

Offprint from

POETICS

International Review for the Theory of Literature

12

GENERATIVE METRICS

edited by

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1974

MOUTON

THE HAGUE • PARIS

CRITICAL REMARKS ON GENERATIVE METRICS

1

Metrics deals with the order of marked and unmarked elements in discourse. Markedness may consist in greater length, higher pitch or heavier stress; it is possible, too, and even not uncommon, that more than two degrees of markedness are provided for. The segments of discourse, which may serve as arguments of the predicate of markedness, are generally said to be syllables or vowel nuclei of syllables (sometimes, sequences of syllables are permitted, too). To a sequence of such segments, $T = E_1 E_2 \dots E_n$, metricity is attributed, if the order of marked elements shows a certain regularity, say that each marked element is followed by an unmarked element or preceded by two unmarked; patterns like these are called meters. They are not allowed to go beyond a certain degree of complexity; for instance, a pattern would not be considered as a meter, if every seventh element or every k^3 -th element is marked; this is connected with the nature of the material used (natural language) and with certain psychological difficulties to perceive such a pattern; the criterion of regularity is beyond doubt, but it is not perceived as regularity.¹

In most cases, the analysis of order is not based upon the whole sequence $E_1 E_2 \dots E_n$, but this sequence is segmented into m subsequences $V_1 V_2 \dots V_m = E_1 E_2 \dots E_{n_1} E_{n_1+1} \dots E_{n_2} E_{n_2+1} \dots E_{n_{m-1}} E_{n_{m-1}+1} \dots E_{n_m}$; sometimes, these subsequences (lines) have different meters (e.g., elegies written in hexameter-pentameter distichs), but this is rather an exceptional case. Anyhow, each subsequence V_i is made up of a number of periods whose shape depends on the given order; the number

¹ E. Standop (1972) arguing against the "arithmetical or quasi-arithmetical conception of rhythm" fails to distinguish between the level of description and the level of perception. A regularity described by arithmetical or other formal methods is simply an abstract description of a structure, which may be based on psychological laws, of course. I think, however, that most of Standop's detailed empirical criticisms are absolutely correct; they are indeed rather different from those I shall advance here.

of periods is not necessarily an integer — cf. the case of enjambment — and it need not be the same throughout all subsequences V_i of a complete text T .

This primitive terminological inventory will be sufficient to formulate now some questions I think to be crucial for the study of metrics:

- (1) (i) What is 'markedness'?
- (ii) What is E ?
- (iii) What is a period?
- (iv) What is V ?
- (v) What is T ?

- (2) (i) If a text T is given, how to recognize markedness and unmarkedness of its elements?
- (ii) How to analyze a given text T into syllables? (this question touches *inter alia* on problems traditionally known as synalepha, syncope, elision, etc.)
- (iii) How to determine the periods of a given text T ? Can this analysis be based upon single subsequences (lines) V_i without referring to the contextual lines, or must the whole text be taken into consideration?
- (iv) How many periods form a line? Is this number constant throughout the whole text? Is it an integer?
- (v) How to cut up a given text T into lines?² Which patterns of order characterize the lines of this text? Do they change throughout the text?

- (3) (i) Which meters exist and why just these?³
- (ii) Which metrical systems exist? What about the historical relations between them?⁴

² This question seems a little trivial at first glance; but that this impression is premature and false, is suggested by Beaver's statement: "... real line length does not necessarily correspond to the line length as the poet arranges his verse visually" (Beaver, 1968; 155). Beaver is speaking here of poems like Poe's "Raven"; but the question is quite more sophisticated, when modern lyrics are considered; cf. for instance Brandstetter (1969).

³ Cf. the programmatic statement by Jakobson and Lotz: "The analysis of a metrical system ... must fully and unequivocally bring out which meters can and do exist and which cannot occur in the given system" (Jakobson and Lotz, 1952: 5 /resp. 1941:1).

⁴ In the present context, it would be particularly interesting to analyze the historical attempts to introduce new meters AGAINST the existing system, e.g., the endeavours of Sidney to introduce quantitative markedness; on the other hand, it is quite illustrative, that these attempts did not succeed; but the fact that they have been undertaken suggests the fragility of the notion of 'metrical competence'.

