

# ENGLISH STRESS

*Its Form, Its Growth, and Its Role in Verse*

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*Harper & Row, Publishers New York•Evanston•London*

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*A Theory of Meter*

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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 unmetsrical 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 labrador,  
boca de rubíes,  
ojos de paloma.*

Each of the lines in (3) contains six syllables.<sup>1</sup> 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 XXXXX is realized can thus be expressed by means of the alternative correspondence rules (5a) and (5b):<sup>2</sup>

<sup>1</sup> 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.

<sup>2</sup> 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 unmetered 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 XX X X X X(X)  
*más lisonjero me vi.*  
 X XX XX X X  
*¿Qué es la vida? Un frenesi.*  
 X X X X XXX  
*¿Qué es la vida? Una ilusión,*  
 X X X X XXX  
*una sombra, una ficción*  
 XX X X XX X  
*y el mayor bien es pequeño;*  
 X XX X X X X(X)  
*que toda la vida es sueño,*  
 X XXX X 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 bées in Máy*  
           X    X    X  
*is wórh a lóad of háy;*  
           X    X    X  
*A swárm of bées in Júne*  
           X    X    X  
*is wórh a sílver spóon;*  
           X    X    X  
*A swárm of bées in Julý*  
           X    X    X  
*is not wórh 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 vowel<sup>3</sup>  
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 Jóhnny wánts to pláy.*  
X X X X

Consider, now, the rime in (9):

(9) *Ríde a cóck-hórse to Bánbury Cróss*  
X X X X  
*To sée a fíne lády upón a white hórse*  
X X X X  
*Ríngs on her fíngers, 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

<sup>3</sup> 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 *Banbury* 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-hórsé* and in the second line the sequences *fine lády* and *whíte hórsé* 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 rhymes commonly allow one optional X. Thus, we may also have patterns such as (10) and (11):<sup>4</sup>

(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 longer.*

X X

(11) XXX(X)

*Thírty dáys hath SeptéMBER*

X X X

*Ápril, Júne and NovéMBER;*

X X X

*Fébruary has twénty-éight alóne*

X X X X

*Áll the rést have thirty-óne,*

X X X X

*Excépting léap yéar, thát's the tímé*

X  X X

*When Fébruary's dáys are twénty-nine.*

X X X X

<sup>4</sup> This is reminiscent of Old English meter, which we discuss in the next section. Indeed, there are other obvious parallels between nursery rhymes such as those scanned here and Old English poetry. For a discussion of the relationship among nursery rhymes, 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) *bát 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 alliterate<sup>5</sup>

(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) *bát under béorge. Béornas géarwe*  
S            S            S            W

<sup>5</sup> 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 mágbum méodosetla oftéah* (B.5)  
           S       S       S       W  
           wrested the mead-seat from many tribes

(b) *lífde æfter lápum, lánge brágé* (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) *drihtsele dréorfäh, honne dág líxte* (B.485)  
           S       S       S       W  
           the splendid hall stained with blood, when day dawned

(b) *wréopenhilt ond wýrmfäh. Ðā se wísa 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: *drihtsele* and *dréorfäh* in (17a) and *wréopenhilt* and *wýrmfäh* 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 ándrysn̄um 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) *bone sélestan sácyninga* (B.2382)  
 S            S  
 the best of sea-kings  
 (b) *ob þæt hē fēringa 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 Scyldinga. Gewítap fórð bérān* (B.291)  
 S    W            W    S    W  
 lord of the Scyldings. Go forth bearing

(Continued on p. 150)

21 (Continued)

(b) SWWS

*máeg Ælfheres; geséah his móndryhten*  
 S W W S

(B.2604)

kinsmen of Ælfhere; he beheld his lord

(c) SSWWSW

*héard hér cumen, sóhte hóldne wíne*

S S W W S W

(B.376)

come boldly here, and visited a trusty friend

(d) SSSWW

*Béowulf wæs bréme—bláed wíde spráng—*

S S W W

(B.18)

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

*gebád wíntra wórn, áér hē on wéga hwúrfe*  
 W S S W S W

(B.264)

he lived to see many a winter before he turned away

(b) WSSSW

*þæt hē hæfde mōd mícel, þeah þe hē his mágum náre*

W S S S W

(B.1167)

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

(c) WSSS

*hæfde māre mægen. Þā hine on mórgentid*

W S S S

(B.518)

he had greater strength. Then him in the morning

(d) WSSW

*“Ne frín þū æfter sálum! Sórh is geníwod*

W S S W

(B.1322)

“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

*fíf nihta fýrst, ob þæt unc flód tōdráf*

(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))<sup>\*</sup>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 WSWWSW.

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)  $\phi$  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	WSWW	WSSW	WSWSW	—	WSSWW	—
S	SSS	SSWS	SSWWS	SSSW	SSWSW	SSWWSW	SSWW	SSWSWW
WS	WSSS	WSSWS	WSSWW	WSSSW	WSSWSW	—	WSSWW	—
SW	SWSS	SWSWS	SWSWW	SWSWW	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.<sup>6</sup>

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).

<sup>6</sup> 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.

SWW  
—  
SWW  
—  
VSWW  
—  
—

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) *hú ðā áþelingas éllen frémedon* (B.3)  
           W   S          S   W  
           how those nobles performed valorous deeds

      (b) *Séton sámēhe síde scýldas* (B.325)  
           S   S          S   W  
           seaweary, 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)	First Half- Line	Second Half-Line			
		SW	S	SWW	WSW
SS	SSSW	SSS	SSSWW	SSWSW	SSWS
	999	277	77	67	17
S	SSW	SS	SSWW	SWSW	SWS
	665	200	21	25	9
SW	SWSW	SWS	SWSWW	SWWSW	SWWS
	405	95	27	17	2
WS	WSSW	WSS	WSSWW	WSWSW	WSWS
	137	33	1	19	3
SSW	SSWSW	SSWS	SSWSWW	SSWWSW	SSWWS
	38	8	4	3	1
WSS	WSSSW	WSSS	WSSSWW	WSSWSW	WSSWS
	13	6	0	0	0
SWS	SWSSW	SWSS	SWSSWW	SWSWSW	SWSWS
	6	1	0	0	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 scensions on which these statistics are based are the work of Ann Reed.<sup>7</sup> In making the scensions, 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

<sup>7</sup> 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 scensions 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*, *beon*, 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*, *bonne*, 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*, *þēr*, and *giō*.

