Some aspects of poetic rhythm:
An essay in cognitive metrics

Eva Lilja
Professor Emerita
Department of Literature, History of Ideas, and Religion
University of Göteborg
e-mail: eva.lilja@lir.gu.se

Abstract. Rhythm should be regarded as a perceptional category rather than as a property of the work of art. Rhythm might be classified according to three principles, serial rhythm, sequential rhythm and dynamic rhythm, three basic sets of gestalt qualities that lay the foundation for versification systems.

Two schemas decide the rhythm of a poem: direction and balance. ‘Direction’ refers to rising and falling movements in the line. ‘Balance’ refers to repetitions in a play between symmetry and asymmetry as well as a moment of rest.

Rhythms produce meaning, probably due to the fact that rhythms activate internalized bodily experiences as well as conventional meaning patterns. This is demonstrated on the basis of a poem by Sylvia Plath.

Modernist free verse has urged us to provide a broader definition of poetic rhythm than it was done in traditional versification studies. A more vigorous idea about poetic rhythm might be established with the help of the significant advances within metrics during the last decades made by Mikhail Gasparov (1996), Reuven Tsur (2008) and Richard Cureton (1992). Gasparov established the versification systems, Tsur is the founder of cognitive metrics, and Cureton managed to distinguish between different principles of rhythm. I would like to discuss a cognitive perspective of poetic rhythm in relation to a poem by Sylvia Plath, "Winter Trees" from November 1962. The poem was published in her third collection of posthumous works in 1971, while its title also became the title of the volume.
Some aspects of poetic rhythm: An essay in cognitive metrics

The wet dawn inks are doing their blue dissolve. x
2 On their blotter of fog the trees x
   Seem a botanical drawing – a
4 Memories growing, ring on ring, a
   A series of weddings. a

6 Knowing neither abortions nor bitchery, b
   Truer than women, x
8 They seed so effortlessly! c (b)
   Tasting the winds, that are footless, c
10 Waist-deep in history – b

   Full of wings, otherworldliness. c
12 In this, they are Ledas. d
   O mother of leaves and sweetness c
14 Who are these piétas? d
   The shadows of ringdoves chanting, but easing nothing. a

This poem compares the life of trees with the life of women. The wedding occurs in the first stanza. In the second stanza, conception takes place, and in the third one we meet two mythical mothers. The winter of the first stanza turns into a kind of springtime in the second one. At the beginning of the last stanza there is summer that fades away in the last lines. Winter reigns in this poem, but summer introduces a parallel mythical scene. The shadows in line 15 re-establish contact with the realistic landscape of the first lines, but at the same time they evoke the shadows of Hades.

Wood (1992: 160f.) and Bassnett (2005: 115f.), among others, have commented on this poem. Bassnett especially notices the word ‘ring’ (line 4) as the heart of a series of significant assonances collecting the most important motifs and themes of the poem. ‘[R]ing’ is also a metaphor with many meanings – the ringing sound, marriage, wholeness, the annual rings, and the rings on a water surface and so on. She suggests that the sound pattern creates an impression of echoing, and remarks that this poem must be read slowly, “in a kind of chant”. The rhyme pattern is provided next to the text above. Bassnett also comments on the mythical figures in the last stanza. According to Greek mythology, Leda was seduced by the god Zeus in the disguise of a swan, and gave birth to twins. In art history, ‘pietà’ denotes Virgin Mary, another mother of a god, when mourning her dead son.
Wood (1992: 161) remarks that line 8 (“They seed so effortlessly!”) “constitutes a soothing moment in her troubled landscape”, claiming that the poem returns to grief, but the moment has had its value of solace.

