
ROMAN VEROSTKO
from art by hand to art by code
ALGORITHMIC TRANSFORMATIONS
October 23 – November 22, 2015
The Saint Vincent Gallery

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This catalogue is published in conjunction with Roman Verostko:
Algorithmic Transformations from art by hand to art by code
The Saint Vincent Gallery
October 23 through November 22, 2015

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ROMAN VEROSTKO

ALGORITHMIC TRANSFORMATIONS

FROM ART BY HAND TO ART BY CODE

October 23 - November 22, 2015 • The Saint Vincent Gallery

Roman Verostko

Unity in Transformation

It has been a privilege to work closely with Roman Verostko to organize this exhibition. I have been struck throughout by one underlying theme that I believe characterizes both his life and his work: an on-going search for unity and reconciliation.

It is fascinating to see an artist's aesthetic development. There is experimentation and growth as the artist tests new procedures, pursues new ideas and utilizes new materials in a quest to reproduce an inner vision that can haunt until it is transformed onto paper or another medium.

Joseph Verostko, who now lives in Minneapolis, Minnesota, was born in 1929 in a coal mining "patch" called Rocktown, near Tarrs, Pennsylvania. After graduating from high school in 1947, he attended the Art Institute of Pittsburgh, majoring in illustration.

After graduating from the Art Institute, he entered Saint Vincent College aspiring to the monastic life, a choice he captured in his 1951 oil painting, "The Decision Bit." In 1952, he entered his novice year at Saint Vincent Archabbey, where he received the name "Roman," the monastic name by which he is still known.

After completing studies in philosophy and theology, he was ordained a priest in 1959.

Following his ordination, he began graduate studies in studio arts at Pratt Institute and art history at Columbia and New York Universities. He spent the 1962-1963 academic year in Paris, where he studied at the École du Louvre and practiced print-making with Stanley William Hayter at Atelier 17. On his return from Paris, he taught art history at Saint Vincent College from 1963 to 1968.

He served as staff editor for art and architecture for the first edition of the New Catholic Encyclopedia, published by Mc-Graw Hill in 1967. As staff editor for the encyclopedia, he had a residence, office and studio at Catholic University in Washington, D.C., from 1964 through 1967.

During the 1960s, the United States was undergoing major cultural and societal changes. At this time, Roman began to expand his classical early training into experiments with more abstract work. His "Letter to Birmingham," "Elle Passe" and "New City" series all reflect this period with spontaneous,

chaotic backgrounds from which precise forms of order begin to emerge.

At the same time he began creating electronically synchronized audiovisual programs for spiritual retreats. The experience of programming his “Psalms in Sound and Image” stimulated an interest in computer code that was to have a profound impact on his creative life.

Concerned with increasing spiritual doubts, he departed from monastic life in 1968, married Alice Kennedy Wagstaff, and joined the humanities faculty at the Minneapolis College of Art and Design. Among his earliest works in Minnesota, the “Four Eikons” continues his exploration of unities and oppositions though the use of color, rather than the more design-based dichotomies of his earlier pieces.

Entranced by the power of algorithmic procedure, he began experimenting with code and exhibited his first generative art program, the “Magic Hand of Chance,” in 1982. Roman then began to focus on using computer code with large-scale pen plotters to create a completely new form of art. This development yielded one of the most interesting reconciliations of all: totally abstract, purely logical code could generate art of sublime beauty and grace.

Roman was also deeply influenced by two teaching engagements in China in the mid-1980s. Work from that period, especially the “Pathway Series 5” and “Lung Shan II,” reflect a profound Asian influence. At this point, Roman began signing his work with Chinese seals carved for him by a calligraphy master who had taken his courses in China. Roman was influenced by Chinese philosophy and spirituality as well; it is intriguing that the Taoist yin and yang symbol shows harmony as balance of opposites

.

It would be difficult to overstate the influence of Alice Wagstaff Verostko in Roman’s life and work. She was both his creative partner and a source of balance and inspiration beyond the studio.