An apparent regularity appears in adverb pairs such as *þēr on*, *þēr 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 fōtum sēt frēan Scýldinga; gehwylc hiora his férhþe 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) *Flōd blōde wéol—fólc tō sāgon—* (B.1422)  
 S W W S W  
 The water surged with blood—the people gazed—

(c) "Gepénc nū, se māra māga Héalfdenes (B.1474)  
 W S S W  
 "Remember now, O famous son of Healfdene

(d) Ðā cōm nōn dāges. Nās ofgēafon (B.1600)  
 W S W S W  
 Then came the ninth hour of the day. They quitted the headland

(e) cwāð, hē bone gūðwine gōðne téalde (B.1810)  
 W S S W  
 he said he counted it a good battle friend

(f) wéasan, bénden ic wéalde wídan ríces (B.1859)  
 S W S S W  
 there shall be while I rule this wide kingdom

(g) éðbegēte þām ðe ár his élne forlēas (B.2861)  
 S S W  
 easy to obtain for him who before lacked courage

(h) cwāð, hē on mérgegne méces 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:

- Later alternatives of the abstract metrical pattern rules increase complexity less than later alternatives of the correspondence rules
- 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) *héold héal*  
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 geþeon* (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.<sup>8</sup>

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:<sup>9</sup>

(37) (a) *lissa gelóng; ic lýt háfo* (B.2150)  
 S S S W  
 favor at hand; I have little

(b) *méaglum wórdum. Méoduscencum* (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 mínum* (B.473)  
 S S S W  
 It is a sorrow to me to tell in my heart

(e) *hréas blác; hónd gemúnde* (B.2488)  
 S W S W  
 he fell pale; his hand remembered

<sup>8</sup> 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.

<sup>9</sup> 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).<sup>10</sup> (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—blád wíde spráng* (B.18)  
S S S W W

Beowulf was renowned—his fame ranged afar—

(d) SSWSW

*héah ofer héafod, léton hólm béran* (B.48)  
S S W S W

high over his head, they let the sea carry

(e) SSWS

*áþeile ond éacen. Hét him ýðlidan* (B.198)  
S S W S

noble and great. He commanded a ship for him

(f) SSW

*sē for ándrysnum éalle bewéotede* (B.1796)  
S S W

who in courtesy watched over all

(g) SS

*þone sélestán sécyninga* (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)

<sup>10</sup> 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

*Éormenrīces, gecēas ēcne rēd*

S W S W

of Eormenric, he chose eternal gain

(B.1201)

(j) SWS

*āfenræste; wīste pām āhlēcan*

S W S

to his evening rest; he knew by the evil spirit

(B.646)

(k) SWSW

*Gréndles māgan gāng scēawigan*

S W S W

to examine the track of Grendel's kinsman

(B.1391)

(l) SWS

*bē hīe ār drūgon āldor[lē]ase*

S W S

which they endured before, without a lord

(B.15)

(m) SWSWW

*þrȳðum déalle. Pēgn nýtte behéold*

S W S W W

proud in might. A servant did his duty

(B.494)

(n) SWWSW

*fréan Scýldinga. Gewītab fórð bérān*

S W W S W

lord of the Scyldings. Go forth bearing

(B.291)

(o) SWWS

*māg Ālfheres; geséah his móndryhten*

S W W S

kinsmen of Ālfhere; he beheld his lord

(B.2604)

(p) WSSW

*“Ne frín þū æfter sālum! Sórh is genīwod*

W S S W

“Do not ask after happiness! Sorrow is renewed

(B.1322)

(q) WSS

*Cwōm þā tō flōde fēlamōdīgra*

W S S

then came to the flood a very brave

(B.1888)

(r) WSSWW

*Gewīton him þā fēran,—flōta stīlle bād*

W S S W W

Then they started out,—the ship remained still

(B.301)

(s) WSWSW  
*Dā cōm īn gān ēaldor Ȱégna* (B.1644)  
 W S W S W  
 Then entered in the chief of the thanes

(t) WSWS  
*bēnden hālo ābēad hēorðgenēatum* (B.2418)  
 W S W S  
 then he saluted his retainers

(u) SSWSW  
*Fýrst fórð gewát; flóta wæs on Ȱðum* (B.210)  
 S S W S W  
 Time passed on; the ship was on the waves

(v) SSWS  
*āescholt úfan grāg; wæs se Ȱrenþrēat* (B.330)  
 S S W S  
 the ash spear gray above; the armored troop was

(w) SSWSWW  
*dréfan déop wāter, Dēna lānd 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, sóhthe hōldne wīne* (B.376)  
 S S W W S W  
 come boldly here, and visited a trusty friend

(y) SSWWS  
*bædde býre géonge; óft hīo béahwriðan* (B.2018)  
 S S W W S  
 she urged the young men; often she a ring

(z) WSSSW  
*bæt hē háfde móð mícel, bēah þe hē his mágum náre* (B.1167)  
 W S S S W  
 that he had much courage, though he might not have been with his kinsmen

(a') WSSS  
*háfde māre māgen. Bā hine on mórgentīd* (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, of þæt unc flód tōdráf* (B.545)  
 S W S S W

a space of five nights, until the flood separated us

(f') SWSS

*dómes ár déaþe; þæt bið dríhtguman* (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) WWSWSWSWSWS(W)(W)

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

<sup>11</sup> 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."