- (iii) How do the units 'markedness', V, E, period, T depend on the structure of the language the text is written in?
- (iv) What about the frequencies of certain meters, lines, periods (relative to certain populations)? What do these figures reveal about the author in question, the epoch in question, etc. ?

(4) Is it possible to associate a certain meter with a given text ?

I think that these questions are representative of four problem areas within metrics: (1) theoretical foundations of a metrical system; (2) relationship between texts and a metrical pattern; (3) systematical and applied metrics; the answers to the questions of (3) presuppose those to (2) and to (1), those to (2) those to (1);⁵ question (4) seems not to fit into this general frame; it seems rather to evoke something like prescriptive metrics; I shall immediately come back to this question.

2

Some years ago, some American linguists (among them M. Halle, S. J. Keyser, J. Beaver) made a new approach to solve the problems of metrics, or at least some of them, within the scope of a coherent theory. This approach, called generative metrics, uses some notions and concepts known from the theory of generative grammar as developed by Noam Chomsky and others. According to a widely accepted view, the main task of linguistics is the description of all sentences of a language (together with a description of their structures, if there is made a difference between the description of a sentence and the description of its structure(s)). A grammar of that language is thus a mechanical procedure to enumerate all possible sentences of a language or, conversely, to decide which given sequence of elements is a sentence of that language; there is a certain difference between an enumerating procedure and a decision procedure, but this difference can be neglected in our context; both procedures will be called here generative, in contrast to an approach, whose objective is the description of a given finite set of sentences; theories of this kind will be called taxonomical.

Halle and Keyser, who initiated the theory of generative metrics⁶ transferred the second generative procedure, the decision procedure, to

⁵ Except perhaps for (3) (v).

⁶ Only Halle and Keyser will be explicitly treated here; as for other contributors, of. References.

metrics. The fundamental question of metrics is thus question (4) of our list: "Is it possible to associate a certain meter with a given text?"; if this is possible, the text in question is metrical, if not, it is unmetrical. Corresponding to a speaker's ability to decide whether a given sentence is grammatical or not, and to understand it (if it is grammatical), Halle and Keyser (henceforth HK) admit an analogous ability to judge verses as metrical or unmetrical: "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" (*ES*, 139 = Halle and Keyser, 1971:139). Of course, there are a lot of borderline cases, where judgments may be vacillating and heterogeneous and where the simple dichotomy metrical vs. unmetrical is obliterated; consequently, distinctions must be made between various degrees of metricity or between various degrees of metrical complexity; it is just the same case as with grammaticality. "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" (*ES*, 140). The term 'coherent and explicit account' seems to imply, that this task must be fulfilled by developing a procedure that determines exactly the set of all lines (or texts) the poet (or the experienced reader, whoever this may be) judges to be corresponding to a certain meter; moreover, a method must be worked out to measure the complexity the poet's or reader's 'metrical competence' imputes to the text.⁷ HK do not use the term 'metrical competence'; but the analogy they draw between a speaker's implicit knowledge of his language, his 'linguistic competence', and the ability called here 'metrical competence' is quite clear. And it is quite misleading, too. Contrary to the knowledge constituting a speaker's linguistic competence, which is acquired in the course of a long and complex process involving both innate abilities⁸ and a lot of practical experience, the rules governing metrical patterns are learned like a mathematical formula or a law of physics; it is possible, of course, to mechanize and to internalize this knowledge, which loses then its explicit character in part — just as the principles of calculation of interest may be 'forgotten' by someone applying them continuously; but he must have learned them, and it seems very odd to speak of a merchant's tacit knowledge of calculation of interest which must be accounted for by a coherent and explicit theory.

⁷ This part of the theory will not be considered here in detail.

⁸ That there are no innate metrical abilities, needs no further discussion; fairness requires us to say that HK do not say that.

