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ENGLISH

III. THE IAMBIC PENTAMETER

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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.

Robert Bridges "A Letter to a
Musician on English Prosody"

When a poet composes metrical verse, he imposes certain constraints upon his choice of words and phrases that ordinary language does not normally obey.[1] 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 telling apart 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 (1*b*) and (1*c*) are lawful embodiments of

the iambic pentameter, whereas (1*a*) is not, even though (1*a*) has the same number of syllables as (1*b*), but (1*c*) does not.

(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 (1*b*) as a more complex iambic pentameter line than (1*c*).

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. A good theory, however, would be expected to do more than that; it would also help us to understand the nature of metrical verse and illuminate the relationship between a speaker's everyday linguistic competence and his ability to judge verses as metrical or unmetrical, as complex or simple. We restrict this study to the favorite meter of English poets, the iambic pentameter. The approach used here can readily be extended to other meters; see, for example, Halle "On Meter and Prosody" and Halle and Keyser, *English Stress*.

We propose that the ability of readers and poets to judge verse lines as metrical or unmetrical, and as more or less complex, is due to their knowledge of certain principles of verse construction. This knowledge—much like the average speaker's knowledge of his language—is tacit rather than explicit. People when questioned may be unable to give a coherent account of the principles that they employ in making the above judgments of verse lines. 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 it is that the fluent speaker of a language knows about it.

We shall assume that this knowledge consists of two distinct parts: one concerns the abstract pattern underlying the meter; the other, the rules that relate the abstract pattern to concrete lines of verse. We regard this assumption as a working hypothesis to be justified by showing that insightful and important results can be obtained with its help.

The sequences of abstract entities that underlie the meter are symbol strings such as those in (2):

(2) (*a*) XXXXXXXXXXX
(*b*) WSWSWSWSWS(W(W)) where parenthesized entities are optional.

These abstract patterns are related to concrete lines of verse by correspondence rules such as those illustrated in (3):

(3) (*a*) Each abstract entity (X, W, S) corresponds to a single syllable.[2]
(*b*) Stressed syllables occur in S positions only and in all S positions.[3]

We scan particular lines by establishing a correspondence between the syllables of the line and the abstract entities in the abstract pattern such as those in (2). Lines are judged metrical if such a correspondence can be established exhaustively without violating the applicable correspondence rules. In (4) we illustrate the scanning of a line from Robert Bridges' "Testament of Beauty," a poem written in the pure syllable-counting meter defined by the abstract pattern (2*a*) and the correspondence rule (3*a*):

(4) Long had the homing bees plundered the thymy flanks
X X X X X X X X X X X X

In (5) we illustrate the scanning of an iambic pentameter line which is defined by the pattern (2*b*) and the correspondence rules (3*a*) and (3*b*). It should be noted that (3*a*) and (3*b*) together imply that an unstressed syllable must occur in each W position. We shall see below that the somewhat indirect formulation adopted here is actually required in order to characterize the full variety of stress patterns that may lawfully actualize the iambic pentameter pattern.

(5) 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 here with the help of the pattern (2*b*) and the correspondence rules (3*a*) and (3*b*) is essentially a more formal statement of the description to be found in many of the standard treatises. Thus in Robert Bridges' important *Milton's Prosody* we are told that the normal iambic pentameter line can be defined as

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

We discuss the question of feet below (p. 222). At this point we wish only to note that the normal iambic line defined by (6)—or equivalently by (2*b*), (3*a*), and (3*b*)—does not characterize (1*b*) or any of a huge number of lines that appear commonly in iambic pentameter verses, e.g.,

(7) As ook, firre, birch, aspe, alder, holm, popler,
Wylugh. elm, plane, assh, box, chasteyn, lynde, laurer,
Mapul, thorn, bech, hasel, ew, whippeltree—
(Chaucer, Knight's Tale, ll. 2921–23)

(8) Batter my heart, three-person'd God, for you
As yet but knock, breathe, shine, and seek to mend;
That I may rise, and stand, o'erthrow me, and bend
Your force to break, blow, burn, and make me new.
(Donne, "Holy Sonnet 14")