The notation of the poem is the following:

<table>
<thead>
<tr>
<th></th>
<th>Prominences</th>
<th>Syllable Stress Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>o O O O / o O o o O o O</td>
<td>3 3 = 6 1,3 2,3 = 1,8</td>
</tr>
<tr>
<td>2</td>
<td>o o O o O / o O o O &gt;</td>
<td>2 1 3 3 2 2,7</td>
</tr>
<tr>
<td>3</td>
<td>O / o o O o o O o</td>
<td>1 2 3 1 3,5 2,7</td>
</tr>
<tr>
<td>4</td>
<td>O o o O o / O o O o</td>
<td>2 2 4 2,5 1,5 2,5</td>
</tr>
<tr>
<td>5</td>
<td>o O o o O o</td>
<td>2 3</td>
</tr>
<tr>
<td>6</td>
<td>o O o O o O / O O o o</td>
<td>3 2 5 2,4 2 2,2</td>
</tr>
<tr>
<td>7</td>
<td>O o o O o</td>
<td>2 2,5</td>
</tr>
<tr>
<td>8</td>
<td>o O o o O o o o</td>
<td>3 2,4</td>
</tr>
<tr>
<td>9</td>
<td>O o o O / o o O o</td>
<td>2 2 4 2 2 2</td>
</tr>
<tr>
<td>10</td>
<td>O O / o O o o</td>
<td>2 1 3 1 4 2</td>
</tr>
<tr>
<td>11</td>
<td>O o O / O o O o o</td>
<td>2 2 4 1,5 2,5 2</td>
</tr>
<tr>
<td>12</td>
<td>o O / o O o O</td>
<td>1 1 2 2 4 3</td>
</tr>
<tr>
<td>13</td>
<td>O O o / O o O o O o</td>
<td>2 2 4 1,5 2,5 2</td>
</tr>
<tr>
<td>14</td>
<td>o O o O o O o</td>
<td>2 3</td>
</tr>
<tr>
<td>15</td>
<td>o O o o O O O O o / o O o O o O o</td>
<td>4 2 6 2 2,5 2,2</td>
</tr>
</tbody>
</table>

Explanations:
O – prominence, strong syllable
o – weak syllable
0 – weak prominence
O – phrasal focus
/ – pause, phrase limit
> – enjambment

*Syllable stress ratio*: 1 means that all syllables in the line are prominent, 2 that half of them are prominent, etc. Ordinary speech rhythm mostly has a ratio between 2 and 3 (Hrushovski 1954).

**Versification systems**

Lately, prosody studies have succeeded in distinguishing separate versification systems of different cultures and epochs. Mikhail Gasparov has established the
main systems, such as French syllabic versification or Chinese syllabomelodic versification (Gasparov 1996: 3ff.). In the Germanic literatures, we should take into account at least three versification systems (Lilja 2009: 279):

- accentual versification of the four-beat line in the Middle Ages;
- metre or tactus of the accentual-syllabic poetry;
- free versification of the Modernist free verse.

What versification system is being elaborated here, considering “Winter Trees”? The poem mixes traditional characteristics of measured poetry with modernist ones. Many lines could be read with mixed tactus where a trisyllabic metre hovers over the text (for example lines 2–5 or lines 12–14). The form of this poem plays with traditional measures having stanzas with a regular number of lines and some kind of end rhyming – even if the rhymes mostly consist of assonances, like “ring” (line 4) – “winds” (line 9) – “wings” (line 11) – “nothing” (line 15).

However, the tactus is not allowed to take over. The most obvious breaks happen in line 8 and line 11, where disyllabic sequences do not cooperate with the dancing trisyllabics that might be heard for example in lines 4–5 and 12–14. The enjambment of line 2 is another place where a possible tactus breaks down. This is modern free verse with traditional features. It could be said that the poem rests in a state of metrical – non-metrical balance.

Bassnett’s remark that this poem should be read slowly (Bassnett 2005: 116) calls for a reading style that strengthens possible prominences, like the molossi in lines 1 and 15 and the spondees in line 6, 9, 10 and 13.

**Principles of rhythm**

A versification system relies on a certain rhythmical principle with the addition of some sets of rules. Richard Cureton locates three so-called temporalities in poetry – tactus, grouping and prolongation (Cureton 1992: 124ff.). These temporalities might apply to all kinds of aesthetic objects. Following Cureton, I will classify aesthetic rhythm according to three principles: serial rhythm, sequential rhythm and dynamic rhythm – three basic sets of gestalt qualities (Hopsch, Lilja 2007: 364):
- serial rhythm: tactus or beat in measured music and poetry;
- segmental or sequential rhythm: the segment or the sequence of the phrase, which is to be found in free verse and in the half-line of the four-beat medieval line, in music and in the surface of a painting, as well as in parts of a sculpture or a piece of architecture;
- dynamic rhythm: the forces and directions in two- and three-dimensional artefacts, and the temporal intensification towards a focus in music and poetry; this is the semantic rhythm of a prolongation.