On the other hand, it would be very odd, too, to imagine Vergil counting syllables when writing *Arma virumque cano*, but I think he would not have found it difficult to explain why the line

- (5) *Quis desiderio sit pudor out modus*
(Horace, *Carm.* I, 4)

is no iambic pentameter. And if an average speaker of German is asked, whether the line

- (6) *Vom Eise befreit sind Strom und Bäche*

is a dactylic hexameter, I cannot imagine that his answer would be: "Well, I'd say it isn't, but I cannot explain it; it's just my implicit feeling." As far as I see, there are three possible (sincere) answers: (1) I don't understand the question; (2) I don't know; (3) It isn't, because ... (Needless to say, his reasons can be false). The question resembles a question like "Is Schiller the author of this line?", but not a question like "Do you think, that line (7) is a grammatical German sentence?":

- (7) *Vom Eises befreit hat Strom und Bache*

Every speaker of German will be able to state clearly the ungrammaticality of (7) without being able to explain the reasons; he may never even have heard notions like plural, noun, umlaut, and nobody would question his statement, if he cannot make it explicit. Quite to the contrary, the question, whether (6) is a dactylic hexameter, can be answered only by somebody who explicitly knows the principles of the meter in question.

This does not mean that I am denying the existence of some unconscious or subliminal sensibility for rhythms, of some sense of periodicity — a well-known fact that has been and still is the object of numerous sometimes serious but mostly rather speculative theories.⁹ But this mere rhythmicalness does not play any role in generative metrics; it is not this diffuse feeling the poet's or experienced reader's metrical judgments are based on. HK do not even mention notions like those suggested above. Moreover, the metricity of a line or of a text can be judged only relative to a particular meter; it is quite clear that the line

- (8) *Festlich prangte der Greis in gestreifter kalmankener Jacke*
(Voß)

⁹ There is an abundant amount of literature on this subject; I shall only mention Sievers' *Schallanalyse*, Backing's *Schlagfiguren*, Bücher's "Arbeit und Rhythmus" (Leipzig, 1896); cf. the survey in de Groot (1932).

is perfectly metrical when regarded as a hexameter, but absolutely unmetrical when regarded as blank-verse. 'Metrical' is apparently a two-place predicate, the arguments of which are both texts and meters, or to put it in other words, it is not simply a predicate of texts but a relation between a text and a meter. The fact that the same text may correctly be qualified as metrical and as unmetrical (relative to two meters) cannot be explained by tacit knowledge, by an ability comparable to linguistic competence. This becomes still clearer, when we take into consideration that the rules of a particular meter may include another meter overdetermined by them. Thus, the decasyllabic verse

(9) *Und sehe, daß wir nichts wissen können*
(Goethe)

violates the rules of iambic tetrameter, but it is a perfect doggerel (*Knittel*). The set of lines admitted by the rules of iambic tetrameter is also admitted by the rules of doggerel, but the converse does not hold true, i.e., every iambic tetrameter is metrical when regarded as doggerel, but there are doggerels that are unmetrical, when regarded as iambic tetrameters.

To summarize these few remarks: there is no evidence for 'metrical competence', i.e., for an ability playing the same role linguistic competence plays in linguistics: quite the contrary, the imputed analogy leads to some rather strange consequences. Nevertheless, it must be conceded that an adequate theory of meter must account for the problem put by question (4) above. According to HK, a taxonomic theory does not afford that; in the following section, I shall discuss in brief their main arguments; in section 4 I shall analyze whether the 'generative theory' as outlined by HK fulfils this requirement.¹⁰

3

HK propose to consider the study of meter as "composed of two separate parts, namely, the study of abstract patterns and the study of correspondence rules which enable a given string of words to be viewed as an instance of a particular abstract pattern" (*ES*, 140).¹¹ These parts

¹⁰ It should be noted, however, that this is not the only task of metrics, according to HK; another point is for instance the relationship between 'metrical competence' and linguistic competence; but they do not pursue the study of this relationship.

¹¹ This subdivision is not yet made in Keyser (1969), though theories and arguments presented there are essentially the same as in *ES*.

correspond approximately to the question sets (1) and (2), respectively, in § 1. There are several possible ways to conceive a theory of meter within this general frame. (The following considerations will be restricted to the best-known and most frequent English meter, the iambic pentameter.) The most common approach as outlined for instance by Robert Bridges (Bridges, 1921) is re-formulated by HK in the following way (*ES*, 164-165):

(10) (i) Abstract pattern

The metrical pattern of iambic pentameter is made up of a sequence of abstract entities like

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

(parenthesized entities are optional).

- (ii) "(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."

