

Haiku Geometry

by
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PROLOGUE

The haiku is basically a three-line poem that originated in Japan. It invites the reader to complete the meaning of the poem through its seemingly disjointed images.

Euclidean geometry explores the relations, properties, and measurements of points, lines, planes, and solids. The haiku poem not only compares with the Euclidean world of three dimensions but also transcends them, and veers into the realm of vectors and the fourth dimension.

In bringing together art and science, we leap across disciplines. The boundaries between haiku and geometry become blurred, revealing new knowledge, which is ever-changing:

a gust of wind
the kingfisher's cry
warps over the river

An exploration into haiku geometry is like a *cabinet of curiosity* in which one collects objects / ideas according to the paradigm of the collector. Any number of associations becomes possible.

BEGINNINGS OF A RED CABINET JAPANESE HAIKU POETS

Basho Moritake Kigin Issa Chiyo-ni
Sokan Baishitsu San-in Fukoku Buson
Getto Uko Hokushi Gyodai
Onitsura Shiki Daio

BEGINNINGS OF A GREEN CABINET EUCLIDEAN GEOMETERS

Euclid Heron Eratosthenes Pythagoras
Archimedes Apastamba Hipparchus
Pappus Thales Plato Hypatia Zeno

THE POINT

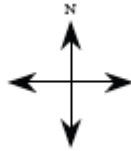
The geometric point has no dimension.

The point is no-thing-ness yet it encompasses all things.

It is the zero full of infinite possibilities.

—D.T. Suzuki

The point indicates a location in space. It is motionless and directionless.
The poet waits for inspiration, not knowing which way to turn:



All form begins with the point that sets itself in motion.

The point moves and the line comes into being — the first dimension.

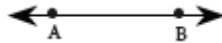
—Paul Klee

THE LINE

A line has one dimension—length. Lines are the armatures for letters of the alphabet. The longest alphabet in the world is that of the Khmer language of Cambodia with 74 letters. The Rotokas language of the Solomon Islands has the shortest, with 11 letters. The nonalphabetic and nonlinear language of Japan is a mixture of Chinese characters (*kanji*) and phonetic symbols (*kana*). The *kanji* writing method contains more information than the alphabetical languages; it relies more on our visual rather than our auditory system. A literate Japanese masters about six thousand *kanji*. The average Japanese knows about two thousand of them. The poet's degree of expression not only lies in the *langue de mère*, but also in the mastery of language.

Words sit on a line as do songbirds on a wire.

A line extends in both directions to infinity:



The reach exceeds the poet's grasp—the essence of creativity.

A line segment has finite length and lies between two points:

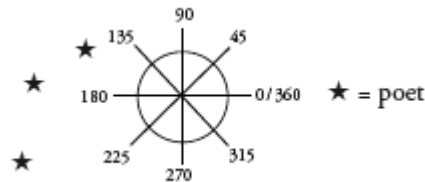


at the end of a line
 the next breath waits
 then the urge for air and

A frog jumps in,—

the sound stays with us
 like breath

When straight lines meet at a point, *angles* are formed of various degrees. With each increasing *angle*, or scope of vision, the poet grows in refinement. S/he *re-patterns* words, *re-re-tailors* nouns and verbs, threads awareness through the haiku. At 360 degrees of possibilities, the poet cannot resist the urge to revolve:



Vectors in non-Euclidean geometry are line segments with *force* and *direction* indicated by arrows:



The driving *force* of a haiku is its power to encapsulate a singular moment into the brevity of its form:

the desert
 in the still wings
 of a dragonfly

The *direction* of a haiku is its meaning:

dawn
 the sound of a gong
 going out of existence

*If the line shifts to form a plane,
 we obtain a two-dimensional element.*
 —Paul Klee

THE PLANE

The plane has two dimensions — length and width.

Planes are of various shapes. Their edges consist of lines and arcs:



A rectangular plane represents the poet's paper where words are teased apart in the best possible order.

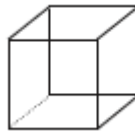
A sheet of paper encroaches on our three-dimensional world as it possesses the minutest of depth. Dr. Inagaki of Japan boasts of the thinnest paper in the world, weighing five grams per square meter.

Likewise, the inscriptions of the poet are represented two-dimensionally on the page, yet the reader may interpret the words of the poem in many ways, stretching the meaning into higher dimensions.

*In the movement from plane to spaces,
the clash of planes gives rise to body—(three-dimensional).
—Paul Klee*

THE SOLID PLANE

The solid plane has three dimensions—length, width, and depth:



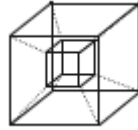
The third dimension *is* the material world: the poet's teeth for chewing ideas, glands for dissolving ideas, stomach for digesting and assimilating ideas, bones for strengthening ideas, muscles for mobilizing ideas, (heart skips a beat when struck by a great idea), liver for storing ideas, kidneys for eliminating superfluous ideas, lungs for exhaling inflated ideas.

*The fourth dimension appears to spring from
the three known dimensions: it represents the immensity
of space eternalizing itself
in all directions at any given moment.
It is space itself, the dimension of the infinite.*

—Guillaume Apollinaire

FOURTH DIMENSION

The fourth dimension, or the space-time continuum, is identified with time and movement and has physical implications on three-dimensional objects:



The object changes as it moves through space, because at the very least, at any moment, it is in a different place and time:

The old pond:
A frog jumps in,—
The sound of water.

—Basho, trans. R.H. Blyth

The reader's consciousness also changes with each evaluative reading, and s/he is also in a different place and time. Further,

*What we observe is not nature itself,
but nature exposed to our method of questioning.*

—Werner Heisenberg

The reader cannot observe the poem without changing that which s/he is observing. In other words, the poem cannot be observed as it is because it is exposed to the reader's method of enquiry and understanding. The poem requires the reader to be part of the poem. Subject and object are inextricable.

*Mystical knowledge can never be obtained just by observation,
but only by full participation with one's whole being.*

—Fritjof Capra

BEGINNINGS OF A WHITE CABINET
SPACE-TIME CONTINUUM

A frog transforms into a lily pad
Kireji —creation is motion from
invisibility to visibility
Whichever way you turn,
there is the face of God — Koran
There is no one point of perspective

EPILOGUE

Haiku overlap with geometric forms, and geometry permeates our world:



The mind never fully realizes anything in isolation:

cymbals clash
the silence opening
between them

There are more worlds than we can imagine.

The fifth, sixth, seventh dimensions . . .

NOTE

Of the author's haiku, "a gust of wind" and "dawn" were originally published in *British Haiku Society Haibun Anthology*, 2005, and "a desert" and "cymbals clash" appeared in *Roadrunner Haiku Journal*, 1:1 (February 2006).

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