The rhythmical principle of measured poetical forms from the Renaissance up to Romanticism is serial. The rhythmical principle of Germanic medieval accentual versification as well as of Modernist free verse is segmental. The Middle Ages as well as Modernism use structured sequences in combination with a powerful segmentation. However, they differ as regards their respective sets of rules, while Modernist poetry repudiates any rule of versification. The same rhythmical principle underlies two different verse systems.

Analyses have shown that a poem mostly uses two or three principles of rhythm, and this is also the case in Plath's "Winter Trees". At the acoustic level, salient sequences (line 1:1 “The wet dawn inks” o OOO) are mixed with rows of serial elements (line 14 “Who are these pietàs?” O oo O o). The rhythm of typography is, of course, dynamic.

Also the prolongations use dynamic rhythm. A prolongation is a movement towards the central point of information, the 'goal'. Weaker phrases are anticipating or extending the goal of a sentence. "Anticipations" cause rising movements and "extensions" falling movements (Cureton 1992: 146f.). In "Winter Trees", the lines are grouped in prolongations as follows:

- Lines 1, 2–3, 4–5
- Lines 6–8, 9–10
- Lines 11–12, 13–14, 15

The first and the last lines of the poem are closed and very long – they provide prolongations of their own. The beginning of stanza 2 constitutes an extra long prolongation of three lines.
Rhythmical levels

A poem has at least four rhythmical levels – the whole poem, the stanza, the line and the phrase.

- The printed picture: visual rhythm
- Stanza: visual and audible rhythm
- Line (10–11 syllables): audible and visual rhythm
- Phrase (approximately 2 stresses): audible rhythm

If you study the poem as a whole, the printed picture will dominate the impression, and the rhythm will be primarily visual – provided that you read it silently. As to the stanza, its rhythm is visual as well, but you might also hear its structure. The line is brief enough to form an audible gestalt, but you can see it as well. The rhythm of a phrase, however, cannot be grasped by the eye – the rhythm is audible only. In practice, there is of course interplay between the different levels.

Here I will mainly focus on the audible rhythms of lines and phrases. I am not going to analyse the visual rhythms in “Winter Trees”. They allude to an older type of repeated stanza schemas, the traditional square. However, the regular change of line lengths within stanzas in “Winter Trees” – one long, one short – is more obvious to the eye than countable in number of prominences per line, except for the last stanza where stress numbers change regularly: 4, 2, 4, 2, 6.

In this poem, the line is more stable than the phrase. Or, in other words, the closures of lines are mostly observed but phrase limits appear to be less distinct.

Gestalts and Schemas

A cognitive perspective of poetic rhythm must begin with investigating some perceptual forces (Tsur 2008: 132–140) and sensory-motor experiences (Johnson 2007: 35f.). The hypothesis here is that the reading process orders rhythmical impulses into series of perceptual patterns or gestalts. These gestalts are characterised by force and balance ordered with the help of sensory-motor experiences. Poetic rhythm may be understood as different combinations of force – an urge to move forwards, and balance – an instinct to stop time and rest, both within the limits of a perceptual pattern or gestalt. Let us take a closer look at the key concepts of gestalt, force and balance.
Perceptual patterns can be apprehended as gestalts according to Gestalt psychology. Reuven Tsur, the founder of cognitive poetics, has elaborated the concept of gestalt, thus making it useful for versification studies (2008). Discussing movements in the verse line, Tsur explores the perceptual forces of Arnheim’s visual diagrams (Arnheim 1957). He demonstrates how audible figures are perceived in the same way as visual ones. Motion in visual figures appears analogously in the acoustic gestalts of lines and phrases in poetry. When the focus moves too close to the border, perceptual forces create the impression of motion within patterns or gestalts (Tsur 2008: 133).