I shall label this theory, which, as Wellek and Warren say, "lingers mostly in classrooms and elementary textbooks"¹² as "strict theory"; Keyser calls it — with particular reference to iambic pentameter — "The Strict Iambic Pentameter Theory" (Keyser, 1969: 381); there are indeed some minor differences between (10) and the theory Keyser refers to, but they are mainly due to the form of presentation.

The strict theory can be interpreted either as a taxonomical or as a generative theory. In the first case, it maintains that all given English iambic pentameter lines within the scope of a previously fixed corpus correspond to (10); in the second case, it represents a criterion, a decision procedure that enables us to discriminate between metrical and unmetrical lines; given a line of English text, it can be algorithmically decided whether this line is an iambic pentameter or not (for the moment, we shall not consider the question whether this decision procedure is an exact account of the experienced reader's knowledge). In both cases, the theory is untenable, if it is interpreted such that every syllable in a given line is read with a strong accent, if and only if the abstract pattern has an S in the corresponding position — without any regard to the linguistically stressed or unstressed character of the syllable in question. Under this interpretation, the theory is plainly false when regarded as a taxonomical theory, for every corpus will contain a lot of lines that do not

¹² By the way, it seems surprising that the vast literature on metrics is almost completely neglected by HK.

fit the rules (because they have less than 10 syllables), and it makes no sense when regarded as a generative theory, because there is no way to discriminate between metrical and unmetrical lines: every line written in English (this is a tacit, but obvious condition) is metrical in this artificial way: there are no unmetrical lines at all. The apparent absurdity of this interpretation of the strict theory did not prevent some theorists of meter from adhering to it, it seems; Johann Heinrich Voß, the famous translator of the Homeric epopees, is reported to have maintained it, though his translations generally fit rather exactly the usual linguistical distribution of stress in German. Anyhow, HK do not belong to them; they take for granted that in the strict theory, the marked elements — i.e., the stressed syllables — are determined by the stress rules of the language in question; they are independent of the metrical pattern. Only under these circumstances does it make sense to argue about the strict theory. It is quite clear that the theory, if interpreted in this way as a taxonomical theory, can easily be falsified, because there are innumerable verses in every not artificially restricted corpus that do not allow a 1: 1 association, as the correspondence rules demand it. Consequently, nobody till now seriously advanced the theory in this form: most scholars made a virtue of necessity and declared that the subtle contrast, the 'tension' between abstract metrical pattern and its concrete realization is the true object of metrics; I never understood this dark and enigmatic theory, and I cannot imagine how anyone will ever understand it. HK do not deal with it — a very sound choice —, but they refer to another possibility, namely to establish a catalogue of exceptions; HK give the following list of allowable deviations they mainly owe to Bridges:

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

(*ES*, 166; cf. Keyser, 1969, where only four deviations are mentioned.)

The strict theory with this supplement is labelled by HK as 'standard theory'. Though terminology is not crucial, this label seems a little too suggestive; the 'standard theory' as described here is surely not a generally accepted and well established theory of iambic pentameter;

Bridges uses it only to characterize the specific language usage of Milton, not as a general theory of metricity. In the former sense, the approach of the standard theory is surely rather common; it is then to be interpreted as a statement on the usage of iambic pentameter in some more or less fixed corpus: an iambic pentameter is every line fulfilling the definition given by the rules of (10); now there may be occurrences in the corpus that violate these rules. If this is the case, there are two possibilities: (1) either the lines in question are not iambic pentameter (how this can be stated will not be discussed here; the problem of pathologically deformed utterances is well known from traditional linguistic field work); or (2) the deviations are systematicized and the usage of the term 'iambic pentameter' is changed by adding these deviations to the rules. Thus, it is possible to grasp the idiosyncrasies of some author or of some epoch in the history of literature; the list of deviations characterizes an individual versification style; Miltonian blank-verse differs from Shakespearian blank-verse. There may be deviations, too, that are not bound to an author or to an epoch, but that occur in all corpora chosen at random; in this case, they will be included into the definition of iambic pentameter itself instead of entering into the list of deviations (cf. the extra slack syllables in (10) (i)). The theory of Bridges and other theories of comparable form are descriptive, corpus-based, taxonomical theories; they cannot be taken for a decision procedure for metricity, just as a taxonomical description of Miltonian language usage cannot be interpreted as a generative theory of English language. The same holds true, by the way, for the theories of Heusler, Lanier, etc. I shall not go into further details here; the question will be reconsidered in the last paragraph.

