

Antonio Minturno used it in his *L'arte Poetica* (1563). No standardized notation exists for the *refrains of forms in which entire words or lines are repeated, e.g., the *sestina, the *villanelle, and the *ghazal, but critics generally use the capital *R* or a superscript diacritical mark or number. Rhyme schemes bind constellations of sound and meaning as they link poems to formal trads. Just as the rhyme scheme of a Shakespearean sonnet divides the poem sonically into three quatrains and a couplet, e.g., the thought in the poem typically progresses in three parts toward the proposition of the closing couplet. Even as it binds internally, the rhyme scheme of a sonnet can connect it to the larger hist. of all sonnets and, by means of that connection, generate a range of figurative meanings. Not all rhyme schemes bind sound, meaning, and poetic trad. as tightly as the typical Shakespearean sonnet, however, and various rhyme schemes have greater and lesser degrees of complexity and bond force (Ger. *Reimzuang*).

See CLAVIS; STANZA.

■ A. Minturno, *L'arte poetica* (1563); J. Hollander, *Melodious Guile* (1988), ch. 5—how particular sonnets allegorize their own rhyme schemes; S. Adams, *Poetic Designs* (1997); M. N. Carminati et al., “Readers’ Responses to Sub-genre and Rhyme Scheme in Poetry,” *Poetics* 34 (2006).

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RHYTHM (Gr. *rhythmos*; Lat. *rhythmus*).

I. Features of Rhythm

II. Rhythm versus Meter

III. Analysis of Rhythm

Although when it was first used in Eng., in the 16th and 17th cs., the word *rhythm* was not clearly distinguished from the word **rhyme* (both words being spelled in a variety of ways), by the 18th c. it was being consistently employed to refer to the durational qualities of poetry and music, and soon extended to analogous properties of the visual arts. In the 19th c., it was generalized to movement of a regular kind—most often the alternation of strong and weak elements—in any sphere, and appropriated by the physical sciences for periodicities and patterns in a range of natural phenomena. The word has retained throughout its hist. an aesthetic aspect, suggesting a movement or spatial arrangement that exhibits some degree of regularity without being mechanical. In poetry and music, it is often opposed to **meter*, understood as a more precisely structured, quantifiable movement.

One cannot understand rhythm without considering its realization in human psychology and physiology; as readers of poetry, it is the *experience* of rhythm that is important to us, and this experience is both mental and bodily. At its most basic, rhythm is a patterning of energy, of tension and release, movement and counter-movement that we both perceive and produce—or reproduce—in our own brains and muscles. The most powerful stimuli in producing a sense of rhythm are those that can be interpreted as bursts of energy, the drum being an obvious example. There is a distinction to be made between the noun *rhythm* and the adject-

ive *rhythmic*: the latter usually implies a fairly strong regularity, so that we can say, “This is not a particularly rhythmic line,” whereas the former can embrace both movements that are metronomic in character and those that are far from metronomic. In their use of rhythm, poetry and music are most closely allied—which does not mean that poetry can be adequately analyzed by means of musical notation (though the many attempts to do so are not without interest), but that both arts draw on the same human rhythmic faculty and thus can gain insights from one another.

Every spoken lang. has its own rhythm, which is to say a distinctive movement of sound, and the pulses of energy that produce it, in a temporal dimension. Linguistic rhythm is a product of the particular language’s deployment of volume, duration, **timbre*, and **pitch* in reflecting lexical and syntactic structures as well as particular emphases. As the use of the term *rhythm* suggests, there is a degree of periodicity in this use of sound, although different langs. achieve it in different ways. The most common classification of langs. is threefold: stress-timed langs., such as Eng., Ger., and Dutch; syllable-timed langs., such as Fr., It., and Sp.; and mora-timed langs., such as Japanese and Tamil (where the speech rhythm is based on subsyllabic elements). This does not mean that in spoken Eng., e.g., the durations between stresses are objectively equal, nor that in spoken Fr., all syllables are of the same length. Phonetic evidence shows that **isochronism* is not a matter of equal duration but of a tendency in this direction, evident, for instance, in the relative durations of vowels to consonants, which are proportionally higher in stress-timed languages (see Ramus et al.). Speakers of Eng. perceive stresses as the dominant element in the language’s tendency toward regular rhythm, whereas the syllables—although they too play a part in creating the rhythmic quality of Eng. speech—are felt to be subsidiary. In Fr., by contrast, the syllables are felt to be the carriers of rhythm, with stress a secondary feature.