(9) O Wild West Wind, thou breath of Autumn's being
Thou from whose unseen presence the leaves dead
Are driven like ghosts from an enchanter fleeing, . . .
(Shelley, "Ode to the West Wind")

(10) Speech after long silence; it is right,
All other lovers being estranged or dead, . . .
(Yeats, "After Long Silence")

The existence of such lines has not escaped the attention of Bridges or of any other serious student of prosody. In fact, immediately below the definition (6) Bridges notes that in Milton one may find three types of exception 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 position of the stresses.

In other words, each of the three properties of the line that are specifically regulated in the definition (6) 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 below:

(11) 1. unstressed foot (pyrrhic)
2. heavy foot (spondee)
3. initial foot inverted (trochee)
4. verse-medial foot inverted (trochee)
5. extra slack syllable inserted verse-medially
6. dropping of verse-initial slack syllable (headless)

We shall refer to the account based on the norm (6) and the allowable deviations (11) as the standard theory of the iambic pentameter. We examine next the lines in (7)–(10) in order to illustrate the functioning of the standard theory.

The lines from Chaucer (7) are metrical by a liberal invocation of allowable deviation (11.2), for heavy feet abound in (7). Moreover, there is an initial trochee (11.3) in the last two lines, and an extra slack syllable (11.5) in the second line.

The first line of Donne's Sonnet (8) has an initial trochee (11.3) as well as a verse medial heavy foot (11.2) in the phrase *three-person'd God*. The second line contains a spondee (11.2), as does the fourth line; whereas the third line has an initial pyrrhic foot (11.1) and an extra slack syllable (11.5) *me and*.

The first line of Shelley's poem (9) exhibits two spondees (11.2). The second line contains an initial trochee (11.3) and the pyrrhic foot (11.1) *-ence the*, and a verse final spondee (11.2). The third line has an extra slack syllable *en* in *driven* (11.5) and a pyrrhic (11.1).

In the Yeats verses (10) the first line is headless (11.6) and contains one verse medial spondee (11.2) and a pyrrhic foot (11.1). The second line begins with a spondee (11.2) and includes an extra slack syllable in *being* (11.5).[4]

Although the standard theory consisting of the abstract pattern (2*b*), the correspondence rules (3), and the list of allowable deviations (11) correctly establishes the lines in (7)–(10) as metrical, it has a number of inadequacies that suggest rather fundamental revisions. Consider first the line (1*a*) which we have been using as our prime example of an unmetrical line:

/ / / / /
Ode to the West Wind by Percy Bysshe Shelley.

The line contains an inverted first foot (11.3), a heavy foot (11.2), and two verse-medial trochaic substitutions (11.4). Since all these are admissible deviations, the line 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 expresses allowable deviations in terms of feet. (In fact, it is only in this domain that the entity *foot* plays a significant role.) Implicit in this view is the notion that deviations in one foot are independent of deviations in adjoining feet. Deviations in one foot, however, are not independent of deviations in adjoining feet. Thus the line just scanned was unmetrical because it had two consecutive trochaic feet, and such lines are ruled out in iambic meters. It is, of course, possible to modify (11.4) so as to take account of this possibility. But if adjoining feet are not independent, there is a serious question as to the sense of setting up feet as entities intermediate between the line and the weak and strong positions that constitute the line. We shall propose below 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 already noted that an important 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, for in the standard theory there are no qualifications for membership in this list. By characterizing the allowable deviations with the help of a list, the standard theory renders itself incapable of explaining certain facts about English verse which an adequate theory would be expected to explain. It was noted many years ago by Jespersen (p. 262) that whereas an iambic line could tolerate a trochee in the first two syllables,[5] a trochaic line could not tolerate an analogous iambic substitution in the first two syllables. He cites the following lines from Longfellow:

(12) Tell me not in mournful numbers
Life is but an empty dream

and observes that the second line may not be replaced by:

(13) A life's but an empty dream

There is no explanation 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 the first line of (10)), trochaic verse admits of an extrametrical slack syllable at the beginning of a line. The following trochaic couplet is illustrative:

(14) All the buds and bells of May
From dewy sward or thorny spray
(Keats, "Fancy")

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

Thirdly, Jespersen (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. This break is commonly indicated orthographically by a comma, semi-colon, colon, or period. It is noteworthy that two of the categories on the allowable deviation list are commonly associated with major syntactic breaks. These two are internal trochaic substitution, which often occurs after a major syntactic break (see 28*c–d*), and the heavy foot, which is composed of two positions separated by a major syntactic break (see (7)). 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 standard theory by the account below:

(15) (*a*) *Abstract metrical pattern* (cf. (2*b*))
*(W)SWSWSWSWS(x)(x)
where each x position may only be occupied by an unstressed syllable and where elements enclosed in parentheses may be omitted.

(*b*) *Correspondence rules* (cf. (3))
(i) A position (S or W) corresponds to either a single syllable, or
a sonorant sequence incorporating at most two vowels (immediately adjoining to one another, or separated by a sonorant consonant).

Definition: When a stressed syllable is located between two unstressed syllables in the same syntactic constituent within a line of verse, this syllable is called a *stress maximum.*

(ii) stressed syllables occur in S positions and in all S positions;
or
stressed syllables occur only in S positions, but not necessarily in all S positions;
or
stress maxima occur only in S positions, but not necessarily in all S positions.[6]

The order of alternatives of the correspondence rules is significant. Each earlier alternative is subsumed by each later alternative and the later alternatives can be viewed as enlarging the class of lines which are deemed metrical. For example, in (15*b*i) the first alternative allows only ten- to twelve-syllable lines to realize the abstract metric pattern whereas the second alternative increases to twenty the number of syllables in lines which realize the abstract metrical pattern. At first sight the correspondence rules given here with their several alternatives may appear to differ but little from the list of allowable deviations incorporated in the standard theory. This, however, disregards the very important fact that while in the standard theory there is no limitation as to what is to be included in the lists, the alternative statements of the revised theory are subject to the limitation that later statements must subsume—and hence be generalizations of—earlier statements. In addition, we propose that the order of statements in the correspondence rules reflects the complexity of a line. The order is, therefore, our formal device for capturing the important concept of tension. The intuitive basis for this is reasonably straightforward. 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, when 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 no one can miss the iambic pentameter pattern in

The curfew tolls the knell of parting day

whereas, it takes considerable sophistication to see that the same pattern is present in Donne's line

Yet dearly I love you and would be lovèd fain

This increased difficulty in perception of the pattern which results from utilizing more complex correspondence rules explains also why there are no lines in which all and only the most complex correspondence rules are utilized. Such lines exceed the threshold of the reader's ability to perceive the pattern. We return to questions of this type in the last part of the paper.

To begin our discussion of the revised theory let us simply see how the theory permits a line to be scanned. 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.[7] If the number is ten, a one-to-one occupancy of positions by syllables is assumed, in accordance with the first alternative of (15*b*i). 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 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 (15*b*i). (See also below p. 227).

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 (15*b*ii). We begin by checking the first alternative and underlining all positions in which this alternative is not satisfied; i.e., 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 by means of the second alternative of (15*b*ii) and underline all positions where it is violated; i.e., a W occupied by a stressed syllable now receives a double underline. Finally, we check out the third alternative; if any position violates this alternative—i.e., if any W is occupied by a stress maximum—the line is judged unmetrical. Below we illustrate the procedure just outlined:

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

This line satisfies in its entirety the first alternative of both (15*b*i) and (15*b*ii).

(17) And leaves the world to darkness and to me
W S W S W S W S W S

In line (17) the fourth S violates the first but not the second alternative of (15*b*ii).

