reed has kindly allowed me access to her scansion of Beowulf, on which Halle and Keyser's theory is based. The three lines she scans WSWS are nothing of the sort:

B.853 þanon eft gewiton ealdgesiðas
B.2418 þenden haelo abead heorðgeneatum
B.2870 ower feor oðde neah findan meahte

are SWS, SWSW, and SWS, respectively, even by Halle and Keyser's scansions. I of course scan them all as SWSW.

22. Halle, Morris and Samuel J. Keyser, English Stress: Its Form, Its Growth, and Its Role in Verse (New York: Harper & Row, 1971), pp. 157-159.

23. Cable, Thomas, The Meter and Melody of Beowulf, (Chicago: University of Illinois Press, 1974), p. 29.

24. A 'resolved' stress is a light stressed syllable plus the following unstressed syllable acting together as one lift.

25. Cable, p. 88.

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