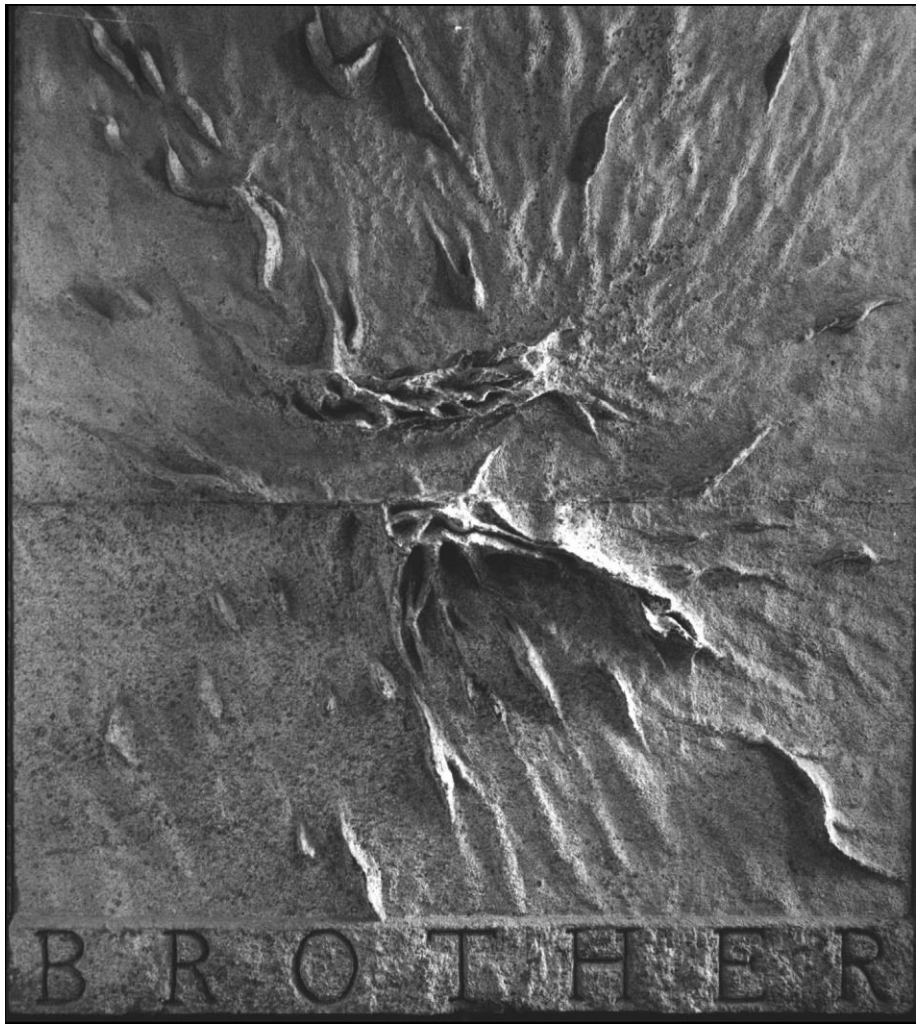
Even from this brief overview, it is possible to appreciate the life and artistic development of Roman Verostko as a continual arc of creative and spiritual exploration, an ongoing search for unity in the reconciliation of opposites.

I invite you to explore the works of art in this exhibition for their attempts to bring order from chaos in the quest of ultimate peace.

It is a pleasure to welcome you to this exhibition of Roman Verostko’s art at the Saint Vincent Gallery.

Ann S. Holmes
Administrative Director
The Saint Vincent Gallery Exhibition Curator

A Friend for Life



"BROTHER", Concrete Cast Wall, Saint Vincent Monastery

We have been friends, Roman and I, for more than 60 years. I'm glad that in this last chapter of our lives, Roman agreed to undertake the demanding task of preparing an exhibition of his work at Saint Vincent. The exhibition reveals an inner continuity in the story of his art and his life. Together we shared the adventures of a formative chapter of this story for a period of 16 years. We began our friendship in 1952 as members of a diverse class of 11 novices of the monastic community of Saint Vincent Archabbey.

In my retrospective reflection on the lasting meaning of the monastic chapter we shared, it struck me that, in some way, Roman has never left Saint Vincent. You can experience his strong presence particularly through his art in the monastery and throughout the campus. My favorite is the playfully serious, bigger-than-life mural in the Fred Rogers Center. I wonder, too, whether the spiritual meaning of Benedictine monastic life has ever left Roman. I believe it has not, and I think that this spiritual meaning has been a constant in the continuity of his life and of his work as an artist.

