

ISIS SYMMETRY

The Fourth International Congress and Exhibition

Technion, Haifa, Israel 13-19 September 1998

Organisation and Hierarchy in Science, Technology, Art, Design
and the Humanities

Paper

SPACE AND TIME IN VERSE AND DIFFERENT TYPES OF SYMMETRY COMPOSITIONS

Julia Shor

St. Petersburg State University, Russia

**Key words: poetry, verse structure, reflection, rotation and
translation symmetry**

It is of common knowledge that the phenomenon of symmetry can reveal itself almost everywhere. Symmetry has always been the measure of harmony, balance of integrity in architecture, music and dance. Problems of symmetry in literature — in prose and verse as well — is discussed not so often as in other branches of art and the humanities.

The idea of symmetry is realised in poetry in many aspects because **order** becomes foundation of harmony equalising parts of a lyrical poem. Symmetry exists not only in structural composition but also in plot, intrigue or semantic development of the poetic piece. Symmetry can also be observed in poetry when speaking of such universal categories as time and space, presence of which is clearly seen when one starts analysing structural elements of a poem on different hierarchic levels of the language, i.e., phonetic, morphological, lexical and grammatical, etc. (I mean such phenomena as sound repetition : in general sound is senseless, but it acquires sense when arranged in order; words and syllables organised in rhythmic structures are symmetrically distributed in time and space on the sheet of paper).

Academician V.Zhirmunsky was one of the first who paid attention to the role of symmetry in the organisation of the text and, in particular, in the composition of a lyrical poem. He wrote that the Master faces the chaos of individual complex facts contradicting each other, such as sense (theme), sound, syntactic relations into which symmetry, order, organisation are introduced. This correspondence, of course is by no means exact geometrical symmetry, — he thought that in literature as in all kinds of art there exist constant struggle between chaotic and individualistic and orderly constructed, harmonically repeated features.

E.Etkind in his book "Pushkin's Symmetrical Compositions" said that in poems any element becomes semantised, becoming an indispensable sense factor. According to his point of view the foundation of semantic structures is the correspondence (harmony) of elements which are constantly varying without being disintegrated either to form and contents, or to material and mental (spiritual) or phonetic and semantic factors.

As in nature in verse there exist different types of symmetry: **reflection** (looking-glass symmetry), **rotation** (kaleidoscopic symmetry) where ornament is periodically repeated reflecting in mirrors placed at an angle, and **translation symmetry** where elements are infinitely repeated as in wall-paper borders.

The first type of symmetry mentioned — **reflection** — is most often met in nature, i.e., in leaves, flowers, or in architecture. However it is scarcely seen in literature in pure form, with rare exceptions. Palindromes, well-known authorless artificial formations, can be regarded as examples of looking-glass symmetry. The following Russian widely spread palindrome sayings, e.g., *À ôîçà ôîäëà îà ëàíó Àçîðà*, *Îùêî — âîëùî, Òîðò ñ êîðà — îà ôîêîðîðî, Êààè îà îîëëà êîîîà îàøäë, Àðäâîðèà îàòèò îàððà, Êîëàòü òàêîëè*, etc., can identically be pronounced from left to right and vice versa.

Attempts to invent poetic forms where every line is a palindrome are also known. In Russian poetry such phenomenon is exemplified by V.Khlebnicov's looking-glass compositions characterized by both linear (one-dimension, or horizontal) and vertical (two-dimension) reflection, such as in his poem "A Turnover".

ÎÀÐÄÄÂÐÒÀÍÛ
 (ÊÓÊÎÊ,ÊÓÌ ÍÓÊ Ë ÎÊÓÊ)
 Êîëè, òîðò, êîëè.
 Íî îà ðà+ü, à +àðàí ñ.
 Êààî, îîëëà, âîîî îààè.
 ×èí çààí îà+àî îàâçè+ü. Âîëëà, +àî îà+ âîëëà?
 Îàë, à îîðà òóà è áóó âîððà ààí.
 À +òî? ß êîà? Âîëü îò+à!
 ßà, ýà, äýäý!
 Êàè, èàè!
 Îððîç à óçàë, èàçó âçîðð.
 Îîëëà çîà, âîç âîëî.
 Êîëàîî. Æàèè îîëëàæ. Îàèè.
 Îàèè, îîò è âîç, çîà òîè è îà.
 Âîðà âîò, òîà àðà.
 Ê êàæó. Óàèè?
 Çîè, âîè êîà êîç.
 Ê è ààî. è òðàî ñ ñîàðòè îààè.

