

ENGLISH STRESS

Its Form, Its Growth, and Its Role in Verse

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A Theory of Meter

What, then, exactly is Prosody? Our English word is not carried over from the Greek word with its uncertain and various meanings, but it must have come with the French word through the scholastic Latin; and like the French term it primarily denotes the rules for the treatment of syllables in verse, whether they are to be considered as long or short, accented or unaccented, elideable or not, etc., etc. The syllables, which are the units of rhythmic speech, are by nature of so indefinite a quality and capable of such different vocal expression, that apart from the desire which every artist must feel to have his work consistent in itself, his appeal to an audience would convince him that there is no chance of his elaborate rhythms being rightly interpreted unless his treatment of syllables is understood. Rules must, therefore, arise and be agreed upon for the treatment of syllables, and this is the first indispensable office of Prosody.

BRIDGES (1966)

1. Introduction

When a poet composes metrical verse, he imposes certain constraints upon his choice of words and phrases which ordinary language does not normally obey. The poet and his readers may not be able to formulate explicitly the nature of the constraints that are operative in a given poem; there is little doubt, however, that neither the poet nor the experienced reader would find great difficulty in distinguishing wildly unmetrical lines from lines that are straightforwardly metrical. Thus, few people familiar with the canon of metrical English verse from Chaucer to Yeats would disagree with the proposition that (1b) and (1c) are lawful embodiments of the iambic pentameter, whereas (1a) is not, even though (1a) has the same number of syllables as (1b) but (1c) has a different number:

- (1) (a) *Ode to the West Wind* by Percy Bysshe Shelley
- (b) *O wild West Wind, thou breath of Autumn's being*
- (c) *The curfew tolls the knell of parting day*

In addition, readers of verse possess the ability to categorize metrical lines as more or less complex. Thus, most readers would no doubt judge (1b) to be a more complex iambic pentameter line than (1c).

We shall look upon these readily observable abilities of experienced poetry readers as crucial facts that must be accounted for by an adequate theory of prosody. Such a theory, however, should be expected to do more than this; it should also help us to understand the nature of metrical verse and illuminate the relationship between a speaker's everyday linguistic

competence and his ability to judge verses as metrical or unmetrical and as complex or simple.

We propose that the aforementioned ability of readers and poets to make judgments about verse lines is due to their knowledge of certain principles of verse construction. This knowledge, much like the average speaker's knowledge of his language, is in general tacit rather than explicit. When questioned, people may be unable to give a coherent statement of the principles that they employ in judging verse lines in terms of metricality and complexity. It is therefore the task of the metrist to provide a coherent and explicit account of this knowledge, just as it is the task of the grammarian to make explicit what is known by the fluent speaker of a language.

The Nature of Meter

We propose to view meter as the encoding of a simple abstract pattern into a sequence of words. This is achieved by establishing a correspondence between the elements constituting the pattern and specific phonetic (or phonological) properties of the word sequence. The study of meter must therefore be composed of two separate parts, namely, the study of abstract patterns and the study of the correspondence rules which enable a given string of words to be viewed as an instance of a particular abstract pattern.

To make clear our intention here, let us consider a very simple example. One of the most rudimentary metrical patterns is one which consists of entities of a single type repeated some number of times. Examples of such patterns are given in (2):

- (2) XXX XXXX XXXXX
 XXX XXXX XXXXX
 XXX XXXX XXXXX

It is obvious that there is an infinity of arrangements of physical objects that can be said to realize one of these patterns—flowers in a flower bed, desks in a classroom, windows on the side of a house. A correspondence rule which said that each X was to be realized by a particular object (a flower, a desk, a window) would then tell us where to look for the patterns in (2). There is no need to instantiate the patterns by means of a static arrangement of objects, however; they could be equally well actualized by means of phenomena organized in a temporal sequence, as a series of drumbeats, a series of light flashes, a series of dance steps. All that would be required is that the correspondence rule be appropriately modified. When we choose to instantiate the pattern with a sequence of syllables, the result is a line of verse. Consider, in this regard, the verses in (3) by the Spanish poet Lope de Vega:

- (3) *Zagala divina,
bella labradora,
boca de rubles,
ojos de paloma.*

Each of the lines in (3) contains six syllables.¹ Thus, we may say that the metrical scheme underlying this poem is

XXXXXX

and that the correspondence rule is one which establishes a one:one correspondence between syllables of the line and X's of the metrical pattern. That this is only a first approximation of the correct correspondence rule, however, becomes apparent when we look at the lines in (4), which immediately follow those in (3) in the poem:

- (4) *Santísima Virgen,
soberana aurora,
arco de los cielos,
y del sol corona.*

The second line of (4) has seven syllables rather than the expected six. But we note that in this line a word ending with a vowel is followed by a word beginning with a vowel. It is a well-known feature of Spanish verse that vowel sequences may count as the metrical equivalent of a single syllable, in which case they are said to exhibit "synalepha." This is purely a metrical convention. The commonly held idea that the vowel sequences in question are always slurred together in pronunciation is simply not true. Baehr (1962) observes that synalepha occurs in dramatic poetry even where the word ending with a vowel is spoken by one character and the word beginning with a vowel is spoken by a different character. As an example, he cites (p. 21) the line from Tirso de Molina:

Ay, Aurora hermosa. — Adiós

where the vowels joined by the tie are counted as a single metrical entity even though the words are assigned to different actors.

The conditions under which the abstract pattern XXXXXX is realized can thus be expressed by means of the alternative correspondence rules (5a) and (5b):²

¹ We use the term "syllable" here as the equivalent of "sequence of speech sounds consisting of one syllabic sound (vowel) preceded and followed by any number of consecutive nonsyllabic sounds (consonants)." In particular, we do not take a position on the vexing question of whether or not utterances can be uniformly segmented into syllables.

² Needless to say, the analysis presented here is not intended to do justice to the intricacies of Spanish syllable-counting verse but serves merely as an expedient example with which to begin our discussion of metrical theory.

-) (a) Each element X of the abstract metrical pattern corresponds to a single vowel in the verse line
OR
(b) Each element X of the abstract metrical pattern corresponds to one or more consecutive vowels in the verse line

The second line of (4) is metrical by virtue of rule (5b), whereas all the other lines in (4), as well as those in (3), are metrical by virtue of (5a).