The characteristic verse forms of a lang. reflect its rhythm; thus, traditional Fr. verse is based on a syllable count, while traditional Eng. verse is based on the disposition of stresses. However, in Fr. and in Eng., the rhythmic subtlety of which metrical poetry is capable arises from the interplay between syllabic and stress rhythms, both of which are produced by the operation of the body’s musculature in sequences of tension and release. In the most strongly regular verse, the different sources of rhythmic movement in a lang. are aligned, and the resulting movement conforms to the general properties of rhythmic organization.

*Free verse does not organize the features of the lang. in such a way as to produce a regular rhythm, but due to the inherently rhythmic character of every lang. and the structuring devices used by the poet (which can include lineation, syntactic arrangement, and rhyme), rhythm remains an important element in the reader’s experience.

I. Features of Rhythm. Rhythm as a psycho-physiological phenomenon possesses certain properties, irrespective of the medium in which it is realized. Stable

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rhythms characteristically display five features: regularity, repetition, variety, hierarchy, and grouping.

A. Regularity. Rhythmic series consist of perceived signals occurring at intervals that are either regular or are close enough to being regular to create and constantly reinforce the expectation of regularity. In reading a text, the mind is continually making rapid predictions about what is likely to be perceived on the basis of what it has just perceived (and still holds in short-term memory); if the expected signal is delayed or missing, the mind will often supply it. An experience of rhythm will not arise if the time lapse between signals is too great; this, however, is not likely to happen in the case of poetry, except in a very unusual style of performance. When regularity is marked, and the expectation of regularity strong, the signals are perceived as *beats. (It has been argued, e.g. by Couper-Kuhlen, that this happens in spoken Eng. as well as in verse.)

B. Repetition. In order for a rhythm to be perceived, the successive stimuli must be experienced as *the same* stimulus occurring over and over again. In poetry, the rhythm is based on identifiable linguistic units: stressed syllables, syllables, or mora (irrespective of the phonetic differences that occur as these units are repeated). Again, expectation plays a large role in the perception of rhythmic stimuli: having heard a number of repeated signals, we are likely to interpret further stimuli as more of the same.

C. Variation. Exact repetition is usually felt to be monotonous, however, though the precise point at which pleasurable repetition becomes tedious is not easily specifiable. Variation is thus crucial to the enjoyment of rhythm, but if the signal varies too greatly from what is expected, the pattern will be perceived as unrhythmic—or as the beginning of a new rhythmic series.

D. Hierarchy. The repeated stimuli that create a regular rhythm are usually perceived as possessing some further organization, rather than being understood as a simple series. The fact that we hear a clock's "tick-tick-tick" as "tick-tock-tick-tock" is one of the most familiar examples of this tendency: in this case, an exactly repeated stimulus is interpreted as an alternation between a stronger and weaker signal. This interpretation produces a hierarchy: over and above the rhythm of the repeated sounds, we hear a more widely spaced rhythm made up of the "stronger" sounds. If we were asked to tap on one out of every two sounds, we would find ourselves tapping on those we hear as "ticks" rather than those we hear as "tocks."

The hierarchical nature of regular rhythm is very clear in music, where the fundamental rhythmic units, the beats, are perceived in patterns of strong and weak, or strong, less strong, and weak, and so on. Thus a *measure of four beats will begin (according to convention) with the strongest beat, followed by a weak beat, then a somewhat strong beat, then another weak beat. Once this pattern is established (something that can be achieved in a number of ways, incl. variations in pitch, timbre, or loudness), it will continue to be heard unless an alternative organiza-

tion imposes itself on the hearer. In verse, a four-beat line will tend to follow the same pattern, although other factors such as emphasis and syntax can obscure it. The common stanza in *accentual-syllabic verse consisting of 4 four-beat, or *tetrameter, lines can be thought of as having an underlying rhythm in which the initial beats of the first and third lines are the strongest (the "highest" level of the hierarchy, where each unit is two lines), the next strongest beats are at the start of the second and last lines, then the third beats of each line, then the second and final beats of each line. The first stanza of William Blake's "London" will illustrate, using **B**, **B**, **b**, **b** to indicate beats of descending strength:

I wander thro' each charter'd street.

B **b** **b** **b**

Near where the charter'd Thames does flow

B **b** **b** **b**

And mark in every face I meet

B **b** **b** **b**

Marks of weakness, marks of woe

B **b** **b** **b**

This tendency is particularly marked in *dipodic verse, in which the lang. of the lines induces a strong alternation between the beats; alternatively, it can be obscured by the establishment of a contrary rhythm by the lang.