Gestalts in “Winter Trees” are, for example, perceived figures, lines, prolongations and stanzas. Line 8, for example, makes a beautiful rhythmical pattern or gestalt: “They seed so effortlessly!” o O o O o 0 o. This harmonious perceived figure is part of the gestalt of stanza 2 etc.


We have a poem, perceptual gestalts and sensory-motor image schemas. ‘Rhythm’ seems to be a matter of the perceptual level triggered by impulses from the poem like repetitions, tactus and other salient devices, but the shape and the meaning of rhythm may emanate from embodied motor senses, from the muscle memory, from the experience of the rhythms of the human body. Force and balance are two of the image schemas that Johnson presents in The Body in the Mind (1987: 41–100). Only these two schemas seem to be relevant for aesthetic rhythm.

In “Winter Trees”, the ionicus of line 9:2 “that are footless”, oo OO, has a forward direction or – using traditional versification terminology – rising rhythm. The phrase of 9:2 constitutes a gestalt, and within this gestalt a forward movement takes place. Exemplifying ‘balance’, we may look at 15:2 “but easing nothing” o O o O o. This is a phrase in a balance that you can see and hear, but it may also refer to a motor balance, a bodily memory, awakened through the means of listening.
Direction

The image schema of ‘force’ describes movements along a path (Johnson 1987: 45–47; Talmy 2000). These are understood as cognitive metaphors, the hidden structures of spoken language. Mark Johnson refers to cognitive metaphors when he explores the connection between perceived movement and music (2007: 246–254; Lakoff, Johnson 1999: 60–73). The musical path of listening in Johnson’s examples could easily be transferred into the path of reading a poem.

Poets say that they walk a poem – they need to take a walk to get started. Walking seems to be the most important bodily rhythm when it comes to poetry. When walking, you leave one state of balance, heading towards a new point of balance. In between, your body for a moment is in a state of imbalance (Johnson 1987: 85ff.). This is obvious also in dancing, jumping etc.

A body creates directions when it moves in space. Transferred to the terminology of versification, ‘direction’ refers to rising and falling movements in the phrase, the line and the prolongation. If focus occurs late, it causes a rising movement, and consequently a falling rhythm means that dominating prominences are to be found at the beginning of the phrase or line. A phrase like O o O (“Full of wings”, 11:1) just rests (Talmy 2000: 414).

Rising figures that are footless oo OO (9:2), they are Ledas oo O o (12:2)
Falling figures nor bitchery OO oo (6:2), Truer than women O oo O o (7)
Resting figures ring on ring, O o O (4:2), They seed so effortlessly o O o O o o (8)

In metred versification, the directions are said to follow the first syllable of the line. If it is stressed, the direction falls, and if it is a weak syllable, the direction rises. Line 10 seems to be a falling line:

Waist-deep in history – OO o O oo Prominences 3 Syllable stress ratio 2

The opening spondee is heavy indeed. Focus must fall upon “hist(ory)”, that is the most important information here. “[H]istory” is the very point that takes this poem from a rather realistically depicted landscape into the mythical world. The line is acoustically falling, but semantically rising. If you allow the tactus to dominate the text, this line could be interpreted as dactylic Ooo Ooo. Such a reading points at the adonius O oo O o from lines 4:1 and 7. The falling adonius is a strong rhythmical leitmotif in this poem, and it lingers also behind lines 9:1, 12 and 14. The dashing tactus of the adonius brings some lines into a possible mixed tactus – for example, lines 4–5 and lines 12–14.
You will find the same parameters at play when using the tool of prolongation, but here it is the question of phrases that bear more or less information in relation to the semantic hot spot. Line 2–3 is a prolongation in rest. The one and only enjambment of this poem connects the two lines: “the trees // Seem” o O // O:

On their blotter of fog the trees oo O oo O / o O>
Seem a botanical drawing – O / oo O oo O o

The first phrase 2:1 forms the anticipation – a rising direction – and the last one 3:2 the extension – a falling direction. The prolongation goal happens in the enjambment phrase that forms a spondee with one leg in line 2 and the other one in line 3 (2:2–3:1). The word “Seem” is thus heavily stressed, something that introduces a strain of dreaminess into the poem. The rhythmical figure of the prolongation is weak – strong – weak x X x.