Metrical Complexity or Tension

We mentioned earlier that readers of poetry are capable of distinguishing not only metrical from unmetrical lines but also more complex metrical lines from less complex lines. Thus, it seems correct to say that while all the lines in (3) and (4) are metrical, the second line of (4) is more complex than the other lines. The order of the alternatives in (5) is significant in this respect, for it is an order of increasing complexity: (5a) admits as metrical only lines where each vowel is matched up with an X of the abstract metrical pattern; the second alternative, (5b), enlarges the class of lines admitted as metrical by allowing us also to match up any number of consecutive vowels in the line with a single X.

We shall assume here and henceforth that correspondence rules are composed of alternatives which can be arranged in such a fashion that later ones subsume—and hence are generalizations of—earlier ones. In effect each subsequent alternative allows more lines to be deemed metrical than the earlier alternatives. But this means that by invoking a more general correspondence rule, we make the line more, not less, complex: if the means whereby a given abstract pattern is actualized are narrowly restricted, the pattern is readily perceived as being present in the data; on the other hand, if the means whereby a pattern is actualized are allowed to be of a great variety, it becomes correspondingly difficult to discern that the pattern is encoded in a given sequence of words. Thus, while the iambic pentameter pattern in (1c) is immediately obvious, considerable sophistication is required to see that the same pattern is present in (1b). We are proposing, therefore, that a line in which later alternatives of the correspondence rules must be invoked is metrically more complex than one in which earlier alternatives are invoked. The complexity of a line increases also with the number of instances in the line where later alternatives are invoked. The order of the alternatives in the correspondence rules is thus our formal device for capturing the important concept of metrical complexity, or “tension,” which plays such a large role in contemporary discussions of meter.

The increased difficulty in perception of the pattern which results from utilizing more complex alternatives of the correspondence rules explains why one does not find lines in which all and only the most complex correspondence rules are utilized. Such lines would exceed the threshold of the reader's ability to perceive the pattern. We shall see later ((69) and the accompanying discussion) how this holds true of iambic pentameter verse. The same increased difficulty in perception no doubt explains why one would not expect to find lines in Spanish verse which realize the abstract metrical pattern XXXXXX in a way that would make it necessary to invoke (5b) six times in the same line.

We shall now scan some lines of Spanish verse which are more complicated than those in (3) and (4). When a vowel can be shown to actualize an X by virtue of the first alternative (5a), we shall leave that vowel unmarked; when the alternative (5b) has to be invoked because a vowel sequence actualizes an X, we shall underline the sequence. The X enclosed in parentheses at the end of certain lines represents the so-called "feminine close" (*verso llano*) which is an optional variant of every Spanish meter.

Yo sueño que estoy aquí

X XX X X X X

destas prisiones cargado,

X X XXX X X(X)

y soñé que en otro estado

X X X X X X X(X)

más lisonjero me vi.

X XX XX X X

¿Qué es la vida? Un frenesí.

X X X X XXX

¿Qué es la vida? Una ilusión,

X X X X XXX

una sombra, una ficción

XXX X X X X

y el mayor bien es pequeño;

X XX X X X X(X)

que toda la vida es sueño,

XXXXX X X X(X)

y los sueños, sueños son.

XX XX XX X

(CALDERÓN DE LA BARCA, *La vida es sueño*)

For purposes of discussion we may assume that each underline increases the complexity of the verse by one. Thus, for example, the sixth line of the verse

above has a complexity of 3, whereas the first line has a complexity of 1 and the last line a complexity of 0. (We return to the question of measuring the complexity of a line in our discussion of the iambic pentameter.)

Different Correspondence Rules for the Same Abstract Pattern

Since metrical patterns are separate from the rules that map these patterns onto actual lines of verse, we must expect to find cases where, by virtue of different correspondence rules, the same metrical pattern is exhibited by totally different verbal material. Compare, from this point of view, the lines from Iriarte's *Los gustos estragados* given in (6a) and the English nursery rime in (6b):

- (6) (a) *Que corren,*
 X X (X)
Que saltan,
 X X (X)
Que rien,
 X X (X)
Que parlan,
 X X (X)
Que tocan,
 X X (X)
Que bailan,
 X X (X)
Que enredan,
 X X (X)
Que cantan;
 X X (X)
- (b) *A swárm of bees in Máy*
 X X X
is wóρθ a lóad of háy;
 X X X
A swárm of bees in Júné
 X X X
is wóρθ a sílver spóon;
 X X X
A swárm of bees in Julý
 X X X
is not wóρθ a flý.
 X X X

In these two poems the abstract metrical patterns are identical, namely, XXX, but the correspondence rules are not. For (6a) the correspondence rule is (5); for (6b), on the other hand, the correspondence rule is (7a):

- (7) (a) Each element X of the meter corresponds to a fully stressed vowel³
OR
(b) to a subsequence consisting of one or two fully stressed vowels within the same syntactic constituent, provided that no other vowel appears between them

The rime in (8) is scanned by means of the correspondence rule (7a):

- (8) *Ráin, ráin, gó awáy*
X X X X
Cóme agáin anóther dáy
X X X X
Little Jóhnnny wánts to pláy.
X X X X

Consider, now, the rime in (9):

- (9) *Ríde a cóck-hórse to Bánbury Cróss*
X \overline{X} X X
To sée a fíne lády upón a whíte hórse
X \overline{X} X \overline{X}
Rings on her fingers, bélls on her tóes
X X X X
Shé shall have músic wheréver she góes.
X X X X

The last two lines of (9) show four fully stressed vowels and are readily seen to correspond to a four-unit meter by virtue of (7a). Notice, however, that the first and second lines contain five and six fully stressed vowels, respectively. In order to assign these lines to a four-unit meter, it is necessary to resort to the second alternative of (7), according to which two fully stressed

³ By "fully stressed vowel" we mean the vowel that has the main stress in the word; all other vowels in the word are subsumed under the term "unstressed." Thus, in the word *instrumentality*, for example, the antepenult will be viewed as "stressed" and all other vowels lumped together as "unstressed." Vowels with subordinate stress in compounds are fully stressed since they bear the main stress of the word in which they occur, e.g., *horse* in *cóck-hórse* and *Bánbury* in *Bánbury Cróss* in (9). Also, the verbal particle, as well as the verb, is fully stressed in constructions such as *eat up*. But clitics such as articles, conjunctions, prepositions, clitic adverbs, and verbal auxiliaries do not contain fully stressed vowels.


vowels in the same syntactic constituent with no vowel intervening may correspond to a single metrical element. In the first line the sequence *cóck-hórse* and in the second line the sequences *fíne lády* and *whíte hórse* may be assigned to a single X by (7b). Therefore the first two lines may also be seen to correspond to a four-unit metrical pattern, though less directly.