(18) Batter my heart, three-person'd God, for you

W S W S W S W S W S

In (18) the first S violates the first alternative of (15*b*ii) but not the second, and the first and third W violate the second alternative, but are allowed by the third alternative. An example of cases where all three alternatives are violated is provided by the triply underlined and barred position in the unmetrical line (19*a*).

(19*a*) Ode to the West Wind by Percy Bysshe Shelley[8]

W S W S W S W S W S W

The revised theory provides a great deal of freedom within the iambic pattern 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 constraints of the meter, one is tempted to search for some aesthetic reason for his doing so. Consider, in this regard, the following opening line from a sonnet by Keats:

(19*b*) How many bards gild the lapses of time

W S W S W S W S W S

This line is unmetrical since it contains a stress maximum in the fourth W position in violation of the last alternative of (15*b*ii). 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 (20) as an instance where later alternatives of both (15*b*i) and (15*b*ii) apply·

(20) Yet dearly I love you and would be lovèd fain

W S W S W S W S W S

The second and third W in (20) violate the first alternative of (15*b*i) but not the second, while the third S violates the first but not the second alternative of (15*b*ii). Note that the assignment of two syllables to a single position has to be done in the way shown. If different syllables were to be assigned to a single position the line would be unmetrical because stress maxima would occupy W positions.

The assignment of syllables to positions is, of course, a strictly metrical assignment. 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 recital verse is much more indirect.

It is obvious that the second alternative of (15*b*i) 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, but allows for monosyllabic words to be assigned to a single position along with an adjacent syllable under certain special conditions.[9] Other poets seem to modify elision as defined in (15*b*i) 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.[10] Still other poets allow for an extra-metrical syllable internally before a major syntactic break. Examples of the latter are:

(21) And as I past I worshipt: if those you seek

(Milton, *Comus*, l. 302)

From mine own knowledge. As nearly as I may

(Shakespeare, *Ant.* II.ii.91)

and Shelley as well (see (25) below).

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

We recall that in rejecting the standard theory we stressed the fact that the list of allowable deviations (11) was not otherwise restricted, and that

there was no mechanism for excluding from this list such obviously absurd items as (21):

(21) 1. Insertion of a parenthetic phrase in a line
2. Trochaic foot followed by a dactyl
3. Elision of exactly three syllables verse finally.

We must now show that the allowed deviations of the standard theory (11) are in fact subsumed by the various alternatives of the revised theory advanced here, and that it excludes the absurdities collected in (21).

That the revised theory excludes (21) is really unnecessary to demonstrate in detail since there is no way in which even the last (i.e., most general) alternatives of (15*b*i) and (15*b*ii) can be stretched so as to include (21). It is equally self-evident that (11.5) which allows an extra slack syllable in the line and (11.6) which admits headless lines are included by the revised theory. The latter is specifically allowed by (15*a*), where the first W is marked as optional and parenthesized. It ought to 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. We have reflected this difference between the two parenthesized sub-sequences by supplying an asterisk to the first parentheses in (15*a*). We have, however, at this point no explanation for this difference. Examples of headless lines in iambic pentameter are given in (23):

(23) (*a*)—Twenty bookes clad in blak or reed—

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

(Chaucer, *CT* Prol., l. 294)

(*b*)—Speech after long silence; it is right

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

(Yeats)

Extra slack syllables in the line (11.5) are allowed by the later alternatives of (15*b*i), as we have already seen in our discussion of (20) above. The third line of (8), repeated here as (24), is an additional example:

(24) That I may rise and stand, o'erthrow me and bend

W S W S W S W S W S

Turning now to the remaining allowable deviations, we recall that the unstressed foot (11.1), has already been illustrated in (17) above. The third line of (9), repeated here as (25), offers an additional example:

(25) Are driven, like ghosts from an enchanter fleeing

W S W S W S W S W S W

Here the third S contains an unstressed syllable, a realization allowed by the second alternative of (15*b*ii). (For the assignment of *driven* to a single position, see above p. 227.)