(40) (a) Each abstract entity (W,S) corresponds to a single syllable  
 (b) Fully stressed syllables occur in S positions only and in all S positions

We scan particular lines by utilizing (40) to establish a correspondence between the syllables of the line and the abstract entities in the pattern (39). Lines are judged metrical if such a correspondence can be established exhaustively without violating the applicable correspondence rules, as is the case, for example, with the well-known line (41) from Gray's *Elegy Written in a Country Churchyard*:

(41) *The curfew tolls the knell of parting day*  
 W S W S W S W S W S

The characterization of the iambic pentameter that has been given by means of the pattern (39) and the correspondence rules (40) is essentially a more formal statement of the description to be found in many of the standard treatises. Thus in Bridges' important *Milton's Prosody* (1921), we are told that the normal iambic line can be defined as in (42):

(42) A decasyllabic line on a disyllabic basis and in rising rhythm (i.e., with accents of stresses on the alternate even syllables); and the disyllabic units may be called *feet* (p. 1).

We discuss the question of "feet" directly. At this point we wish only to note that the normal iambic line as defined by (42) or, equivalently, by (39) and (40), does not characterize (1b) cited earlier, or any of a huge number of lines that appear commonly in iambic pentameter verses, such as those in (43)–(46):

(43) *As ōok, firre, bīrch, áspe, álder, holm, pōplér,  
 Wylūgh, élm, plāne, ássh, bóx, chásteyn, lýnde, laúré, Mápul, thórn, béch, hásel, éw, whíppeltree—*

(CHAUCER, *A.Kn.2921–3*)

(44) *Báttér my heart, thŕee-pérsōn'd Gód, fōr you  
 Ás yet bút knóck, bréathe, shíne, and seek to ménd;  
 That I may ríse, and stánd, o'erthrów mé, and bénđ  
 Your force to bréak, blów, bún, and make mé nér.*

(DONNE, *Holy Sonnet 14*)

(45) *Ó wíld Wést Wind, thóu bréath of Autúmn's béing  
 Thóu fróm whose unseén préseňce the láeves déad  
 Áre dríven, like ghósts fróm an énchanter fleeíng,*

(SHELLEY, *Ode to the West Wind*)

(46) *Speech after long silence; it is right,  
All other lovers being estranged or dead,*

(YEATS, *After Long Silence*)

The existence of such lines, of course, did not escape the attention of Bridges or of any other serious student of prosody. In fact, immediately below the definition (42), Bridges notes that in Milton one may find three types of exceptions to the norm:

- I Exceptions to the number of syllables being ten,
- II Exceptions to the number of stresses being five,
- III Exceptions in the positions of the stresses.

In other words, each of the three properties of the line that are specifically regulated in the definition (42) is violated on some occasion in the iambic pentameter of Milton's *Paradise Lost*.

To account for these exceptions, Bridges and many other metrists supplement the definition of the norm with a list of allowable deviations which commonly includes the items in (47):

(47) (a) unstressed foot (pyrrhic)  
 (b) heavy foot (spondee)  
 (c) initial foot inverted (trochée)  
 (d) verse-medial foot inverted (trochée)  
 (e) extra slack syllable inserted verse-medially  
 (f) dropping of verse-initial slack syllable (headless)

We shall refer to the account based on the norm (42) (or, equivalently, (39) and (40)) and the allowable deviations (47) as the standard theory of the iambic pentameter. In order to demonstrate the functioning of the standard theory, we now examine the lines in (43)–(46).

The lines from Chaucer (43) are metrical by a liberal invocation of the deviation (47b), for heavy feet abound in these lines. Moreover, there is an initial trochée (47c) in the last two lines, and an extra slack syllable (47e) in the second line.

The first line of Donne's sonnet (44) has an initial trochée (47c) as well as a verse-medial heavy foot (47b) in the phrase *three-person'd God* and a verse-final pyrrhic (47a). The second line also contains a spondee (47b), as does the fourth line; whereas the third line has an initial pyrrhic foot (47a) and an extra slack syllable (47e), *me and*.

The first line of Shelley's poem (45) exhibits two spondees (47b).

The second line contains an initial trochee (47c) and the pyrrhic foot (47a) *-ence the*, as well as a verse-final spondee (47b). The third line has an extra slack syllable (47e), *-en* in *driven*, and a pyrrhic (47a).

In the Yeats verses (46), the first line is headless (47f) and contains one verse-medial spondee (47b) and a pyrrhic (47a). The second line contains an extra slack syllable (47e), *being*.

Although the standard theory consisting of the abstract pattern (39), the correspondence rules (40), and the list of allowable deviations (47) correctly establishes the lines in (43)–(46) as metrical, it has a number of inadequacies that suggest rather fundamental revisions. Consider first the line (1a) which we referred to earlier as an example of an unmetrical line and which is repeated here for convenience as (48):

(48) *Ode to the West Wind* by Percy Bysshe Shelley

The line contains an inverted first foot (47c), a heavy foot (47b), and two verse-medial trochaic substitutions (47d). Since all these are admissible deviations, (48) must be judged metrical by the standard theory. But this surely is an unacceptable consequence.

The difficulty arises from the fact that the standard theory formulates allowable deviations in terms of feet. (In fact, it is mainly in this domain that the entity “foot” plays a significant role.) Implicit in this formulation is the view that deviations in one foot are independent of deviations in adjoining feet. This is not the case, however. Thus, although trochaic feet are admissible in iambic lines, they must not be consecutive, for consecutive trochaic feet render the line unmetrical, as in (48). It is, of course, possible to modify (47d) so as to exclude this possibility. But if adjoining feet are not independent, one must seriously question the postulation of feet as entities intermediate between the line and the weak and strong positions that constitute the foot. We shall propose here an account that does not make use of the concept “foot,” and we shall attempt to show that such an account is superior to the standard theory even where the latter is patched up to handle cases like the one just discussed.