The correspondence rule (7), then, not only allows all of the lines in (9) to be adjudged metrical, but it also assigns to them a relative order of complexity. The last two lines are the most neutral realizations of the abstract metrical pattern XXXX since only rule (7a) is utilized; the first line is the next complex, with (7b) invoked once; the second is the most complex, with (7b) used twice. This assignment appears to us to be intuitively correct.

The meters of English nursery rimes commonly allow one optional X. Thus, we may also have patterns such as (10) and (11):⁴

(10) XX(X)

Thrée wíse mén of Gótham

X  X

Wént to séa in a bówl

X X X

If the bówl had been strónger

X X

My sóng had been lónger.

X X

(11) XXX(X)

Thirty dáy's hath Septémber

X X X

Ápril, Júné and Novémber;

X X X

Fébruary has twénty-eight alóne

X X X X

Áll the rést have thirty-óne,

X X X X

Excépting léap yéar, thát's the time

X  X X

When Fébruary's dáy's are twénty-níne.

X X X X

⁴ This is reminiscent of Old English meter, which we discuss in the next section. Indeed, there are other obvious parallels between nursery rimes such as those scanned here and Old English poetry. For a discussion of the relationship among nursery rimes, Old English meter, and Middle English alliterative verse as exemplified in *Gawain and the Green Knight*, see Keyser (1969a) and references there.

2. Old English Alliterative Verse

The verse form which is exemplified in the Old English epic poem *Beowulf* shares certain fundamental properties with the English nursery rimes just examined. It is, however, far more complicated, as is to be expected of a sophisticated art form. The Old English alliterative verse line had a specified number of vowels with primary stress but, unlike the nursery rimes, the Old English verse required, in addition, that the consonant clusters preceding certain stressed vowels in the line alliterate. As a typical example consider (12):

- (12) *bāt under béorge. Béornas géarwe* (B.211)
boat beneath the sea-cliffs. Warriors eagerly

This line has four vowels with primary stress, the first three of which alliterate, that is, are preceded by identical consonants (indicated in boldface type). In order to capture these facts in our metrical theory, we postulate two sorts of abstract metrical entities, S and W, arrayed in the pattern (13), and the correspondence rule (14):

- (13) SSSW

- (14) (a) Each abstract entity of the verse, that is, each S or W, corresponds to a single syllable bearing primary stress

DEFINITION: If in two or more stressed syllables the zero or more consonants which precede the vowel are identical or begin with an identical consonant or *s*-cluster, the syllables alliterate⁵

- (b) Syllables in S positions alliterate; syllables in W positions do not alliterate

In accordance with (13) and (14), we would scan (12) as in (15):

- (15) *bāt under béorge. Béornas géarwe*
S S S W

⁵ In other words, all syllables that begin with a stressed vowel (that is, all syllables with zero consonants before the stressed vowel) alliterate, as do syllables where the stressed vowel is preceded by the same single consonant. A stressed syllable beginning with more than one consonant alliterates with a stressed syllable which begins with any number of consonants as long as the first consonant of the respective syllables is the same. However, stressed syllables beginning with an *s*-cluster alliterate only if the obstruent following the *s* is the same.

Certain exceptional alliterations have been omitted from the definition. Thus [k] and [č] alliterate with each other, as do [g] and [y]. Bliss (1958, p. 11) suggests that the rules of alliteration had become traditional. However, it is conceivable that alliteration was defined on an abstract level where [k] and [č] were identical segments, as were [g] and [y].

Other lines which are similarly scanned are given in (16):

- (16) (a) *mónegum mǣghum méodosetla oftéah* (B.5)
 S S S W
 wrested the mead-seat from many tribes
- (b) *lifde æfter lāpum, lānge þrāge* (B.1257)
 S S S W
 lived after the hateful foe for a long while
- (c) *Hē geféng þā fételhilt, fréca Scýldinga* (B.1563)
 S S S W
 He, warrior of the Scyldings, seized the linked hilt

A rather interesting set of verses of this type appears in (17):

- (17) (a) *dríhtsele dréorfāh, þonne dæg lǣhte* (B.485)
 S S S W
 the splendid hall stained with blood, when day dawned
- (b) *wréophenhilt ond wýrmfāh. Ðā se wisa spræc* (B.1698)
 S S S W
 with twisted hilt and serpentine ornamentation. Then the wise one spoke

In each of these lines we find compound words: *dríhtsele* and *dréorfāh* in (17a) and *wréophenhilt* and *wýrmfāh* in (17b). We have seen in our discussion of Old English stress that the second element of such words contains non-primary stress. The scansions indicated in (17), then, are based upon the premise that in compound words subsidiary stress is not metrically significant. This assumption is borne out by the fact that second elements of compound words never alliterate. Thus, in the discussion which follows, we assume that only primary-stressed syllables may actualize S's and W's. These syllables are generally to be found only in major lexical items—nouns, verbs, adjectives, nonclitic adverbs, and the first element of compound words. In addition, we assume as a special convention that adjectives always contain primary-stressed vowels, even when they modify nouns. There are occasional lines in which prepositions and personal and demonstrative pronouns actualize S positions. (See note 7 for further details.)