HK raise several arguments against the standard theory. The following line

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

"contains an inverted first foot (47c [= (11) (c)]), a heavy foot (47b [= (11) (b)]), and two verse-medial trochaic substitutions (47d [= (11) (d)]). Since all these are admissible deviations, (48) [= (12)] must be judged metrical by the standard theory. But this surely is an unacceptable consequence" (*ES*, 167).

Now, this line appears in fact unmetrical, at first glance at least, but on the one hand, it does not seem 'more unmetrical' than Chaucer's line

(13) *Wylugh, elm, plane, assh, box, chasteyn, lynde, laurer*

quoted by HK explicitly as a perfectly metrical line (*ES*, 165), and on

the other hand, the criticism is clearly based on the obviously false interpretation of the standard theory as a generative theory. A theory which aims to describe a certain type of versification and the deviations occurring in its corpora must not decide whether and why a certain accumulation of deviations leads to an unmetrical line; this accumulation does not occur (or the description as such is insufficient). A description of Miltonian versification cannot be falsified by showing that (12) could figure among the lines of *Paradise Lost*. Of course, the description of Milton's verses as given here can be proved to be inadequate — but not by quoting lines that do not occur in his works.

HK state correctly the inadequacy of the assumption "that deviations in one foot are independent of deviations in adjoining feet" (*ES*, 167); the pure list of deviations does not account for this fact; but they state, too, that there is no difficulty in eliminating this fault within the frame of the standard theory, for instance by indicating that a pyrrhic cannot be followed by another pyrrhic, or to put it more exactly, that this case is not observable. This addition to the list of admissible deviations — it restricts these deviations — goes beyond the scope of the single foot, weakening thus somehow the status of this entity; but after all, it seems absolutely unimportant which of both formulations is preferred: (1) within an iambic pentameter, two adjoining pyrrhics are not allowed, or (2) within an iambic pentameter, four adjoining unstressed syllables are not allowed. On the other hand, it is clear that the standard theory cannot abandon the notion of foot, if it wants to distinguish between iambic and trochaic meters.

The main fault of standard theory indeed is the fact that it tries to grasp all possible and allowable deviations by means of a list; thus, it fails to bring about any deeper generalization, as it can be described by using rules. Now the respective advantages and disadvantages of both approaches — list vs. rule — can be discussed and evaluated from two different points of view:

(1) By testing how they satisfy certain epistemological requirements like consistency, completeness, simplicity, to mention just these; in this respect, there is scarcely to be found any conclusive argument against the standard theory (or related versions of taxonomical theories); though it does not fulfil all epistemological requirements in an optimal way — it is surely incomplete and could be simplified — its deficiencies can be eliminated without leaving the frame of the theory.

(2) By pointing out empirical phenomena it fails to explain, but "which an adequate theory would be expected to take account of"

(*ES*, 167). This point must be kept apart from the general requirement of completeness; the matter is not that the theory does not deal with the facts in question, but whether it explains them in an adequate way or not. I shall not argue here about general problems of explanation and adequacy — they belong to the most nebulous spheres of epistemology —, but I shall restrict myself to quoting just three examples the standard theory — according to HK — fails to explain:

- (14) (i) Jespersen and other scholars observed and stated, that the first foot of an iambic line may be replaced by a trochee, but that the first foot of a trochaic line may not be replaced by an iamb without loosing its metricity.¹³
- (ii) Conversely, a trochaic line admits an additional unstressed syllable at the beginning of a line (an "extrametrical slack syllable", as HK call it (*ES*, 168)); on the other hand, the first (unmarked) syllable of an iambic line is not obligatory, i.e., an iambic line may begin like a trochaic line (with unstressed syllable), and conversely, a trochaic line may begin like an iambic one (with an unstressed syllable).
- (iii) The standard theory does not take account of the apparent connexion between major syntactic breaks and deviations. In particular, internal trochaic and spondaic substitutions in iambic verses often co-occur with major syntactic breaks graphically indicated by a comma, a semicolon or even a full stop.