We have just noted that a shortcoming of the standard theory is that it deals with allowable deviations by means of a list, thus implying that there is nothing in common among the allowable deviations since there are no qualifications for membership in this list. Moreover, the list as given in (47) is incomplete, for it fails to explain certain facts about English verse which an adequate theory would be expected to take account of. It was observed many years ago by Jespersen (1933, p. 262) that whereas an iambic line could tolerate a trochee in the first two syllables, a trochaic line could not tolerate

an analogous iambic substitution in the first two syllables.<sup>12</sup> He cites the lines in (49) from Longfellow's *A Psalm of Life* and observes that the second line may not be replaced by (50):

(49) *Tell me not, in mournful numbers*  
*Life is but an empty dream*

(50) *A life's but an empty dream*

There is no explanation offered for this phenomenon in the standard theory.

There is a further systematic correlation which is suggested by Jespersen's observation. If iambic verse permits the dropping of an initial slack syllable (see lines (66b) and (66c)), trochaic verse admits of an extra-metrical slack syllable at the beginning of a line. The trochaic couplet in (51) from Keats' *Fancy* is illustrative:

(51) *All the buds and bells of May*  
*From dewy sward or thorny spray*

Indeed, if one did not know that *Fancy* was written in trochaic meter, this couplet would be metrically ambiguous since it can easily occur in an iambic tetrameter poem. This second correlation between iambic and trochaic verse also remains unexplained in the standard theory.

Thirdly, Jespersen (1933, p. 255) notes that major syntactic breaks—what he refers to as “pauses”—appear to play an important role in the metrical behavior of a line. Such breaks are commonly indicated orthographically by a comma, semicolon, or period. It is noteworthy that two of the categories on the allowable deviation list are commonly associated with major syntactic breaks: internal trochaic substitution, which often occurs after a major syntactic break (see lines (66b) and (66c)), and the heavy foot, which is composed of two positions separated by a major syntactic break (see (43)). Once again a deeper generalization is hinted at here which the standard theory does not capture.

To meet the objections just sketched, we propose to replace the abstract metrical pattern (39) and the correspondence rules (40) by the account in (52):

<sup>12</sup> In addition, Wimsatt (in Sebeok (1960, p. 206)): “. . . it is not at all clear to me why the trochaic substitution in the first foot is so acceptable in the iambic line. I'm never able to make up my mind whether it is because it just happened, as Mr. Ransom, I think, suggests, sort of got established, or whether there is some peculiar reason.”

(52) (a) ABSTRACT METRICAL PATTERN  
 $(W)^*S\ WS\ WS\ WS\ WS\ (X)(X)$   
 where elements enclosed in parentheses may be omitted and where each X position may be occupied only by an unstressed syllable

(b) CORRESPONDENCE RULES

(i) A position (S, W, or X) corresponds to a single syllable  
 OR  
 to a sonorant sequence incorporating at most two vowels (immediately adjoining or separated by a sonorant consonant)

DEFINITION: When a fully stressed syllable occurs between two unstressed syllables in the same syntactic constituent within a line of verse, this syllable is called a "stress maximum"

(ii) Fully stressed syllables occur in S positions only and in all S positions  
 OR  
 Fully stressed syllables occur in S positions only but not in all S positions  
 OR  
 Stress maxima occur in S positions only but not in all S positions<sup>13</sup>

<sup>13</sup> In previous studies (e.g., Halle and Keyser (1966) we proposed that a "stress maximum" is constituted by a stressed syllable located between two syllables with lesser stress. The definition given here limits more narrowly the syllables that can be stress maxima. Since in metrical lines stress maxima may not correspond to W positions, an immediate consequence of the more restrictive definition is to admit as metrical certain lines that previously had been judged as unmetrical. For example, from Chaucer:

*With this quyksilver, shortly for to sayn* (G.CY.1111)

(cf. *For quyksilver, that we it hadde anon*) (G.CY.1103)

*He was short-sholdred, brood, a thikke knarre* (A.Prol.549)

*There nas quyk-silver, lytarge, ne brymstoon* (A.Prol.629)

from Spenser:

*Ne let house-fyres, nor lightnings helplesse harmes* (Epithalamion, st.19,7)

from John Donne:

*Askt not of rootes, nor of cock-sparrows, leave* (Progress of the Soule, 217)

*Th'hydropotique drunkard, and night-scouting thief* (Holy Sonnet 3,9)

Although lines of this kind are not too frequent, they do occur and thereby provide justification for "weakening" the theory in the manner outlined here. The need for a revision of the definition of stress maximum given in Halle and Keyser (1966) was noted independently by Meadors (1969).

We must now show how lines are scanned within the revised theory. The procedure is as follows. In each line we first establish position occupancy by numbering the different syllables in the line from left to right.<sup>14</sup> If the number is ten, a one-to-one occupancy of positions by syllables is assumed, in accordance with the first alternative of (52bi). If the number is one less than ten, a check is made to determine if a one-to-one syllable-to-position assignment can be made by assuming that the first W is missing (a headless line). If the number of syllables is more than ten, a check is made to determine whether the line contains any extra-metrical syllables or whether two adjacent syllables may be assigned to a single position in accordance with the second alternative of (52bi).

Having established the syllable-to-position assignments, we next locate stressed and unstressed syllables in the line. We then check to see if the location of stressed and unstressed syllables satisfies one of the three alternatives of (52bii). We begin by checking the first alternative and underlining all positions in which it is not satisfied, that is, we underline each position where an S is occupied by an unstressed syllable or a W by a stressed syllable. Next we examine the line in terms of the second alternative of (52bii) and underline all positions where this is violated, that is, a W occupied by a stressed syllable now receives a double underline. Finally, we check out the third alternative; if any position violates this—that is, if any W is occupied by a stress maximum—the line is judged unmetrical. In checking we count full and unstressed vowels only. We now illustrate the procedure just outlined.

1) *The cúrfew tólls the knéll of pártng dáy*  
 W S W S W S W S W S

Line (53) satisfies the first alternative of both (52bi) and (52bii).

2) *And léaves the wórld to dárkness and to me*  
 W S W S W S W S W S

In line (54) the fourth S and fifth S violate the first but not the second alternative of (52bii).