A cursory inspection of the verses in *Beowulf* reveals that approximately thirty percent of the lines are of the pattern shown in (15), (16), and (17). But what of the remaining lines? There are several other verses which indicate that while the pattern in (13) and the rule in (14) are basic to *Beowulf* prosody, certain modifications are needed in order to account for the full variety of lines in the poem. Consider, to begin with, the lines in (18):

- (18) (a) *éaforum Écgwelan, Ár-Scyldingum* (B.1710)
 S S S
 the offspring of Ecgwela, the glorious Scyldings

- (b) *sē for ándrysum éalle bewéotede* (B.1796)
 S S W
 who in courtesy watched over all

In (18a) there is no W position since all the syllables with primary stress begin with an alliterating segment. This suggests that the abstract metrical pattern (13) be modified so as to allow the final W to be optional. Furthermore, the initial S of the abstract metrical pattern is optional as well since (18b) exhibits only two syllables which are assignable to S positions in accordance with rule (14). We have already seen in (10) and (11) that an optional abstract metrical entity is characteristic of the meter of English nursery rimes, and Old English poetry shares this feature. Because lines in which the optional entities are filled are much more common than those in which the optional entities are absent, we shall introduce an asterisk notation to represent the fact that omission of the optional entity makes the line more complex. We therefore modify (13) as in (19) but leave the correspondence rule (14) as it is:

- (19) (S)*SS(W)*

Notice, however, that the abstract pattern (19) now makes the prediction that one ought to find lines in *Beowulf* corresponding to the metrical pattern SS and that this pattern ought to be found less frequently than any of the three meters mentioned earlier. (Recall that by starring the parentheses in (19) we indicate the fact that when the enclosed material is omitted the line is more rather than less complex.) These expectations are, in fact, borne out: there are lines of the type SS, as in (20), and they are less common than the lines discussed previously (see (30)):

- (20) (a) *þone sēlestan sæcyninga* (B.2382)
 S S
 the best of sea-kings
 (b) *op þæt hē fǣringa fýrgenbēamas* (B.1414)
 S S
 until he suddenly mountain-trees

Although the modified pattern (19) allows us to handle all the lines cited thus far, it does not resolve all difficulties. Thus, lines such as those in (21) are ruled out, but they are clearly metrical:

- (21) (a) SWWSW
 fréan Scýldinga. Gewītaþ fōrð bēran (B.291)
 S W W S W
 lord of the Scyldings. Go forth bearing

(Continued on p. 150)

21 (Continued)

(b) SWWS

mæg Ælfheres; geséah his mōndryhten

(B.2604)

S W W S

kinsmen of Ælfhere; he beheld his lord

(c) SSWWSW

hēard hēr cūmen, sōhte hōldne wīne

(B.376)

S S W W S W

come boldly here, and visited a trusty friend

(d) SSSWW

Bēowulf wæs brēme—blæd wīde spráng—

(B.18)

S S S W W

Beowulf was renowned—his fame ranged afar—

In order to account for (21), it is necessary to allow the occurrence of more than one W between internal S positions. On the basis of the lines cited here, one might propose to permit two W positions to occur between the penultimate and ultimate S, giving the pattern in (22), where the unstarred parentheses enclose optional material that does not affect the complexity of the line:

(22) (S)*S(W)(W)S(W)(W)*

However, even this modification is not sufficient since it excludes a line containing two or three S positions preceded by a W position. The existence of such verse types is illustrated in (23):

(23) (a) WSSWSW

gebād wīntra wórn, ær hē on wég hwúrfe

(B.264)

W S S W S W

he lived to see many a winter before he turned away

(b) WSSSW

þæt hē hāfde mōd mīcel, þēah þe hē his mágum nāre

(B.1167)

W S S S W

that he had much courage, though he might not have been with his kinsmen

(c) WSSS

hāfde māre mægen. Þā hine on mōrgentīd

(B.518)

W S S S

he had greater strength. Then him in the morning

(d) WSSW

“Ne frín þū æfter sælum! Sórð is geníwod

(B.1322)

W S S W

“Do not ask after happiness! Sorrow is renewed

(e) WSSWW

Gewiton him þā fēran, — flóta stille bād (B.301)
W S S W W

Then they started out,—the ship remained still

(f) SWSSW

fif nihta fyrst, oþ þæt unc flōd tōdrāf (B.545)
S W S S W

a space of five nights, until the flood separated us

There are no cases in *Beowulf* of two W positions before the initial S or of two W's after the initial S in a line containing three S positions. There are, moreover, no cases of a final S being followed by three W positions. Nor are there lines that have more than three nonalliterating stressed syllables. To capture these facts, as well as the facts of (23), in which a W position precedes two or three S positions, we modify the abstract underlying pattern (22) as in (24):

(24) (W)(S(W))*S(W)(W)S(W)(W)*

CONDITION: no verse can have more than three W positions

The condition that we have imposed rules out such nonexistent abstract patterns as SWSWWSWW, WSWWSW, and WSWWSWSW.

While (24) is empirically adequate in that it makes no false predictions, it fails to provide true insights into the nature of the verse line in *Beowulf*. It also permits a great many more abstract patterns than are actually attested, as shown in (27), where we list systematically all patterns allowed by (24). To simplify the task of listing, we have divided the formula (24) into two halves: the first half subsumes all substrings allowed by the first three symbols; the second half subsumes the substrings allowed by the last six symbols. The first half thus allows for the six substrings in (25):

- | | | |
|------|---|-----|
| (25) | φ | WS |
| | W | SW |
| | S | WSW |

The second half allows for the eight substrings in (26):

- | | | |
|------|------|-------|
| (26) | SS | SWSW |
| | SWS | SWWSW |
| | SWWS | SSWW |
| | SSW | SWSWW |

The ninth line-half SWWSWW is ruled out since it violates the condition that no line contain more than three W's.

A verse pattern is constituted by combining any of the six patterns in (25) with any of the eight patterns of (26) as shown in (27):

(27)

First
Half

Second Half

	SS	SWS	SWWS	SSW	SWSW	SWWSW	SSWW	SWSWW
ϕ	SS	SWS	SWWS	SSW	SWSW	SWWSW	SSWW	SWSWW
W	WSS	WSWS	WSWWS	WSSW	WSWSW	—	WSSWW	—
S	SSS	SSWS	SSWWS	SSSW	SSWSW	SSWWSW	SSSWW	SSWSWW
WS	WSSS	WSSWS	WSSWWS	WSSSW	WSSWSW	—	WSSSWW	—
SW	SWSS	SWSWS	SWSWWS	SWSSW	SWSWSW	—	SWSSWW	—
WSW	WSWSS	WSWSWS	—	WSWSSW	—	—	—	—

The patterns represented by dashes in (27) are ruled out by the constraint limiting the number of W positions to three or less. The patterns with lines drawn through them, on the other hand, are allowed by (24) but are not found in the poetry. Out of 37 patterns permitted by (24), twelve are unattested. This is a rather large number and suggests that the theory developed here does not adequately represent the data.