In this poem looking-glass symmetry is characteristic not only to separate lines in linear direction; as a matter of fact, reflection is two-

dimensional, both horizontal and vertical here. One can draw an imaginary axis of symmetry through the whole structure. It is surprisingly obvious that this axis passes between half-lines, that is in the points where words are separated or through the pause — caesura, or through a sound. It is evident that composition of the poem is based on plane co-ordinate system, where abscissa is the line of the poem and the ordinate is the axis of symmetry passing through the sound as the pillar stone of symmetric structures.

Axis of looking-glass symmetry can also be drawn through V.Khlebnikov's poem-palindrome "*Rasin*". This piece of work is big enough not to be shown here in full length. However even a short extract can give one notion of the graphic image of the verse. Imaginary axis divides the poem into two symmetrically identical parts. In 1989 the model illustration to the edition of the poem which has never been realized was published. The graphic origin of this work was brilliantly shown by V.Ermilov, the graphic and designer, who depicted the following extract as a geometric figure with the axis of symmetry, pointing out by this means the harmony and equilibrium of verse both in space and time.

ÑĀÒÓÉ ÓÒĀÑ
ÓÒĎĬ × ĀĐÒÓ
İŮ İÊÇÀĐÈ ĚĀÒĀĚÈ ĐÀÇÈİŮİ
ÒĀ × ĀÒ È ĬĀÆĀĬ ĬĀÆĀĬ È ÒĀ × ĀÒ
ÂÎĚĀÓ ĄĚĀ ĬĀÑĀÒ ÒĀÑĀĬ ÂĚĀ ÓĀĚĬĀ
İĚĀİÈ ÑĚİĀĚİ
İİİ

Such poetry thanks to symmetry becomes visual, united with art, picture-poem designated rather for optic than for acoustic perception. Such innovations have much in common with graphic experiments introduced by modern Russian poet A.Vosnesensky, who called them ISOPs — Russian abbreviation which means *experiments of visual poetry*. Due to the lack of space I have no possibility to give examples of such poetry, where sounds and paints, words and brush are united as counterbalance of poetry for declamation. In such developments sounds in verse are lost and verbal compositions intersect with lettrism, one of the modern trends in art.

Symmetry of **rotation** (one can see this type of symmetry in an infant teetotum toy where four leaves on the top unit attached to a stick at right angles revolve when the wind blows). In poetry this type is observed in E.A.Poe poem "The Bells" consisting of four parts, with the only disorder exception being the number of lines in successive subdivisions where each of the latter represents a new turn in mood and meaning. Four parts — four angles — four different nevertheless symmetrically arranged concepts of life (perhaps the poet speaks of four ages of a man).

The term **symmetry of translation** can be understood in two ways:

1. Regular transferring of the same element (subject, character, action) of the poem in time and/or space with the idea of motion also being present. Nursery rhymes where opposition of characters and actions often takes place exemplify such type of symmetry. Let us take, for example a well-remembered poem from the English folklore nursery rhymes:

Jack and Jill
Went up the hill
To fetch a pail of water.
Jack fell down
And broke his crown,
And Jill came tumbling after.

This poem is clearly divided into two triads in sequence, with two lines in each being short and one long. The plot of this poem is developing both in time and space. Space acquires here vector character, consequently, it is interwoven with motion. In the first part of the rhyme upward movement is described, in the second — movement down correspondingly. Temporal sequence is also present: Jack was the first to fall down, Jill was the second. The names of the characters are in symmetrical opposition to each other from the point of view of the sex, one being masculine, the other feminine. It is necessary to mention that both names symmetrically begin with one and the same consonant, thus forming assonance in the sound instrumentation.

The following chart will clearly represent the idea of translation symmetry embodied in this rhyme.

DISPLACEMENT IN SPACE:	Movement up / Movement down
TIME SEQUENCE:	Jack — the first / Jill — the second
SEX:	male / female

2. Translating an original piece of poetry (or any other written text into some other language, thus creating in the language space one more linguistic unit with the same formal elements on which architectonics of verse depends: (rhymes, number, arrangement and sequence of strophes and lines, rhythm, etc.), and close semantic structure. In other words, any poem in translation can be regarded as a repeated element of the ornament, the border, with the general idea of symmetry observed in different languages.

In practice the symmetry in this case is never very strict.