3) *Báttter my héart, thréé-pérsón'd Gód, for you*  
 W S W S W S W S W S

In (55) the first and last S violate the first alternative of (52bii) but not the second; and the first and third W violate the second alternative but are

<sup>14</sup> It is important to keep in mind that extra-metrical syllables, both in verse-initial and verse-final positions, are not included in the numbering. On the other hand, the missing first syllable in headless lines must be counted.

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allowed by the third alternative: the word *three* does not constitute a stress maximum because it is not located between two unstressed syllables in the same syntactic constituent; it may therefore occupy a W position.

An example where all three alternatives are violated is provided by the triply underlined and barred position in line (56). Such lines are unmetrical.

(56) Óde to the Wést Wind by Pércy Býsshe Shélléy  
W S W S W S W S W SX

The revised theory (52) brings out the fact that the iambic pattern allows for a great deal of freedom while at the same time providing sufficient constraints to make the art form an interesting one for the poet to work in. It is for this reason that when one finds a poet moving outside of the restrictions of the meter, one is tempted to search for aesthetic motivation for his doing so. Consider, in this regard, the opening line from a sonnet by Keats given in (57):

(57) Hów many bárdz gíld the lápse of tíme  
W S W S W S W S W S

Line (57) is unmetrical since it has a stress maximum in the fourth W position in violation of the last alternative of (52bii). However, it seems quite clear that the poet is purposely moving outside of the meter in order to caricature metrically the sense of the line. The line is literally what it speaks of figuratively, a "lapse of time." This metrical joke requires that the line be treated as unmetrical.

Returning to metrical lines, we note Donne's line (58) as an instance where later alternatives of both (52bi) and (52bii) apply:

(58) Yet déarly I lóve you and would be lóvéd fáin  
W S W S W S W S W S

The second and third W in (58) violate the first alternative of (52bi) but not the second, while the third S violates the first but not the second alternative of (52bii). Note that the assignment of two syllables to a single position has to take place in the manner shown in (58). If different syllables were to be assigned to a single position, the line would be unmetrical because the stress maxima would occupy W positions.

The assignment of syllables to positions is, of course, strictly metrical. It does not imply that the syllables assigned to a single position should be slurred or elided when the verse is recited. The correspondence rules are

not instructions for poetry recitations. They are, rather, abstract principles of verse construction whose effect on the sound of the recited verse is indirect.

It is obvious that the second alternative of (52bi) subsumes the first alternative as a special case. Poets appear to differ a great deal as to the precise extension of the second alternative. For example, Chaucer not only makes use of elision, that is, assigns to a single position two consecutive syllables when no true consonant intervenes, but he also allows for monosyllabic words to be assigned to a single position along with an adjacent syllable under certain conditions.<sup>15</sup> Other poets seem to modify elision as defined in (52bi) by allowing it to operate on two vowels separated by an optional fricative consonant (*s, f, v*, etc.) as well as across an optional sonorant.<sup>16</sup> Still other poets allow for an extra-metrical syllable internally before a major syntactic break, as in the examples in (59) (and in (63)):

(59) (a) *And as I past I worshipt: if those you seek* (MILTON, *Comus*, 302)  
 (b) *From mine own knowledge. As nearly as I may* (SHAKESPEARE, *AC, II, 2*)

Whatever the usages may be from one poet to another, they can readily be accounted for by suitable extensions of the correspondence rules. As they appear to have only limited general theoretical interest, we shall not attempt to deal further with these adjustments here.

We recall that in rejecting the standard theory we stressed the fact that the list of allowable deviations (47) was not otherwise restricted. Thus, there was no mechanism for excluding from the list such obviously absurd items as (60):

(60) (a) Insertion of a parenthetical phrase in a line  
 (b) Trochaic foot followed by a dactyl  
 (c) Elision of exactly three syllables verse-finally

We must now show that the allowed deviations (47) of the standard theory are in fact subsumed by the various alternatives of the revised theory advanced here and that the absurdities collected in (60) are excluded.

<sup>15</sup> For a detailed discussion of Chaucer's rule, see Halle and Keyser (1966), and for a criticism of the rule as given there see Hascall (1969). Hascall's modification is based upon the observation that in the overwhelming number of instances in which a monosyllabic word is assigned with another syllable to a single position, the monosyllabic word is not a member of a major lexical category (i.e., not an adjective, noun, adverb, verb). This seems to us a correct observation and requires a revision of the rule along the lines specified by Hascall.

<sup>16</sup> Extensions of the class of consonants which participate in elision are suggested in Hascall (1969) and in Freeman (1968). One of Bridges' (1921) contributions was to show that in Milton's metrical practice the content of this rule actually changes between *Paradise Lost* and *Samson Agonistes*.

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It can be seen immediately that the revised theory presented in (52) excludes (60) since there is no natural way in which even the last (i.e., most general) alternatives of (52bi) and (52bii) can be stretched so as to include these items. It is equally evident that (47e), which allows an extra slack syllable in the line, and (47f), which admits headless lines, are included by the revised theory. The latter is specifically permitted by (52a), where the first W is parenthesized and therefore optional. It should be noted here that the omission of the line-initial W contributes to the complexity of the line, whereas the omission of the line-final extra-metrical syllable leaves the complexity of the line unaffected. Although we have reflected this difference between the two parenthesized subsequences by adding an asterisk to the first set of parentheses in (52a), we have at this point no explanation for the distinction. Examples of headless lines in iambic pentameter are given in (61):

(61) (a) —Twénty bóokes clád in blák or réed (CHAUCER, *A.Prol.* 294)  
 (W)\*S W S W S W S W S

(b) —Spéech after lóng silence; it is right (YEATS, *After Long Silence*)  
 (W)\*S W S W SW S W S

Extra slack syllables (47e) in the line are allowed by the later alternatives of (52bi), as we have already seen in our discussion of (58). The third line of (44), repeated here as (62), is an additional example:

(62) That I may rise, and stánd, o'erthrów me, and bénđ  
 W S W S W S W S W S

Turning now to the remaining allowable deviations, we recall that the unstressed foot, (47a), has already been illustrated in (54). Shelley's line (63) offers an additional example:

(63) Are dríven, like ghósts from an enchánter fléeing  
 W S W S W S W S W SX

Here the third S contains an unstressed syllable, a realization allowed by the second alternative of (52bii). (For the assignment of *driven* to a single position, see the discussion preceding (59).)