Rhythmic hierarchies are based on twos and threes; series of four or more are perceived as having stronger and weaker beats, and therefore a hierarchical structure. At the lowest level of the hierarchy, this gives rise to duple and triple rhythms; above this level, arrangements of threes are less common. By far the commonest rhythm is the duple rhythm, that is, one based on simple alternation between stronger and weaker stimuli, beat and offbeat; and in popular verse in many langs., this alternation is repeated at higher levels to produce the familiar four-beat rhythm—also a staple of med. verse, Lat. and vernacular, sacred and profane, and many trads. of art verse.

At a certain point in the hierarchy that cannot be defined precisely (and no doubt varies from reader to reader), rhythm fades, to be replaced by what might be called balance. Thus, the relation between 2 four-line tetrameter stanzas is unlikely to be perceived as a matter of rhythm—which is to say, it is unlikely to be registered somatically—though it may be intellectually understood as a strong-weak, or weak-strong, relation. Some analysts, however, incl. Cureton, use the word *rhythm* for relations over these much longer spans.

E. Grouping. As a result of rhythm's hierarchical nature, mora, syllables, or stresses (depending on the lang.) are perceived in groups of two or three or combinations thereof. Grouping is achieved not by the insertion of dividers between the groups, although the use of bar lines and foot divisions may seem to suggest this, but rather by a number of factors working

together to encourage the perception of a closer link between some elements than between others. The use of a strict meter is one such factor: accentual-syllabic verse in a duple meter that begins regularly with an unstressed syllable or offbeat will encourage the perception of groups of two syllables, unstressed then stressed; this is *iambic meter, each unit of which is an iambic *foot. The reverse arrangement produces *trochaic feet. If, as in the former, weaker elements are grouped before stronger elements, the result is a rising rhythm; if, as in the latter, stronger elements are grouped before weaker elements, the result is a falling rhythm (see RISING AND FALLING RHYTHM). Tetrameter lines exhibit a tendency to divide into two groups of four syllables; in *pentameter lines, there is less pressure to fall into a regular grouping (though 4:6 and 6:4 are the most common groups). *Alexandrines most often fall into two groups of six syllables. However, word, phrase, clause, and sentence divisions may cut across these metrically induced groupings to produce a more complex, less clear-cut pattern of groups. And if the meter does not generate particular expectations of grouping—for instance, if the openings of lines vary freely between beats and offbeats—these linguistic divisions, together with line divisions, play the dominant role in determining the perception of groups.

II. Rhythm versus Meter. The distinction between rhythm and meter is old, dating to at least the 4th c. BCE. The disagreement between the **metrici* and the *rhythmici* in ancient Greece reflected two approaches to verse, one strictly quantitative, the other musical, and the two terms have retained these connotations. Meter is that aspect of regular rhythm that can be labeled and counted. It is sometimes conceptualized as an abstract pattern coexisting with the actual, varied rhythm of the poem's lang., and most systems of *scansion are designed to provide a graphic representation of this pattern, though there is no psychological evidence for the simultaneous perception of two different levels in our apprehension of metrical verse. The evidence of Ren. attempts to write vernacular verse in cl. meters, however, suggests that the intellectual apprehension of complex metrical patterns can coexist with the aural appreciation of rhythm (see also CLASSICAL METERS IN MODERN LANGUAGES).

When the rhythm-bearing features of a lang. are arranged in such a way as to produce marked regularity, and thus the perception of beats, the basis for metrical organization exists. And when the series of beats and intervening offbeats are themselves organized into patterns, a meter is perceived, usually in conformity with a set of numerical constraints that has developed in the linguistic trad. in question. Meter can thus be understood as a particular form of rhythm, but it must be remembered that even the strictest metrical verse will retain some of the variety and unpredictability of the language's native rhythm. The establishment of a metrical pattern will also have an effect on the perception of rhythm, for instance, in the *promotion or *demotion of certain syllables. Any verse allows for a variety

of individual *performances, within the parameters set by the norms of the lang., and, in the case of regular verse, the demands of the meter.

III. Analysis of Rhythm. The task of rhythmic analysis is to reflect the movement of lang.—words, phrases, clauses, and sentences—in verse, as perceived by the reader. In free verse, this movement does not induce the experience of a regular pattern and its accompanying expectations, although with some free verse, it is appropriate to include an indication of its movement toward and away from such a pattern. In metrical verse, a full rhythmic analysis will include scrutiny of the movement that both creates and varies a metrical pattern.