Once more, it must be stressed that these criticisms are valid only when the standard theory is taken for a generative theory. A description of English iambic pentameter and its usage in Milton's works (or some other corpus) does not tell anything about admissible and inadmissible deviations that do not occur; it must be granted, however, that the standard theory can be falsified by showing that the restrictions (i)-(iii) are valid within a corpus, of which the standard theory is said to be a taxonomical description. I shall admit here that this is the case. We shall take up these problems again in the following section, where the explanation of the generative theory which HK gives will be discussed.

To summarize the whole argument HK raise against the standard theory: it proves at best, that a bike is a bad car, i.e., that a taxonomical theory of versification does not satisfy some conditions that must be fulfilled by a generative theory.

¹³ Cf. Jespersen (1962); that is just an exception from the fact stated in note 12.

There are now still three essential questions to be clarified:

- (1) Is the standard theory adequate as a taxonomical theory? (As already mentioned above, I do not think so, but this must be analyzed and discussed in detail).
- (2) Is there any taxonomical theory that can successfully interpreted as a generative theory ?
- (3) How is it possible to construct a generative theory ?

The first question cannot be pursued here, because it demands long and detailed historical investigations; the second one will be answered implicitly in the last paragraph; as for the third one, HK have made several proposals in this direction; one of them will be briefly sketched and discussed in the following section.

4

There are several versions of this theory which differ in some not unimportant points.¹⁴ I shall consider here the recent one, that of 'English Stress'; HK call it the 'Revised Theory':

(15) "(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 [the star after the first parenthesis refers to problems of complexity and will not be considered hereafter].

(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

¹⁴ They concern primarily the correspondence rules and the concept of stress maximum.

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" (*ES*, 169).

The metrical pattern then consists of a sequence of elements — so-called positions (W, S, X). There are no periods smaller than complete verses (cf. above section 1 (1) and (2)); this means, that there are no feet or *Takte* (steps; they form the fundamental units of verse in Heusler's influential theory of meter). Since a text usually is composed of more than one verse, (15) (a) can be rewritten in the following more explicit format:

(16) (i) T → Va

(ii)a V(a)

(iii) V	W S W S W S W S W S
	S W S W S W S W S
	W S W S W S W S W S X
	S W S W S W S W S X
	W S W S W S W S W S X X
	S W S W S W S W S X X

('a' is simply an auxiliary symbol; (ii) expands only the different possibilities of (15) (a).)

The unit E (= position) is relatively well established, albeit the notion of syllable belongs to the most controversial items of linguistics;¹⁵ but this does not matter here. Markedness depends only on stress, i.e., quantitative markedness which sometimes may have played a certain role in the history of English meters is left aside here. It is admitted that a given unit within the abstract pattern always corresponds to either a marked or to an unmarked unit. This assumption is questionable in two respects: (1) there are without any doubt units the experienced reader perceives as intermediate, units which are interpretable as [+ m] and as [— m], resp. as m or as u, as I shall write henceforth. These units are regarded as minor deviations when put against the rule.

¹⁵ HK give a short working definition of this term: "sequence of speech sounds consisting of one syllabic sound (vowel preceded and followed by any number of nonsyllabic sound (consonants))" (*ES*, 141, note 1). Cf. for the concept of syllable Pulgram (1970) with an extensive discussion of this difficult notion.

(2) Two-place positions (cf. (15) (b) (i)) are ambiguous, if one of both parts corresponds to a marked and the other to an unmarked syllable:



The theory thus allows us to interpret a sequence like u m u m u m u m — i.e., a part of an 'extremely normal' iambic pentameter line — as W W W W W or as S S S S S or as S W W S S or still as W S W S W S W S W S (synalepha is not obligatory!), etc. *ad libitum*, if the sound structure permits synalepha. This sound structure is not very probable but possible, and a generative theory must take it into consideration. In brief, the correspondence rules are not unambiguous.

These two critical points do not indeed touch the essentials of the theory they can be solved, as it seems, without going beyond its limits.

Much more important are the correspondence rules themselves. Since we are not concerned here with questions of metrical tension or complexity, we shall base our further discussion on the largest alternative of (15) (b) (ii): "Stress maxima occur in S positions but not in all S positions"; thus, it is guaranteed that no case, complex as it may be, is excluded.

The content of this alternative can be reformulated as follows:

(18) A line is an iambic pentameter, if and only if no stress maximum occurs in a W position.