Up until now we have operated on the assumption that the verse in *Beowulf* has a purely linear structure, as indicated in the abstract pattern (24). In this respect the discussion here has departed from most traditional treatments of Old English meter, which assume that between the line and the sequences of S and W there intervenes another theoretical entity, the half-line. We shall show directly that with this new entity a greatly improved account of the *Beowulf* meter can be obtained.⁶

It must be noted at the outset that the half-line is a metrical construct, not a syntactic or phonetic entity. Although this view is implicit in many discussions of the half-line, it is commonly somewhat obscured by the insistence of metrists on various secondary phenomena that are correlated with the half-line but cannot be taken as defining characteristics. Typical of the way the half-line is usually presented is the following remark by Bliss (1962):

The lines of OE poetry are divided by a pause (one of the natural breath-pauses we have already discussed) into two half-lines or *verses*; this pause is usually marked in printed texts by a wider space and in the MSS by a point. The first verse in each line is known as the *a*-verse, the second as *b*-verse. The *metrical unit* in OE is not, as in MnE, the line, but the verse; that is, although the structure of the verse is very strictly governed by elaborate rules, the combination of the verses into lines is free—the structure of the *b*-verse bears no special relationship to that of the *a*-verse (pp. 11–12).

⁶ It should be noted that the splitting of the lines into two halves to facilitate the listing of the abstract patterns in (27) was a purely expository step without theoretical significance. The line-halves of (27) are therefore not to be identified with the half-lines under discussion here.

Taken at face value Bliss's assertion that the half-line is a phonetic entity defined by a pause is false, for there are lines such as those in (28) where no pause marks the division into half-lines:

- (28) (a) *hū ðā áþelingas ellen frémædon* (B.3)
 W S S W
 how those nobles performed valorous deeds
- (b) *Sétton sǣmēþe sīde scýldas* (B.325)
 S S S W
 seawearry, they set down the wide shields

As a matter of fact, Bliss himself appears to realize that the presence of a major syntactic boundary cannot be a defining property of the half-line, for he tells us that "every editorial punctuation mark in printed OE texts must correspond to a *cæsura*; but the *cæsura* is often unmarked. In Anglo-Saxon MSS the *cæsura* is sometimes marked by a point, *even when no punctuation would now be considered appropriate*" [emphasis ours] (p. 10). A *cæsura* may thus occur whether or not it is syntactically justified by the text. The sequence delimited by the *cæsura*, then, is not a syntactic entity; it is primarily a metrical entity postulated for purely metrical reasons. This does not mean, of course, that the high degree of coincidence between half-line and major syntactic entity is of small importance. On the contrary, it is a fact of great significance, but the coincidence cannot be a defining feature of the half-line. The situation under discussion is quite similar to that in artistic (as opposed to popular) verse, where although in the overwhelming majority of cases verse boundaries coincide with major syntactic boundaries, the fact that enjambment is allowed proves that syntactic boundaries cannot be used to define the line.

While we basically agree with the traditional theory that the Old English line is composed of two half-lines, we are unable to accept proposals concerning the composition of the half-line, especially those advanced by E. Sievers (e.g., (1885)). We reject these theories for reasons that were detailed in Keyser (1969a) and will not be repeated here.

The metrical theory that we propose to account for the verse of *Beowulf* is given in (29):

- (29) (a) ABSTRACT METRICAL PATTERN RULES
- (i) A verse line is composed of a first and second half-line
 - (ii) The first half-line is composed of (X)*X
 - (iii) The second half-line is composed of X(W)*

(Continued on p. 154)

29 (Continued)

(b) CORRESPONDENCE RULES

- (i) 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

- (ii) Syllables in S positions alliterate; syllables in W positions do not alliterate

(c) CONDITIONS

- (i) No half-line is shorter than two syllables

- (ii) If a line contains a line-internal clause or sentence boundary, the boundary must coincide with that of the half-line

Given these rules, the first half-line in *Beowulf* may have any of the seven abstract patterns shown in the left-hand column of (30), whereas the second half-line may assume any of the five patterns shown along the top of (30). Since any of the seven first half-lines can be followed by any of the five second half-lines, we expect to obtain 35 distinct abstract patterns, as illustrated.

(30) ¹ First Half- Line	Second Half-Line				
	SW	S	SWW	WSW	WS
SS	SSSW 999	SSS 277	SSSWW 77	SSWSW 67	SSWS 17
S	SSW 665	SS 200	SSWW 21	SWSW 25	SWS 9
SW	SWSW 405	SWS 95	SWSWW 27	SWWSW 17	SWWS 2
WS	WSSW 137	WSS 33	WSSWW 1	WSWSW 19	WSWS 3
SSW	SSWSW 38	SSWS 8	SSWSWW 4	SSWWSW 3	SSWWS 1
WSS	WSSSW 13	WSSS 6	WSSSWW 0	WSSWSW 0	WSSWS 0
SWS	SWSSW 6	SWSS 1	SWSSWW 0	SWSWSW 0	SWSWS 0

The theory outlined in (29) specifies the 35 line types shown in (30), of which only six are unattested (namely, those accompanied by the numeral "0"). This is clearly an improvement over the theory postulated in (24), where twelve of 37 patterns postulated were unattested. The numbers beneath the metrical types listed in (30) refer to the number of lines in *Beowulf* which exhibit the associated metrical sequence. The scansions on which these statistics are based are the work of Ann Reed.⁷ In making the scansions, the eleven so-called "hypermetrical" lines (see Sievers (1905, §23)) were included among the regular lines, and six lines were omitted because of a corrupt manuscript.

Among the line types listed in (30) there are a number of duplicates: SWS, SSWS, SWSW, and SSWSW appear twice. In each pair, however, the metrical boundary between the first and the second half-line is in a different place. For example, in the second column SWS represents a sequence with the boundary after the W, i.e., SW/S, while in the last column the boundary occurs before the W, i.e., S/WS. In view of the condition (29cii), these are not true duplicates for they allow different placement of the line-internal clause or sentence boundary, and the poet takes advantage of this freedom. We summarize the statistics of these pairs of metrical patterns in (31) on the next page.