The next allowable deviation, (47b), is the heavy foot (spondee). This requires the last alternative of (52bii), which we have already invoked in our discussion of (55). Notice, however, that this alternative must be utilized in each of the three lines from Chaucer quoted in (43), the second of which is repeated in (64) by way of illustration:

(64) *Wýlugh, élm, pláne, ássh, bóx, chásteyn, lýnde, laurér*

In (64) the first W violates the first alternative of (52bi) and both the first and second alternatives of (52bii). The second and third W's violate the first two alternatives of (52bii) but are allowed by the last alternative.

A somewhat different type of spondee is exemplified in the lines in (65), from Chaucer, Shakespeare, and Tennyson:

(65) (a) *The Millere was a stóut cárl for the nónes* (A.Prol.545)

(b) *The cóurse of trúe lóve never did rún smóoth* (Mids.I.1.134)

(c) *Dówn the lóng tówer stáirs hésitating* (Lancelot and Elaine)

Two fully stressed syllables back to back as in *stóut cárl*, *trúe lóve*, *lóng tówer* may correspond to any verse-internal WS or SW sequence by virtue of the last alternative of (52bii). In the first two of these the first stressed syllable corresponds to an S position while the second corresponds to a W position. In the third the first stressed syllable corresponds to a W position while the second corresponds to an S position.

The final two allowable deviations of the standard theory concern inverted feet: by (47c) these are allowed verse-initially; by (47d) they are allowed verse-medially. We have already scanned examples of this type in (55) to show how they would be treated by the revised theory. Additional examples, one from Keats and two from Shakespeare, are given in (66):

(66) (a) *Sílent upon a péak in Dárien* (On First Looking into Chapman's Homer)

(b) *Appéare in péson hére in cóurt. Sílence.* (Wint.Tale,III.1.10)

(c) *Fríends, Rómans, cóuntrymen, lénd me your éars* (J.C.III.2.78)

It is an interesting fact that inverted feet appear only under the following conditions in an iambic pentameter line: verse-initially, after a fully stressed syllable (see (55)), and after a major syntactic boundary (see the discussion of Jespersen preceding (52)), across which the stress subordination

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rules of English do not operate. In the standard theory this is just another fact, to be noted down, of course, but not to be endowed with any special significance. In the revised theory, on the other hand, the three environments are those where a stressed syllable will not constitute a stress maximum and hence where a stressed syllable may occupy a W position. Note, in particular, that line (66c) would be unmetrical were there no syntactic boundary before *lend*. Thus, in the light of the revised theory the restriction of inverted feet to the three environments mentioned is anything but a curious coincidence; rather, it reflects a significant property of the meter and is thus one of the reasons for our assertion that the revised theory is to be preferred over the standard theory.

Finally, the asymmetry between trochaic and iambic lines with regard to the admissibility of inverted feet in verse-initial position (see the discussion of (49) and (50)) finds a ready explanation in the light of the revised theory. The abstract metrical pattern for a trochaic line must be of the form (67) with the correspondence rules (52b):

(67) SWSWSWS

If one allows an inverted foot (i.e., an iamb) at the beginning of a trochaic line, one places a stress maximum in a W position, thereby violating the last alternative of (52bii). We illustrate this with the help of the line (68) concocted by Jespersen on the model of Longfellow's *A Psalm of Life*:

(68) A ~~l~~ife's but an émpty dréam  
S W     S W S   W S

Here the second syllable violates all three of the alternatives of (52bii) and hence renders the line unmetrical.<sup>17</sup> As we have already seen, the same does not happen when a trochee is substituted for the first iamb in an iambic line. Such lines (see (66)) are allowed by the third alternative of (52bii) and are therefore perfectly metrical.

Notice also that the introduction of an initial extra-metrical syllable will have no effect on a trochaic line, but its inclusion in an iambic line will be largely limited to lines without inverted first feet since otherwise a stress maximum could be realized in a W position in violation of the last alternative

<sup>17</sup> It must also be noted that Jespersen's example (68) contains a stressless vowel in the third position. If this position were occupied by a fully stressed word, the line would have been metrical, as is, for example, the following modification of (68):

*Your life lacked an empty dream*

of (52bii).<sup>18</sup> Once again the revised theory shows certain facts to be lawful consequences of certain other facts and thus provides a more adequate explanation for the phenomena than does the standard theory.

The final argument in favor of the theory proposed here is that, as already noted, it affords a relatively straightforward way to reconstruct the notion of metrical complexity or tension. In the standard theory it is possible to attribute increasing complexity to each succeeding item in the list of allowable deviations. This procedure, however, is quite *ad hoc*. There is no independent justification for ordering the allowable deviations as in (47); hence nothing can be deduced from that order. This does not hold for the order of the alternatives in the correspondence rules (52b). Here the alternatives are ordered in increasing generality, beginning with the least general and ending with the most general. As already remarked, the degree of difficulty that a reader will experience in discerning the abstract metrical pattern in a line can be plausibly assumed to be directly related to the richness and variety of the means that can be employed in actualizing the pattern. It should follow, therefore, that when a greater variety of correspondences is allowed, the pattern is more difficult to perceive. The number of underlines in the different lines scanned in accordance with our procedure can then be taken as a measure of the complexity of the line. As we have demonstrated, this measure works properly in extreme cases. Whether it works properly in all cases cannot yet be determined. Questions can naturally be raised about our decision to assign equal complexity to later alternatives regardless of source. It is perfectly conceivable that the increase in complexity due to the need to invoke the third rather than the second alternative of the correspondence rule (52bii) should be a fraction of that resulting from the invocation

<sup>18</sup> It would be possible to construct a metrical iambic line with an extra-metrical syllable preceding a verse whose initial foot is inverted provided that a major syntactic break separates the first position from the second position, thereby preventing the first position from becoming a stress maximum. Such a line would be extremely rare, however, in view of the marked tendency in iambic verse to avoid a major syntactic break after the first position.