The metrical pattern and the first correspondence rule (15) (b) (i) permit iambic pentameter lines between 9 and 24 syllables (strictly spoken, (15) (b) (i), as it stands, allows perhaps still more than two syllables per position, but I think, 24 per line are enough to illustrate the argument); of course, it is not very likely that a 24-syllable-line will occur; it is as likely as for instance the occurrence of say 111 coordinated adverbs in an English sentence, but IF it occurs, it would be perfectly metrical. Nevertheless, we shall leave aside this possibility, since the main argument is not touched by it. We can say, then:

(19) Each sequence of 9-12 syllables, where no stress maximum occurs in a W position, is an iambic pentameter.

This reformulation makes clear, that the term 'iambic pentameter' here applies to an enormously large set of sequences; for instance, all lines in (20) are perfectly metrical, though complex, iambic pentameters:

(20) u u u u m m u u m m
 m u u u u u u u u u
 m u u u u u u u m u u
 u u u u m m u u u u
 m m m m m m m m m m
 u u u u u u u u u u

It is hard to imagine how these absurdities might be avoided; of course, there could be postulated a minimum of REALIZED stresses, i.e., of stress maxima in S positions, but this recourse to statistical criteria would destroy the frame of the revised theory.

Suppose now, there is given a sequence of syllables m u m u m u m u m u; suppose further, that the syllables 1-8 belong to the same syntactical constituent (the line is then something like an ideal trochaic pentameter); just as the revised theory demands, it violates apparently the third alternative of (15) (b) (ii), since the syllables 3, 5 and 7 have stress maxima in W positions:

(21)	m u m u m u m u	sequence of syllables
	W S W S W S W S	abstract pattern of iambic pentameter

Now (15) (a) resp. (16) (iii) permit the metrical pattern S W S W S W S W S X, too (dropping of initial unstressed syllable, one extra slack syllable at the end). As (22) clearly shows, our sequence of syllables violates in no way this abstract pattern:

(22) m u m u m u m u m u
 S W S W S W S W S X

It even satisfies the strongest alternative of (15) (b) (ii). Since (15) does not, apparently, prescribe which metrical pattern must underlie the concrete analysis, resp. how often, in which order, etc., metrical patterns must be applied, a whole poem made up of purest trochaic pentameter lines may be correctly interpreted as consisting of pure iambic pentameters.

In fact, among all decasyllabic lines there is only one type that cannot be interpreted as an iambic pentameter, namely those lines that contain exactly two stress maxima separated by two, four or six unstressed syllables; this is the only case where one of both stress maxima necessarily occurs in a W position. It should be kept in mind, however, that all possible cases of synalepha are not considered here; they would increase still further the set of correct iambic lines.

The theory gives no hint how *to* segment a given *text* into lines (cf. (2) (v) above); the usual method is to preserve the print format, and it may well be that this is not made explicit in (15), because it is assumed to be self-evident. Beaver (cf. note 2) indeed remarks, that the 'real' order of lines, whatever this may be, may not necessarily correspond to that chosen by the poet or his editor for print. (There are a lot of cases where the print format was changed, and moreover, medieval manuscripts mostly lack any metrical segmentation.) If this assumption is correct, it must be accepted that most prose texts can be scanned such that they consist mainly of iambic pentameters.

Let me summarize now the preceding considerations. It has been shown

- (1) that the revised theory is not able to discriminate between metrical and unmetrical lines, because the same line can be analyzed this way and that way;
- (2) that the revised theory gives a metrical interpretation to lines that even from a very permissive and tolerant point of view cannot be accepted as correct iambic pentameters (cf. (20) above);
- (3) that the revised theory cannot establish a difference between iambic and trochaic lines, because the same verse can be scanned as trochaic and as iambic verse (cf. (22) above).