In the case of the metrically ambiguous lines listed in (31), it was necessary to make a certain numerical adjustment. Consider, for example, the sequence SWSW. As indicated in (31), 198 lines in *Beowulf* correspond to the

⁷ Mrs. Reed's study of Old English prosody is still in progress. We are grateful to her for allowing us to summarize her initial findings, and we are looking forward to a publication of her complete study in the not too distant future.

The scansions upon which the numerical data in (30) are based proceeded under the following assumptions. Mrs. Reed supposes primary stress for all adjectives, nouns, and verbs. However, *eom*, *bēon*, and *wesan* are unstressed except when they appear in the imperative mood and, in one case, in the subjunctive mood (see *wære* B.3180). In addition, the preterite present verb *sculan* is treated as unstressed throughout, while the verbs *magan* and *āgan* are sometimes stressed and sometimes not.

Nonclitic adverbs are generally stressed. Clitic adverbs such as *swā*, *þā*, *þonne*, and *ne* are never stressed, nor is *tō* as an intensifier. In addition, the nonclitic adverbs *hū*, *hūru*, and *swylce* are treated as unstressed. Finally, the following adverbs exhibit variable behavior, sometimes requiring stress and sometimes not: *nō*, *nū*, *þær*, and *gið*.

An apparent regularity appears in adverb pairs such as *þær on*, *þær inne*, *elles hwergen*, *þā gēn*, namely, when two such adverbs occur adjacent to each other and in close construction, only one (usually the second) bears a primary stress. In other words, these adverbs seem to behave precisely like modern English *wherefore*, *however*, *therein*, *thereupon*, etc.

Personal pronouns are generally unstressed although occasionally they too exhibit primary stress, presumably under emphatic stress. The substantive pronouns *selfa*, *āghwylc*, *āghwæðer*, *gehwæðer*, and *welhwylc* are treated as bearing primary stress in more than half of their occurrences.

(31)	NUMBER OF LINES
VERSE	WITH VERSE-INTERNAL CLAUSE
TYPE	OR SENTENCE BOUNDARY
SW/S	54
S/WS	5
SS/WS	16
SSW/S	7
SW/SW	198
S/WSW	12
SS/WSW	53
SSW/SW	30

line type SW/SW and 12 lines correspond to S/WSW, for a total of 210 lines with internal clause or sentence boundary. However, an additional 220 lines exhibit the metrical sequence SWSW without an internal boundary to indicate whether the line is an example of SW/SW or S/WSW. To resolve this unclarity, we have assigned the ambiguous lines to the categories in question in proportion to their occurrences in the clear cases. Thus, of the 210 SWSW lines with clear internal boundaries, 198 lines or 94 percent are of the type SW/SW while 6 percent are of the S/WSW variety. We therefore counted 207 (or 94 percent) of the 220 unclear lines as belonging to the SW/SW pattern and the remaining 13 (or 6 percent) as belonging to the S/WSW pattern, thereby arriving at the respective totals of 405 and 25 shown in (30). Similar calculations were carried out for the other duplicate metrical patterns which are listed in (31).

Differences in the location of the syntactic boundary are practically unattested in the remaining metrical patterns. There are eight lines in *Beowulf* where the verse-internal syntactic boundary does not coincide with the boundary between half-lines, thereby violating condition (29cii). Since there are about 1500 lines with verse-internal syntactic boundaries, these eight lines, which we list in (32), constitute a small residue of metrically deviant verses:

- (32) (a) *æt fótum sāt fréan Scýldinga; gehwylc hiora his férhpe tréowde* (B.1166)
 S W S W S W
 at the foot of the lord of the Scyldings; each of them trusted in his spirit
- (b) *Flód blóde wéol—fólc tō sāgon—* (B.1422)
 S W W S W
 The water surged with blood—the people gazed—

- (c) "*Geþenc nū, se mæra mæga Héalfdenes* (B.1474)
 W S S W
 "Remember now, O famous son of Healfdene
- (d) *Ðā cōm nōn dæges. Næs ofgēafon* (B.1600)
 W S W S W
 Then came the ninth hour of the day. They quitted the headland
- (e) *cwæð, hē þone gūðwine gōdne téalde* (B.1810)
 W S S W
 he said he counted it a good battle friend
- (f) *wésan, þenden ic wéalde wīdan rīces* (B.1859)
 S W S S W
 there shall be while I rule this wide kingdom
- (g) *éðbegēte þām ðe ær his élne forléas* (B.2861)
 S S S W
 easy to obtain for him who before lacked courage
- (h) *cwæð, hē on mērgenne mēces écgum* (B.2939)
 W S S W
 he said, he in the morning with the sword's edge

Recall that in our account of the metrical theory of *Beowulf* in (29), we have stated the abstract metrical pattern and correspondence rules in such a fashion that later alternatives subsume earlier alternatives, and we have adopted the convention that lines which are scanned by later alternatives of the metrical rules are to be considered more complex than lines scanned by earlier alternatives. We have also noted that the metrical complexity of a line type and its frequency of occurrence ought to be inversely related, that is:

- (33) The more complex the line in terms of (29), the less frequently it occurs.

This inverse relationship is quite plausible on the common sense grounds that, in general, people avail themselves of more complex means of expression less frequently than they utilize more simple means. However, it should be immediately noted that while the statement (33) will hold for very large bodies of data, deviations may be expected in restricted bodies of data. A poet may decide to write a poem which exhibits only the more complex actualizations of the pattern, and as a result the statistics of the poem may violate the inverse relationship that may be expected to hold in general. But this is a purely local deviation that does not vitiate the general principle.

Keeping these limitations in mind, we proceed to explore the statistics of (30) in some detail in order to obtain a clearer grasp of the extent to which (33) is valid. We consider first the second half-line, where we have assumed that $X(W)^* \rightarrow SW$ is the simplest actualization. Observe that in each row of

(30) the numbers in the first column are larger than those in the other columns. There is no logical reason why this should be the case; indeed, only the first two half-line types, SS and S, were considered when the order of complexity of second half-lines was established. The fact that, for any given actualization of the first half-line, the least complex actualization of the second half-line (i.e., SW) is also the most numerous is therefore important support for the validity of (33).