One approach to rhythmic analysis is to examine phonetic records of performances of verse, using techniques developed for the phonetic analysis of speech (see, e.g., Chatman and Tsur, *Poetic Rhythm*). This approach is esp. useful for illuminating the different performance styles of different readers and periods, less useful in understanding the rhythmic properties common to a number of readings. The use of musical symbols to represent the rhythmic features of spoken lang. in verse, as proposed, for instance, by Joshua Steele in *Prosodia Rationalis* (1775) and Sidney Lanier in *The Science of English Verse* (1880), has proved less successful, since musical rhythm is determined by specified pitches and durations, whereas linguistic rhythm depends on relations among units.

Phonological investigations of lang. rhythms may utilize terminology that overlaps with that of poetic analysis, thanks to the close connection between natural speech rhythm and verse trad., thus providing tools for rhythmic analysis in poetry (see Hanson and Kiparsky; Hayes 1984 and 1989). Whereas earlier phonological accounts of stress in Eng. relied on the apportioning of numbered levels to syllables, often influencing studies of poetic rhythm, generative phonology and subsequent devel. in linguistic science have demonstrated the importance of lexical and syntactic structures, as well as the operation of general rules of rhythm, in establishing rhythmic hierarchies.

Another approach draws on studies of rhythm in music to scrutinize the complex hierarchies created by the phonological, morphological, and syntactic properties of the lang. used in verse. Cureton, for instance, exploits the influential theory of musical rhythm propounded by Lerdahl and Jackendoff (itself owing much to generative studies of lang.) to develop an account of rhythmic phrasing in verse (see also Attridge, *Poetic Rhythm*, chap. 8). Discussions of folk songs by Hayes and MacEachern and by Kiparsky using optimality theory have provided insights into the relation among the rhythm of the spoken lang., the rhythm established by the meter, and the rhythm of the musical setting. Approaches within the field of *cognitive poetics make use of studies of brain functions, such as the operation of short-term or working memory, and build on older studies of perception such as Gestalt theory (see Tsur 1977). There is still much that is not fully understood about the operation of rhythm in verse, and its relation

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to the rhythms of lang. and of music, and to rhythm itself as a perceptual phenomenon.

■ **Rhythm and Music:** D. Tovey, "Rhythm," *Encyclopaedia Britannica*, 11th ed. (1910–11); G. W. Cooper and L. B. Meyer, *The Rhythmic Structure of Music* (1960); F. Lerdahl and R. Jackendoff, *A Generative Theory of Tonal Music* (1983); J. London, "Rhythm," *Grove Music Online*, <http://www.grovemusic.com/shared/views/article.html?from=az§ion=music.45963>.

■ **Rhythm and Speech:** K. L. Pike, *The Intonation of American English* (1945); D. Abercrombie, *Studies in Phonetics and Linguistics* (1965); D. L. Bolinger, *Forms of English* (1965); Chomsky and Halle; D. Crystal, *Prosodic Systems and Intonation in English* (1969); J. G. Martin, "Rhythmic (Hierarchical) versus Serial Structure in Speech and Other Behavior," *PsychologR* 79 (1972); Allen—Part I on general questions; G. D. Allen, "Speech Rhythm," *JPhon* 3 (1975); M. Liberman and A. Prince, "On Stress and Linguistic Rhythm," *LingI* 8 (1977); I. Lehiste, "Isochrony Reconsidered," *JPhon* 7 (1979); H. J. Giegerich, "On Stress-Timing in English Phonology," *Lingua* 51 (1980); B. Hayes, "The Phonology of Rhythm in English," *LingI* 15 (1984); E. Couper-Kuhlen, *English Speech Rhythm* (1993); F. Ramus, M. Nespor, and J. Mehler, "Correlates of Linguistic Rhythm in the Speech Signal," *Cognition* 73 (1999).