The last argument should be strong enough to show that the aforementioned asymmetries Jespersen has pointed out (cf. (14) above) cannot be accounted for. But let us consider one of these cases in greater detail here, because it seems rather instructive. Jespersen remarked that an iambic line may begin with a trochaic foot, but not *vice versa*. There is one standard example quoted several times (see also Keyser, 1969: 383-84), namely Longfellow's line

(23) *Life is but an empty dream*

This trochaic tetrameter cannot be transformed to

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

without becoming unmetrical. The standard theory cannot explain this fact. The revised theory cannot explain it, either. According to HK, (24) is unmetrical, because it has a stress maximum in a W position. The metrical pattern of a trochaic tetrameter is S W S W S W S(W). (25) shows that *life* stands between two unstressed syllables and — that is a very questionable point in general — within the same syntactical constituent, hence (24) must be regarded as unmetrical:

(25) *A life's but an éempty dréam*

S W S W S W S

Now, this is just an idiosyncrasy of that verse; in the simplest and most common case, the third syllable of a trochaic tetrameter is stressed, too, as the position S clearly indicates (it MUST not be stressed, of course); if this is the case, i.e., in the most regular line, the second syllable is not encircled by unstressed syllables, hence it is no stress maximum, and no stress maximum standing in a W position, and the line is perfectly metrical. Consequently, a regular trochaic tetrameter admits an initial iambic foot — unless the third position, a S position, is filled by an unstressed syllable. In order to preserve the explanation given by the revised theory, it would be necessary to show that trochaic tetrameter with inverted first foot are only unmetrical if the third syllable is unstressed. I personally do not think that the still more disfigured line (26) is metrical or 'more metrical' than (25):

(26) *A life's sad and empty dream*

but I am neither a poet nor an experienced reader of English verse.

5

Many of these shortcomings could be improved within the frame of the revised theory, for example by restricting (16) (iii) in the following way:

$$(16) \text{ (iii)' } V \rightarrow \left\{ \begin{array}{l} \mathbf{W S W S W S W S W S} \\ \mathbf{S W S W S W S W S} \\ \mathbf{W S W S W S W S W S X} \\ \mathbf{W S W S W S W S W S X X} \end{array} \right\}$$

These restrictions are perhaps too strong, but it stands beyond all doubt that essential ameliorations are possible, to the extent, perhaps, that the revised theory becomes the best existing taxonomical theory of verse. But these improvements would not concern the crucial reasons why the revised theory is no adequate theory of meter; these reasons are already indicated in the second paragraph, where the crucial notion of 'metrical competence' has been discussed. They can be further clarified by considering once more the difference between (10) + (11) and (15). (10) + (11) describe on the basis of some empirical observations which features are exhibited by iambic pentameters, or to put it conversely, which features

even the most complex pentameter does not show; that is a very comprehensive task, and AT LEAST FOR PRACTICAL PURPOSES, it is convenient to restrict the set of iambic pentameters considered and described to a certain author or to a certain period; (10) + (11) represent a taxonomical, corpus-based theory, with some faults, no doubt, but these faults could be handled as empirical shortcomings, and it is not proven that they cannot be eliminated. (15) however is a statement on the nature of the infinite set of possible iambic pentameters (in English, as it is tacitly assumed). And it is just this transition from (10) + (11) to (15), that renders (15) fundamentally inadequate. Even if it would be still improved — as suggested above — by taking into consideration further observations from the rich fund of English verse, thus describing in fact only documented types of iambic pentameter, it could not make this transition to a projective theory, to a theory dealing with infinite sets in the sense HK intended here. There is no empirical entity that could be described instead of the observable features of corpora, as it is with linguistics and the linguistic competence of a fluent speaker. The views of an average speaker of English would not change when teaching him in school the rule sequence:

- (27) S --> NP + VP
 VP -> NP + V

He would go on to say that (28) is ungrammatical:

- (28) **The boy the ball hit*

(It is possible, of course, to change a speaker's competence, but this is quite another problem.)

The views of an experienced reader on iambic pentameter would change indeed, if HK could succeed in teaching him the revised theory. Lines like

- (29) m u u u u u u m

he regarded as unmetrical till then (unless it is the first time he has heard about iambic pentameters), would be correct for him from now on. Maybe he would argue that his personal feeling of rhythm and periodicity tells him that these verses are quite strange, that they do not look like verses at all and that he never read verses like these in the old and famous books of Shakespeare and Milton and whoever may have written iambic pentameters. But he would have no other argument,

because there is no metrical competence he could consult — except that general feeling of rhythmicalness, which does not refer to particular meters and hence is without any interest here. The revised theory thus describes no ability to distinguish between metrical and unmetrical lines; it determines which lines must be regarded as metrical or as unmetrical.

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