The occurrence of an extra-metrical syllable in verse-initial position in a trochaic line will have the same effect as a verse-final extra-metrical syllable in an iambic line, namely, both may turn a main stress into a stress maximum. This suggests that stress maxima in these positions are not crucial to the meter, which would then be a purely internal matter. If this is so, the last position of an iambic line and the first position of a trochaic line would have to be given a rather different theoretical status. Bridges (1921, p. 39) was aware of this: "Tyrwhitt is quoted as saying that one of the indispensable conditions of English blank verse was that the last syllable should be strongly accented. The truth seems to be that its metrical position in a manner exonerates it from requiring any accent. —Whether the 'last foot' may be inverted is another question. —A weak syllable can very well hold its own in this tenth place, and the last essential accent of the verse may be that of the 'fourth foot'. The analogy with the dipody of the classical iambic, and with the four minim bar of the old *alla breve* time in music is evident."

of the second alternative. Such questions, however, can be answered only when a massive body of verse has been subjected to the type of analysis proposed. The best that can be done at this point is to list in order of increasing complexity a variety of lines, all of which have been analyzed here, so as to show that the judgments made by our scheme are not totally implausible.<sup>19</sup> We give such a list in (69):

(69)	COMPLEXITY
(53) <i>The curfew tolls the knell of parting day</i>	0
(61) <i>Twenty bookees clad in blak or reed</i>	1
(54) <i>And leaves the world to darkness and to me</i>	2
(63) <i>Are driven, like ghosts from an enchanter fleeing</i>	2
(58) <i>Yet dearly I love you and would be loved fain</i>	3
(66) <i>Appeare in person here in court. Silence.</i>	3
(65) <i>The Millere was a stout carl for the noones</i>	4

(Continued on p. 178)

<sup>19</sup> Recent studies (see Beaver (1968) and Freeman (1968)) have dealt with the question of metrical style in terms other than line complexity. They have taken into account such factors as the number and position of stress maxima and the number and position of unactualized S positions. For example, in a discussion of the following lines from Pope's *An Essay on Criticism*:

*When Ajax strives sóme róck's vást wéight to thrów  
The line tóo lábours, and the wórds móve slów.*

Freeman notes that the heavy stresses back to back contribute to the overall impression of slowness: "Stress neutralization is at work even more clearly in another of Pope's deliberately and exaggeratedly 'slow' lines:

(1)  
*And ten low words oft creep in one dull line*  
W S W S W S W S W S

The line is perfectly metrical, but the monosyllabic Adjective-Noun and Adverb-Verb combinations create so much stress neutralization that no stress maxima, or at most one, are actualized in the line" (p. 78).

It is perhaps worth noting that while the large number of heavy stresses back to back in this line is in part responsible for the impression of slowness, it is not in itself a sufficient condition. Thus, we can paraphrase this line by a simple permutation, and while the complexity level remains the same the line seems impressionistically quite different:

*And ten low words in one dull line oft creep*

Conversely, note that line (55) can be made to seem much slower by performing a similar inversion which leaves the complexity level unchanged:

*Batter my heart for you, three-person'd God*

The precise relationship to a theory of metrical style of such factors as line complexity and the arrangement of syntactic structures within the line remains to be explored. It is our hope, however, that the revised theory provides an adequate tool for such explorations.

## 69 (Continued)

(61) <i>Speech after long silence; it is right</i>	5
(66) <i>Silent upon a peak in Darien</i>	5
(55) <i>Batter my heart, three-person'd God, for you</i>	6
(66) <i>Friends, Romans, countrymen, lend me your ears</i>	6
(64) <i>Wylugh, elm, plane, assh, box, chasteyn, lynde, laurer</i>	7
(65) <i>Down the long tower stairs hesitating</i>	9

The lines in (69) vary in complexity from zero to nine. Lines with considerably greater complexity can readily be invented (see (70), with a complexity of 17), but such lines do not appear to be attested in the poets. The theory thus allows for a greater variety of line than anyone has ever found use for. When faced with such a fact, one may attribute it to inadequacies in the theory and attempt to revise the theoretical framework so as to restrict the number of unattested cases that are allowed. Alternatively, one may attempt to account for the unattested cases in some plausible fashion, leaving the theory intact. It seems to us that the absence of lines of greater complexity can be explained adequately within the theory. If it is granted that the complexity of a line is directly related to the difficulty that it poses for the reader, and if one further supposes that poets normally do not wish to turn their poems into difficult crossword puzzles, the artistry of which cannot be appreciated without laborious pencil and paper calculations, then it is not unreasonable to assume further that there is an upper bound on the complexity that a given poet would ever wish to impose on his lines. A supposition of this sort is perfectly natural in the case of syntax: while clearly there is no upper bound on the number of nouns that can be conjoined in a noun phrase, it would surprise no one to learn that a perusal of the collected works of all American novelists from Hawthorne to Henry James did not reveal a single conjoined noun phrase composed of more than 27 (or 69) nouns. The case of the iambic pentameter does not appear to us so dissimilar as to rule out an analogous explanation for the absence of lines such as (70):

(70) <i>Billows, billows, seréne mírror of the maríne bórroughs, remóte willows</i>

To illustrate the metrical theory developed here,<sup>20</sup> we conclude with a

<sup>20</sup> At the time the present work went to press, two articles appeared, Wimsatt (1970) and Magnuson and Ryder (1970), which take issue with the theory of prosody set forth in Halle and Keyser (1966) and Keyser (1968). The theory presented in (52) here anticipates in certain instances the objections raised by Wimsatt and by Magnuson and Ryder. A more direct and detailed reaction to these critics, which also touches upon a number of points not treated here, appears in Halle and Keyser (forthcoming).

detailed scansion in (71) of a passage from the Prologue to the *Canterbury Tales*.