The next allowable deviation (11.2), the heavy foot (spondee), requires invocation of the last alternative of (15*b*ii). We have already invoked it in our discussion of (18) above. Notice, however, that it is required to accommodate all of the lines of (7), the second of which is repeated here by way of illustration:

(26) Wylugh, elm, plane, assh, box, chasteyn, lynde, laurer

W S W S W S W S W S

In (26) the first W violates the first alternative of (15*b*i) and both the first and second alternatives of (15*b*ii). The second and third W's violate the first two alternatives of (15*b*ii) but are allowed by the last alternative.

The two final allowable deviations of the standard theory concern inverted feet; by (11.3) these are allowed verse-initially, by (11.4) they are allowed verse-medially. We have shown in (18) above how examples of the former

type would be scanned by the revised theory. An additional example of a line beginning with an inverted foot is scanned in (27).

(27) Silent upon a peak in Darien (Keats)

W S W S W S W S W S

Verse medially inverted feet may appear in two distinct positions, after stressed syllables (cf. (28 *a–b*)) and after a major syntactic boundary (cf. (28 *c–d*)).

(28) (*a*) The Millere was a stout carl for the nones (A. Prol. l. 545)

(*b*) The course of true love never did run smooth (*MND* I.i.134)

(*c*) Appeare in person here in Court. Silence. (*WT* III.i.10)

W S W S W S W [S W S

(*d*) Friends, Romans, countrymen, lend me your ears.

W S W S W S W S W] S

(*JC* III.ii.78)

The occurrence of two stressed syllables back to back as in *stout carl* and *true love* may correspond to any verse internal W S or S W sequence by virtue of the last alternative of (15*b*). To illustrate this we scan (28*a*) and (28*b*) below:

(28) (*a*) The Millere was a stout carl for the nones

W S W S W S W S W S W

(*b*) The course of true love never did run smooth

W S W S W S W S W S

Instances of two stressed syllables corresponding to a W S sequence were scanned in (18), (23*b*) and (26) above.

It is an interesting fact that inverted feet appear only under the following three conditions in an iambic pentameter line; verse initially, after a stressed syllable (see (18)), and after a major syntactic boundary (see p. 223 above), across which the stress subordination 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, these three environments are the environments 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 (28*d*) would be unmetrical, were there no major syntactic boundary before *lend*. Thus, in the light of the revised theory, the restriction of inverted feet to the above three environments is anything but a curious coincidence; it rather reflects a significant property of the meter. It is one of the reasons for our assertion that the revised theory is more powerful than, and hence to be preferred over the standard theory.

There is yet another odd fact noted by metrists that finds a ready explanation in the light of the revised theory, but is just a curiosity from the point of view of the standard theory. This is an asymmetry cited above between trochaic and iambic lines with regard to the admissibility of inverted feet in verse-initial position (see pp. 222–23 above.) The abstract metrical pattern for a trochaic line must be of the form

(29) SWSWSWS(W)

and its correspondence rules, those of (15*b*). 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 (15*b*ii). We illustrate this with the help of the line concocted by Jespersen on the model of Longfellow's "Psalm of Life":

(30) A life's but an empty dream

S W S W S W S

Here the second syllable violates all three of the alternatives of (15*b*ii), and hence renders the line unmetrical. As we have seen above the same does

not happen when a trochee is substituted for the first iamb in an iambic line. Such lines (see (28*a*)) are allowed by the third alternative of (15*b*ii) and are therefore perfectly metrical lines.

Notice also that the introduction of an initial extrametrical syllable will have no effect on a trochaic line, but its inclusion in an iambic line will be limited to lines without inverted first feet since, otherwise, a stress maximum will be realized in a W position in violation of the last alternative of (15*b*ii).[11]

Once again the revised theory shows certain facts to be lawful consequences which are deducible from certain other facts, and thus provides a more adequate explanation for the phenomena than the standard theory.