The second most frequent half-line type is S, which is generated by the second alternative of the abstract metrical pattern (29aiii) in conjunction with the first alternative of the correspondence rule (29bi). To generate the half-line type SWW, which heads the third column in (30), we must invoke the first alternative of the abstract metrical pattern (29aiii) but make use of the second alternative of the correspondence rule, namely, $X(W)^* \rightarrow SWW$. Since the numbers in the second column, headed by S, are larger than those in the third column, headed by SWW, we shall say that later alternatives in the abstract metrical pattern increase complexity less than do later alternatives in the correspondence rules. It is not clear from the statistical data whether the second half-line SWW is more complex than WSW, the next column in (30). However, the data do appear to support the view that the most complex half-line is WS (the last column of (30)), which is generated by invoking the second alternative of both the abstract metrical pattern (29aiii) and the correspondence rule (29bi).

When we examine the statistics of occurrence of first half-lines, we find that these are somewhat less perspicuous. The numbers in the first column of (30) give the following order of initial half-lines: SS, S, SW, WS, SSW, WSS, SWS. The order of increasing complexity, however, is SS, S, SSW, WSS, SWS, SW, WS. Thus the order actually observed deviates from the expected order in that lines beginning with half-lines made up of three elements (SSW, WSS, SWS) are less frequent than lines beginning with half-lines made up of two elements (SW, WS). This deviation appears to us to be a "local phenomenon," the result of an idiosyncratic avoidance by the *Beowulf* poet of lines with long initial half-lines. If we are correct, this departure from the expected order will not be found in other examples of Old English alliterative verse. We are at present not in a position to perform counts like those in (30) on the entire Old English poetic corpus. Therefore, we cannot exclude the possibility that the deviation under discussion reflects a fundamental structural property of Old English alliterative verse that we have failed to take into account properly.

Regardless of how this issue is ultimately resolved, however, the data of (30) suggest rather strongly that claim (33) is correct, that is, that the complexity of a line type as defined here is intimately related to the frequency

with which it occurs. This in turn provides additional support for the metrical theory (29) that has been advanced here. Of the 35 verse patterns allowed by (29), we were able to find only 29 in *Beowulf*. At first sight this might suggest that (29) needs to be further restricted to rule out the six unattested patterns. Note, however, that the unattested patterns are among the most complex generated by the theory (29). In view of the claim (33) that complexity is inversely related to frequency, it is to be expected that the line types under discussion will be extremely rare. In fact, it is not surprising that they are not at all attested in a relatively small corpus such as *Beowulf*; rather, their nonoccurrence is totally compatible with (29).

In sum, then, an examination of the line types in *Beowulf* suggests that there is a natural correlation between frequency of occurrence and line complexity as defined by (29), namely, that set forth in (33). However, in order to maintain this relationship, it is necessary to assume for *Beowulf* the principles of evaluation in (34):

- (34) FOR THE *Beowulf* POET:
- (a) Later alternatives of the abstract metrical pattern rules increase complexity less than later alternatives of the correspondence rules
 - (b) In the first half-line, three-entity sequences are always more complex than two-entity sequences.

It seems to us rather striking that it is possible to impose so coherent an order on the frequency of lines as that in (30), even given the need for the additional principles of (34). The question of whether these principles are too high a price to pay for the order of (30) must await further research.

We now turn to the condition (29ci), that is, the requirement that half-lines be at least two syllables long. This constraint rules out lines such as (35), which are nowhere attested:

- (35) *hēold hēal*
he held the hall

According to Sievers' theory (1885), on the other hand, the half-line is normally at least four syllables long, but this forces Sievers either to declare as unmetrical or to emend half-lines such as those in (36):

- (36) (a) *hrēas blāc* (B.2488)
he fell pale
(b) *man geþēon* (B.25)
one (shall) prosper
(c) *hāt in gān* (B.386)
bid them come in
(d) *nēan bīdan* (B.528)
await at close quarters

The restriction (29ci) does not lead to these undesirable consequences and is therefore to be preferred.⁸

It was noted in Keyser (1969b) that another major inconvenience of Sievers' theory is that it forces us to emend lines which in the text are perfectly clear and make excellent sense semantically as well as syntactically. Among such lines are the five quoted in (37), which, as shown, are handled without difficulty by the theory proposed here:⁹

- (37) (a) *líssa gelóng; ic lýt háfo* (B.2150)
 S S S W
 favor at hand; I have little
- (b) *méaglum wórdum. Méodusencum* (B.1980)
 S W S
 earnestly in words. With the mead-cup
- (c) *sécg bétsta, mē for súnu wýlle* (B.947)
 S W S W
 best of men, I desire as a son
- (d) *Sórh is mē tō sécganne on séfan mīnum* (B.473)
 S S S W
 It is a sorrow to me to tell in my heart
- (e) *hréas blác; hōnd gemúnde* (B.2488)
 S W S W
 he fell pale; his hand remembered

⁸ In Keyser (1969a) a further observation was made which was incorporated there into a separate metrical constraint, namely, the last S in a verse always has a vowel of lesser stress somewhere to the right. This constraint prohibits a line from ending in a single alliterating monosyllable, thereby rendering unmetrical a line such as (35), though allowing a line such as *héal héoldon* (they held the hall). Within the present theory the need for this constraint

S S
 is no longer clear.

⁹ For a full discussion of these and similar lines with respect to Sievers' system, see Keyser (1969a).

In as yet unpublished work, Mrs. Reed (see note 7) has subjected to metrical analysis the poetic formulas in Old English poetry that have been collected in Watts (1969). Given the metrical theory of (29), the formulas could be classified as having the metrical patterns SS, SSW, WSW, SW, among others. Formulas having the metrical pattern SS or SSW were found only in the first half-line of poems; formulas with the pattern WSW were found only in the second half-line; formulas of the remaining types were found in either of the two half-lines, e.g., of the 322 formulas of the pattern SW, 175 are found in the second half-line, whereas 147 are found in the first half-line.

This result is readily understood in the light of (29) since the theory allows the patterns SS or SSW only in the first half-line and the pattern WSW only in the second half-line, while it allows SW in both half-lines. Given Sievers' theory, on the other hand, the restrictions just noted appear totally ad hoc since half-lines are classified in accordance with the distribution of stressed and unstressed syllables, specifically disregarding the presence or absence of alliterating staves in the half-lines.