(71) *A Clérk ther was of Óxenförd alsó,*  
 W S W S W S W S  
*That unto lógyk hadde lóngē ygó.*  
 W S W SW S WS W S  
*As léene was his hórs as is a ráke,*  
 W S W S W S W S W S W SX  
*And he nas nat right fát, I undertáke,*  
 W S W S W S W S W S X  
*But lóoked hólwe, and therto sóbrelý.*  
 W S W S W S W S W S  
*Ful thrédbáre was his óvereste courtepý;*  
 W S W S W S W S W S  
*For he hadde géten hym yet no benefice,*  
 W S W S W S W S W S W S X  
*Ne was so wórldly for to have office.*  
 W S W S W S W S W S X  
*For hym was lévere have at his béddes héed*  
 W S W S W S W S W S  
*—Twénty bóokes, clád in blák or réed,*  
 W S W S W S W S W S  
*Of Áristotle and his philosophie,*  
 W S W S W S W S W S W S X  
*Than róbes ríche, or fíthele, or gáy sautrie*  
 W S W S W S W S W S W S X  
*But al be that he was a philosóphre,*  
 W S W S W S W S W S X  
*Yet hadde he but lítel góld in cófre;*  
 W S W S W S W S W S X  
*But al that he myghte of his fréendes hénte,*  
 W S W S W S W S W S X  
*On bóokes and on lérnynghe he it spénte,*  
 W S W S W S W S W S X

(Continued on p. 180)

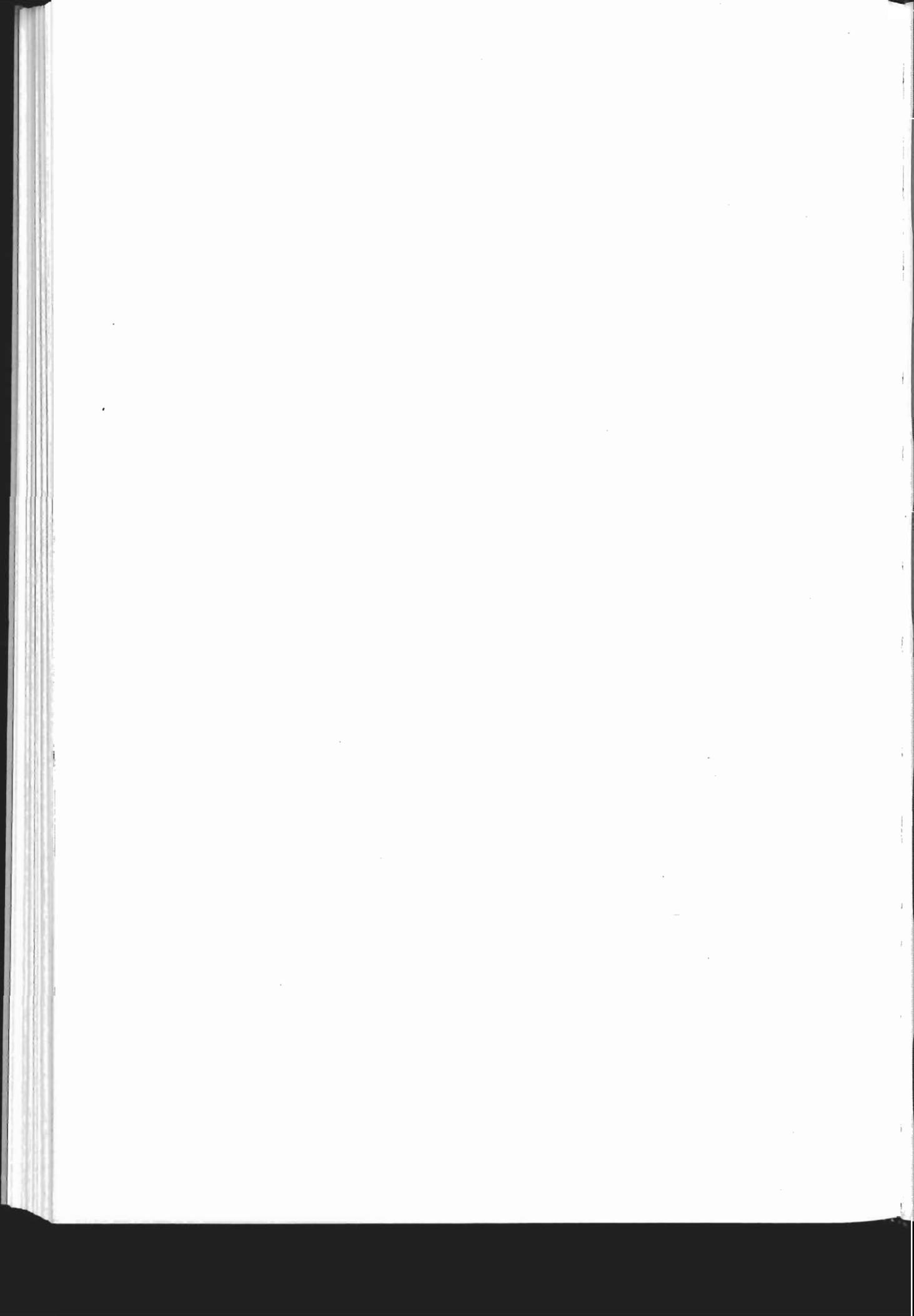
71 (Continued)

*And bísily gan for the sóules préye*  
 W SWS W S W S W S X  
*Of hem that yáf hym wherwith to scoléye.*  
 W S W S W S W S W S X  
*Of stúdie tóok he móost círe and móost héede.*  
 W SWS W S W S W S W S X  
*—Noght ó wórd spák he more than was néede,*  
 W S W S W S W S W S X  
*And that was sáyd in fórmē and reverénce,*  
 W S W S W S W SWS X  
*And shórt and qúyk and fúl of hý senténce;*  
 W S W S W S W S W S X  
*Sównyngē in móral vértu was his spéche,*  
 W S W SW S W S W S X  
*And gládly wolde he lérne and gládly téche.*  
 W S W S W S W S W S X

(A. Prol. 285-308)

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