Balance, rest and repetition

The second image schema interesting from the point of view of aesthetic rhythm is that of balance (Johnson 1987: 85f.). From the beginning, ‘balance’ is a term in classical rhetoric where it points at the figure of parallelism (Nordman 1987: 13). How to use the schema of balance in versification studies? There are two possibilities:

– form segments may be in internal balance or not;
– form segments may balance each other or not.

Serial rhythms of metred measures mainly strive at internal balance (the first case), but free versification prefers repeated patterns (the second case). “Winter Trees”, a free versification with many serial elements, combines the two possibilities to a high degree.¹

We have already seen internally balancing segments above in the resting figures like the creticus “Full of wings” (11:1, O o O), or the resting line 8, o O o O o O o. In traditional metres, the line is often divided by a caesura into

¹ This analysis owes much to Richard Cureton’s idea of temporalities in versification (Cureton 1992: 123).
two balancing hemistichs, for instance, the alexandrine with its three iambs on each side of the break in the middle of the line.

The resting creticus O o O “ring on ring” (4:2) captures a series of assonances in the poem that were already hinted at in line 1, “inks” and “doing”; in line 3, “drawing”; and in phrase 4:1, “growing”. Bassnett points at the repetition of -ing in this poem, that also occurs in “wedding”, “knowing”, “tasting”, “ring(doves)”, “chanting”, “easing”, “nothing”, and of course phrase 11:1 “Full of wings”. The resting creticus O o O of 4:2 plays a key role in making this series of nasal assonances audible, thus unifying the poem. The very last line, “The shadows of ringdoves chanting, but easing nothing”, to a great extent consists of repeated nasals.

In this poem, resting figures cooperate with the semantic emphasis. We have the two cretici 4:2 and 11:1 that capture the word music, especially of line 1 and line 15. The harmonious line 8 has already been given as an example: “They seed so effortlessly”, o O o O o O o. It breaks the mixed tactus of the foregoing lines, bringing it into prominence. This resting figure returns – as a little shorter o O o O o – twice in the third stanza, “of leaves and sweetness” 13:2, and “but easing nothing” 15:2. This very last phrase forms a stable closure of the poem, both resting and repeating. The repetitions in the third stanza o O o O o underline line 8, and probably line 11 as well.

In free versification, directed repeated figures are usual. Form elements, that are internally imbalanced, balance each other in repeated acoustic sequences. Much of the motion in a poem emanates from asymmetric sequences – imbalanced within themselves but gallantly balancing another asymmetric sequence.

In “Winter Trees”, the most obvious example of a directed, repeated figure is the adonius O oo O o, occurring in lines 4:1 and 7. In extended forms it returns also in lines 5, 12 and 14, (o) O oo O o. The antispast O oo O of line 9:1 cooperates with the adonius, and so do perhaps also the anapaests of lines 2:1 and 3:2 oo O oo O. We have already noticed that line 10 might be interpreted as dactylic O oo O oo, if you prefer to bring out the tendency toward serial rhythm in this poem. Also line 13 can be read with a mixed tactus: o O oo O o O o. The serial rhythm is obvious at least in two passages, lines 2–5 and lines 12–14.

However, mixed serial rhythm is just one level in this complex rhythmical interplay. In this poem, repeated, directed figures happen to add tactus to the free verse, and even internally balanced figures could be understood as
dissyllabic tactus. These two rhythmic themes clash in a performance that is not able to unite them, and the consequence is that the free verse reading prevails.

"Winter Trees" should be read slowly. A slow performance brings out details that counteract the tendency toward serial rhythm. For example, the spondees OO of 6:2, 10:1 and 13:1 and the molossi OOO of 1:1 and 15:1 should be realized. Their heaviness here is divergent, but nevertheless they are part of a whole. Tsur (1998: 141–192) has shown that accent meetings are somehow differentiated when performed. Length and tone cooperate in a play that allows both the heaviness of the expression in, for example, "wet dawn inks" OOO and a small difference between the three syllables, making it possible for the molossus to interplay with other rhythmic motifs in the poem. The repeated nasals unify this piece, but so do the repeated figures.