The final argument in favor of the revised theory is that, as noted above, it is relatively easy to reconstruct the notion of metrical complexity or tension within the revised theory. 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 (11); hence nothing can be deduced from that order. This does not hold for the order of the alternatives in the correspondence rules (15*b*): here the alternatives are ordered in increasing generality, beginning with the least general and ending with the most general. As already remarked above, 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 employed, 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 demonstrated above this measure works properly in extreme cases. Whether it works properly in all cases cannot be determined at this stage in the progress of our science. 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 (15*b*ii) should be a fraction of that resulting from the invocation of the second alternative of (15*b*i). 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 all the lines that have been analyzed above so as to show that the judgments made by our scheme are not totally implausible.[12]

		Complexity of
(31)	1. The curfew tolls the knell of parting day (16)	0
	2. Twenty bookes clad in blak or reed (23a)	1
	3. And leaves the world to darkness and to me (17)	2
	4. Are driven like ghosts from an enchanter fleeing (25)	2
	5. Yet dearly I love you and would be lovèd fain (20)	3
	6. Appears in person here in Court. Silence (28*b*)	3
	7. The Millere was a stout carl for the nones (27*a*)	4
	8. Speech after long silence; it is right (23*b*)	5
	9. Silent upon a peak in Darien (28*a*)	5
	10. Batter my heart, three-person'd God, for you (18)	5
	11. Friends, Romans, countrymen, lend me your ears (28*c*)	6
	12. Wylugh, elm, plane, assh, box, chasteyn, lynde, laurer (26)	7

It will be observed that the lines in (31) vary in complexity from zero to seven. Lines with considerably greater complexity can be readily invented (cf. (32) with the 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 ever found use for. When faced with such a fact, one may attempt to revise the theory so as to restrict the number of unattested cases that are allowed by the theory. Alternatively one may attempt to explain the unattested cases in some plausible fashion leaving the theory intact. Since we are unable at this point to come up with a significant improvement over the revised theory, we must look for an explanation for the observed facts within the theory. If it is granted that the complexity of a line is directly related to the difficulty that the line in question 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 twenty-seven (or, for that matter, none of more than sixty-nine) nouns.[13]

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 (32) in verses written in iambic pentameter.[14]

(32) billows, billows, serene mirror of the marine boroughs, remote willows

W S W S W S W S W S

NOTES

1. This essay is a shortened version of a part of a larger study dealing with English metrics. The full study constitutes the third chapter of Halle and Keyser, *English Stress* (Harper and Row). (Permission to reproduce material from this book granted by publisher.) This work was supported in part by National Institute of Mental Health Grant No. MH-13390-02 and in part by National Science Foundation Grant No. GS-2005 at Brandeis University. We wish to acknowledge the extremely helpful comments of Edward Weismiller and W. K. Wimsatt. We are indebted to them for many improvements in the exposition which follows; responsibility for its imperfections is, of course, our own. For full reference for all works cited in these notes, see the selected bibliography at the end.

2. 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 unambiguously segmented into syllables.

3. By stressed syllable we mean here the syllable that has the main stress in the word; all other syllables in the word are subsumed under the term "unstressed." Thus in the word *instrumentality*, the antepenult syllable will be viewed as "stressed" and all other syllables lumped together as "unstressed." We regret this imprecise language, but we see no ready way out of this terminological embarrassment.

4. An example of a verse medial inverted foot (11.4) can be found in (28).

5. See W. K. Wimsatt (in Thomas A. Sebeok, *Style in Language*): ". . . 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" (p. 206).

6. In previous studies (see, e.g., Halle and Keyser, "Chaucer and the Study of Prosody," ie.

we proposed that a stress maximum is constituted by a stressed syllable located between two syllables with lesser stress. The definition of stress maximum given here limits more severely 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 of the stress maximum is to admit as metrical certain lines that previously had been judged as unmetrical; e.g.,
from Chaucer:

1. "With this quyksilver, shortly for to sayn" (C.Y., l. 1111); cf. "for quyksilver, that we it hadde anon" (C.Y., l. 1103);
2. "He was short-sholdered, brood, a thikke knarre" (A. Prol., l. 549);
3. "Ther nas quyk-silver, lytarge, ne brymstoon" (A. Prol., l. 629);

from Spenser:

4. "Ne let house-fyres, nor lightnings helplesse harmes" (Epithalamion xix.7);

from John Donne:

5. "Askt not of rootes, nor of cock-sparrows, leave" ("Progress of the Soule," l. 217);
6. "Th'hydroptique drunkard, and night-scouting thiefe" ("Holy Sonnet III," l. 9).