We complete our discussion of *Beowulf* by listing in (38) examples of the attested line types predicted by (29).¹⁰ (The order of lines in (38) follows the chart in (30), beginning with the first row and moving from left to right.)

- (38) (a) SSSW
mónegum mægþum méodosetla oftéah (B.5)
 S S S W
 wrested the mead-set from many tribes
- (b) SSS
éaforum Écgwelan, Ár-Scyldingum (B.1710)
 S S S
 the offspring of Ecgwela, the glorious Scyldings
- (c) SSSWW
Béowulf wæs bréme—bláð wíde spráng (B.18)
 S S S W W
 Beowulf was renowned—his fame ranged afar—
- (d) SSWSW
héah ofer héafod, léton hólme bérán (B.48)
 S S W S W
 high over his head, they let the sea carry
- (e) SSWS
áþele ond éacen. Hét him ýðlidan (B.198)
 S S W S
 noble and great. He commanded a ship for him
- (f) SSW
sē for ándrysum éalle bewéotede (B.1796)
 S S W
 who in courtesy watched over all
- (g) SS
þone sēlestan sæcyninga (B.2382)
 S S
 the best of sea-kings
- (h) SSWW
Gecýste þā cýning áþelum góð (B.1870)
 S S W W
 then the king kissed, noble in lineage

(Continued on p. 162)

¹⁰ The system of prosody outlined here differs in one important respect from that described in Keyser (1969a). In the earlier work secondary stress was considered to be metrically significant. A consequence of this assumption was that certain morphemes such as finite verbs and the second element of compounds were treated as being sometimes metrically significant and sometimes not. Moreover, in lines which contained more than four major lexical items, it was necessary to resort to various types of stress subordination, either linguistic or metrical. Both of these consequences are avoided in the framework of (29).

38 (Continued)

- (i) SWSW
Ēormenrīces, gecēas ēcne rǣd (B.1201)
 S W S W
 of Eormenric, he chose eternal gain
- (j) SWS
ǣfenræste; wiste þāem āhlācan (B.646)
 S W S
 to his evening rest; he knew by the evil spirit
- (k) SWSW
Gréndles mǣgan gǣng scēawigan (B.1391)
 S W S W
 to examine the track of Grendel's kinsman
- (l) SWS
þē hīe ǣr drúgon áldor[lē]ase (B.15)
 S W S
 which they endured before, without a lord
- (m) SWSWW
þrýðum déalle. Þégn nýtte behéold (B.494)
 S W S W W
 proud in might. A servant did his duty
- (n) SWWSW
fréan Scýldinga. Gewītaþ fōrð bēran (B.291)
 S W W S W
 lord of the Scyldings. Go forth bearing
- (o) SWWS
mæg Ēlfheres; geséah his mōndryhten (B.2604)
 S W W S
 kinsmen of Ælfhere; he beheld his lord
- (p) WSSW
“Ne frīn þū æfter sǣlum! Sórþ is genīwod (B.1322)
 W S S W
 “Do not ask after happiness! Sorrow is renewed
- (q) WSS
Cwóm þā tō flóde félamōdigra (B.1888)
 W S S
 then came to the flood a very brave
- (r) WSSWW
Gewíton him þā féran,—flóta stille bád (B.301)
 W S S W W
 Then they started out,—the ship remained still

- (s) WSWSW
Ðā cōm in gān éaldor ðégna (B.1644)
W S W S W
Then entered in the chief of the thanes
- (t) WSW
þenden hǣlo ābēad hēorðgenēatum (B.2418)
W S W S
then he saluted his retainers
- (u) SSWSW
Fýrst fōrð gewát; flóta wæs on ýðum (B.210)
S S W S W
Time passed on; the ship was on the waves
- (v) SSWS
ǣscholt úfan grǣg; wæs se írenþrēat (B.330)
S S W S
the ash spear gray above; the armored troop was
- (w) SSWSWW
drēfan dēop wáter, Dēna lánd ofgéaf (B.1904)
S S W S W W
to stir up the deep water, it left the Danish land
- (x) SSWWSW
hēard hēr cūmen, sōhte hōldne wine (B.376)
S S W W S W
come boldly here, and visited a trusty friend
- (y) SSWWS
bǣdde býre géonge; oft hīo bēahwriðan (B.2018)
S S W W S
she urged the young men; often she a ring
- (z) WSSSW
þæt hē hǣfde mōð mīcel, þeah þe hē his mágum nǣre (B.1167)
W S S S W
that he had much courage, though he might not have been with his kinsmen
- (a') WSSS
hǣfde mǣre mǣgen. Ðā hine on mōrgentīd (B.518)
W S S S
he had greater strength. Then him in the morning
- (b') WSSSWW
(unattested)

(Continued on p. 164)

38 (Continued)

(c') WSSWSW
(unattested)(d') WSSWS
(unattested)

(e') SWSSW
fíf nihta fýrst, oþ þæt unc flōd tōdráf (B.545)
 S W S S W
 a space of five nights, until the flood separated us

(f') SWSS
dōmes ær dēape; þæt bið drihtguman (B.1388)
 S W S S
 glory before death; that shall be for the warrior

(g') SWSSWW
(unattested)(h') SWSWSW
(unattested)(i') SWSWS
(unattested)

3. Iambic Pentameter

The meter we have just discussed is characterized by a set of correspondence rules which regulate the assignment of stressed syllables to abstract metrical entities while leaving the unstressed syllables in the line essentially free. We now turn to the meter in which correspondence rules assign all syllables in a line, stressed and unstressed, to abstract metrical entities. This meter, the iambic pentameter, has been the favorite of English poets since the time of Chaucer, and it is probably not a coincidence that its appearance coincides with the incorporation of the Romance Stress Rule into the English language. We may state the abstract metrical pattern underlying the iambic pentameter as in (39), where parenthesized entities are optional:

(39) WSWSWSWSW(S)(W)

This pattern is in turn related to concrete lines of verse by correspondence rules such as those illustrated in (40):¹¹

¹¹ In (40) we follow the definition for syllable given in note 1 of this chapter.

By "stressed syllable" we mean any syllable (see note 1) which contains a fully stressed vowel (see note 3). As before, we shall be concerned only with full stress, lumping together all syllables with lesser stressed and unstressed vowels under the heading of "unstressed syllables."