■ **Rhythm and Verse:** Chatman; M. W. Croll, *Style, Rhetoric and Rhythm*, ed. J. M. Patrick et al. (1966); W. Mohr, "Rhythmus," *Reallexikon II* v. 3 (1971); D. W. Harding, *Words into Rhythm* (1976); P. Kiparsky, "The Rhythmic Structure of English Verse," *LingI* 8 (1977); R. Tsur, *A Perception-Oriented Theory of Metre* (1977); T.V.F. Brogan, *English Versification, 1570–1980* (1981)—bibl.; Attridge, *Rhythms*; Scherr; C. Scott, *A Question of Syllables* (1986)—rhythm in Fr. verse; B. Hayes, "The Prosodic Hierarchy in Meter," *Phonetics and Phonology I*, ed. P. Kiparsky and G. Youmans (1989); Cureton; Attridge, *Poetic Rhythm*; K. Hanson and P. Kiparsky, "A Parametric Theory of Poetic Meter," *Lang* 72 (1996); B. Hayes and M. MacEachern, "Quatrain Form in English Folk Verse," *Lang* 74 (1998); R. Tsur, *Poetic Rhythm* (1998); E. Arndt and H. Fricke, "Rhythmus," *Reallexikon III*, v. 3 (2003); P. Kiparsky, "A Modular Metrics for Folk Verse," *Formal Approaches to Poetry*, ed. B. E. Drescher and N. Friedberg (2006).

D. ATTRIDGE

RHYTHMIC FIGURES. Metrical verse in Eng. is experienced as the regular alternation of *beats and offbeats, but very often these do not coincide with stressed and unstressed syllables. Such variations from the simplest realization of the meter frequently fall into one of a very small number of rhythmic figures (the phrase is borrowed from musical analysis). The five most common of these regularly encountered patterns can add expressive power, as well as variety, to the lines in which they occur.

The first figure involves three successive syllables in a metrical line that are all very lightly emphasized in pronunciation, although the middle syllable is felt as a beat, or *ictus, defining the metrical pattern (see PRO-

MOTION). In Shakespeare's opening line of sonnet 150, "How **heavy do I journey on the way**," unemphatic beats on "do" and "on" fulfill the reader/performer's sense of a pentameter. The same figure is used in these lines by Alexander Pope and Emily Dickinson to satisfy five-, four-, and three-beat expectations: "The sound **must seem an echo to the sense**"; "I died for beauty—**but was scarce / Adjusted in the tomb**."

The second figure is the mirror image of the first, where three sequential syllables are all emphasized, though only the first and last syllables carry beats (see DEMOTION). In Thomas Hardy's trimeter "For **then, I, undistressed**," Robert Herrick's tetrameter "And **this same flower** that smiles today," and Emma Lazarus's pentameter "The **air-bridged harbor** that twin cities frame," the emphasized "I" and "same" and "bridged," although as prominent as the adjacent syllables, are not sensed as beats that define their poems' metrical schemes. A two-syllable version of this second figure is experienced at the beginnings of lines in countless instances, where only the second of equally emphasized syllables carries a beat, as with John Milton's "**Hence vain** deluding joys," or Lazarus's "**Send these**, the homeless, tempest tost to me."

Instances of both the first and the second rhythmic figures constitute almost the entirety of this single line by Pope: "The line too **labors, and the words move slow**" (figure one), and (figure two) "The **line too labors, and the words move slow**."

The third familiar rhythmic figure occurs frequently at the beginning of lines and is often labeled "initial inversion," which *foot-scansion prosodists explain as the substitution of a *trochee (/ u) for an expected *iamb (u /). But the four-syllable pattern of stressed and unstressed syllables (/ u u /) is so common and easily perceived that identifying it as a single metrical pattern both simplifies and clarifies the nature of the reader/performer's experience. Thus, the rhythmic figure can add energy to such lines as Dickinson's trimeter "**Men do not sham** Convulsion," Herrick's tetrameter "**Gather ye rosebuds** while ye may," and Lord Byron's pentameter "**Nelson was once** Britannia's god of War."

This third rhythmic figure can also occur after a mid-line break in the rhythm, as in William Wordsworth's tetrameter "My horse moved on, **hoof after hoof**" or in Milton's pentameter "Others whose fruit, **burnished with golden rind**"—a line where one experiences the rhythmic pattern at the line's beginning as well: "**Others whose fruit**, burnished with golden rind."

The fourth rhythmic figure, less frequently experienced because more complex than the previous ones, is, like the third, formed by four syllables. Here two unstressed syllables, or offbeats, are followed by two stressed ones, or beats. This "u u //" pattern is found in such trimeter lines as Wordsworth's "All **over the wide lea**," and Shakespeare's pentameter "When in disgrace with **Fortune and men's eyes**."

The fifth rhythmic figure occasionally employed is the reverse of the previous one. Here the pattern of stresses, or beats, is // u u, and can be experienced in this line from George Herbert's "Easter Wings": "Then shall the **fall further the** flight in me." (Contrast this