Though lines of this kind are clearly unusual, 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 the stress maximum given in Halle and Keyser, "Chaucer and the Study of Prosody," was noted independently by J. Meadors, "On Defining the Stress Maximum." Note, finally, that "unstressed" in (15*a*) means literally "without stress." This may not be invariant from one poet to another but seems correct for Chaucer and the major poets of the Renaissance.

7. It is important to keep in mind that extra-metrical syllables, both in verse initial and verse final position, are not included in the numbering.

8. Edward R. Weismiller (in a personal letter) has pointed out that lines which exhibit a violation of our rules do, in fact, occur in the work of many Renaissance poets; for example, in the metrically experimental poet Sidney's *Astrophel and Stella:*

With sword of wit, giving wounds of dispraise (10.10)

W S W S W S W S W S

It is Weismiller's belief that such lines are in imitation of an Italian model, the so-called "double trochee." Since we have no relevant statistical studies for the major poets of the Renaissance, we are not in a position to judge how common lines like the above are. A reading of the first thousand lines of the metrically conservative poet Spenser's *Faerie Queene* yielded three clear examples: I.i.12.9, I.ii.36.4, I.iii.7.9, which suggests that the so-called "double trochee" was far from common. They are, in any case, unmetrical in terms of (15) and, if Weismiller's contention is correct, we should expect few lines of this type to occur in poets and in periods known not to be influenced by the Italian model. For a fuller discussion of the term metricality see Halle and Keyser, "Illustration and Defense of a Theory of the Iambic Pentameter."

9. For a discussion of Chaucer's rule in some detail see Halle and Keyser, "Chaucer and the Study of Prosody," and for a criticism of the rule as given there see Hascall, "Some Contributions to the Halle-Keyser Theory of Prosody." 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 modification of the rule along the lines specified by Hascall.

10. Extensions of the class of consonants which participate in elision are suggested in Hascall

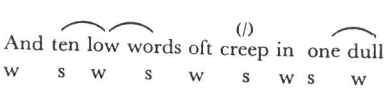
and in Freeman, "On the Primes of Metrical Style." It is one of the contributions of Bridges, *Milton's Prosody*, that the content of this rule actually changes in Milton between *Paradise Lost* and *Samson Agonistes*.

11. Notice that 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 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' " (p. 39).

12. Recent studies (see Beaver, "A Grammar of Prosody" and Freeman, "On the Primes of Metrical Style") have dealt with the question of metrical style in terms other than line complexity. They have taken into account such things as the number and position of stress maxima, the number and position of unactualized S positions, and so forth. For example, in a discussion of the following lines from Pope's "An Essay on Criticism":

1. When Ajax strives some rock's vast weight to throw
2. The line too labours, and the words move slow.

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:



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 (18) above 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. The most that can be said at this juncture is that the revised theory, we hope, provides an adequate tool for such explorations.

13. We have tried to demonstrate the existence of an inverse relation between metrical complexity of a verse type and the frequency of this type by studying the statistics of different verse types in *Beowulf*; see Halle and Keyser, *English Stress*, pp. 153–55.

14. In May 1970 (see Bibl.), two articles appeared: Wimsatt: "The Rule and the Norm," and Magnuson and Ryder, "The Study of English Prosody," which take issue with the theory of prosody in Halle and Keyser, "Chaucer and the Study of Prosody" and Keyser, "The Linguistic Basis of English Prosody." The theory presented above anticipates in certain instances the objections raised. A more detailed reaction to these critics, which touches also upon a number of points not treated above, appears in Halle and Keyser, "Illustration and Defense."

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