**Interpretation**

Let us observe how rhythm and meaning cooperate in this poem. We have found two rhythmic themes:

- a mixed serial rhythm most obviously expressed in the adonii. However, a slow performance prevents the tactus and underlines rhythmic details. Serial rhythm is most evident in lines 2–5 and lines 12–14.

- dissyllabic sequences starting with the creticus "ring on ring" in 4:2, repeated in "Full of wings" in 11:1. We have already pointed at the dissyllabics of line 8. Line 11 continues with "otherworldliness", O o O oo or O o O o O. The dissyllabic sequences in 13:2 and 15:2 underline the focus on line 8 and 11 when closing the poem.

Both patterns – the mixed tactus and the dissyllabics – should be performed softly. The first and the last line break the pattern due to their considerable length as well as their molossi OOO. These salient devices get the poem started in the first case and form a steady closure in the second one.

The rhythm of the poem is characterized by the two rather stable patterns that relieve each other. The mixed serial rhythm covers most space, but the dissyllabic sequences dominate emphatic passages. The most obvious breaks occur in line 8 and line 11. What is said in those lines? Line 8 "They seed so effortlessly" depicts a moment of happy fertilization. Line 11 "Full of wings, otherworldliness" refers to the myth of Leda, the queen of Sparta, her rape or
seduction by Zeus disguised as a swan. Line 11 complicates the happy moment of line 8. The dissyllabics of line 13 “[O mother] of leaves and sweetness” repeats the rhythm of line 8 and 11, retaining the sweet summer for one more moment. However, the next repetition, in 15:2, expresses despair, listening to the ringdoves from the kingdom of the dead.

If the rooted trees in this poem stand for a female principle, the male counterpart consists of birds, wings, and air. Leda and Mary are both taken by gods and give birth to extraordinary men with sad fates. Leda is here focused on as a bride and Mary as a mourning mother. They both parallel as well as contrast each other. Conceptions could be better and worse. The state of being deep-rooted gives one advantages that are not shared by birds of the air.

I have already pointed at the creticus of 4:2 “ring on ring”, that seems to bring together the word music of this poem. It is the centre of powerful assonances, and it fits into both rhythmical themes. Even more than that – semantically, this phrase captures the themes and motifs of the poem: marriage and giving birth, annual rings pointing at myth and history, and the rings on an unreal water surface. The circle also stands for wholeness, for example that of a woman’s life – from the wedding up to the mourning for the dead. This poem might be said to move in a circle. After its visit to a mythical summer it returns to the winter landscape.

References


Некоторые аспекты поэтического ритма:

Эссе в области когнитивной метрики

Ритм должен рассматриваться в качестве категории восприятия, а не характеристики произведения искусства. Ритм может быть классифицирован с точки зрения трех различных принципов: как серийный ритм, ритм последовательностей и динамический ритм; три базовых множеств свойств гештальта, лежащих в основе системы стиха.

Две схемы определяют ритм стихотворного текста: направление и баланс. ‘Направление’ обозначает поднимающиеся и ниспадающие моменты в стихотворной строке. ‘Баланс’ обозначает повтор в игре между симметрией и асимметрией, а также моменты отдыха.

Ритм порождает значение возможно благодаря тому факту, что ритм активирует внутренний телесный опыт, равно как условные паттерны значения. Сказанное иллюстрируется на примере стихотворения Сильвии Платт.

Poeetiline rütmi aspekt: essee kognitiivsest meetrikast

Rütmite tuleks käsitleda pigem tajukategooria kui kunstiteose omadusena. Rütimä võib klassifitseerida kolme omaduse järgi: seriaalne rütim, sekventiaalne rütim ja dunaamiline rütim; need on kolm peamist rühma gestaltamadusi, mis on värvisüsteemide aluseks.

Luuletuse rütim määravad kaks skeemi: suund ja tasakaal. ‘Suund’ viitab tõusvatele ja langevatele liikumistele värsireas. ‘Tasakaal’ viitab sümmeetria ja asümmeetria vahelisele mängle ning puhkusehetkedele.

Rütim loob tähendusi ilmselt tänu faktile, et aktiveerib nii internaliseeritud kehalisi kogemusi kui ka konvensionaalseid tähendusmustreid. Seda demonstreeritakse Sylvia Plathi luuletuse näitel.