Roman's paintings express a strong conviction of hope that the contradictions we experience do not make our human existence meaningless or ultimately absurd. He is able to resolve seemingly mutually exclusive opposites into becoming a new, integrated reality. For example, he resolves the tension between the controlled and the uncontrolled, between a rigorously rational procedure and a spontaneous, emotional brush stroke to create a new form of beauty. In his website essay, "Algorithmic Art," he explains how the artist attempts to resolve the tension between the creative mind and the working of a mechanical instrument. The resolution is often a surprising new form of beauty beyond the strict logic of the algorithmic code designed by the artist. Perhaps in a similar way, a composer who already "hears" the music upon reading the score may experience surprise upon actually hearing the sounds of the musical instruments who bring the code of the score to life.

Roman may think this a stretch, but it seems to me that attempts to resolve the mundane tensions we experience in everyday life would be futile without a conviction of hope in some ultimate resolution of the deepest contradiction of human existence. That contradiction arises from the tension between our desire to live and our awareness that we are dying. It is through the conviction of hope that one may be liberated to work on resolving the lesser contradictions of life, without the need to repress the feeling that human existence ultimately is meaningless. An essential aspect of the spiritual meaning of Benedictine monastic life is, in fact, a conviction of hope that the contradictions we experience in life, including that brought by the ubiquitous power of death, will ultimately be resolved. In this hope, death does not have the last defining word. In my judgment, a conviction of hope has been a constant in Roman's philosophy of life and in his work as an artist.

As we view the works of Roman's Saint Vincent exhibition, perhaps a moment of grace is possible to experience. A person may intuitively experience a peaceful resolution of the tension of opposites in a painting and be liberated to seek a peaceful resolution of the contradictions which beset us all. These are the tensions between success and failure, between laughter and tears, between living and dying. In some sense, through such liberation and search, a person becomes a living work of art, a new reality often of surprising beauty.

Campion P. Gavaler, O.S.B.

Imaging the Unseen

My pursuit as an artist, Roman Verostko

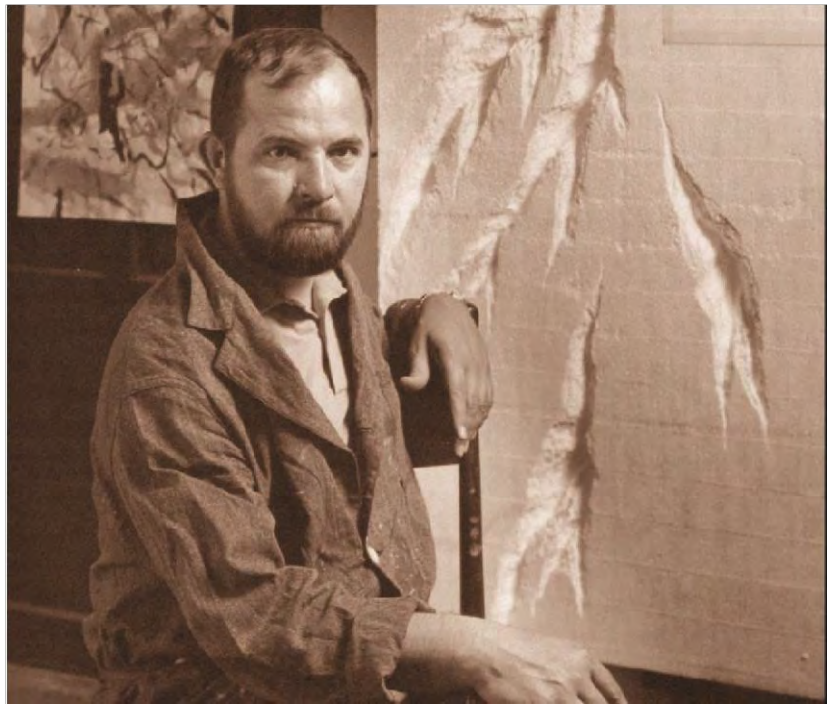


Photo by Terry DeGlau, Monastery Studio, 1967
Saint Vincent Archabbey

Background shows white styrofoam in process of being carved for a concrete casting. This project followed the monastery castings and was intended for a later building program.

Form Source

My algorithmic work is rooted in the tradition of early 20th century artists who sought to create an art of pure form. Influenced by the work and writings of pioneers like Malevich and Mondrian, my work turned to a lifelong quest for an art of pure form. This quest, to create visual form with a life of its own, has dominated my work for over 55 years. My current work continues the same quest for "pure form" that seduced early 20th century purists.

During the 1960s, as a monk, my best examples would be my *Elle Passe* and *New City* series of paintings. Clearly they were efforts to achieve visual form affirming, at that time, my belief in Parousia, ultimate resolution of conflict: Peace—the New Jerusalem.

Transition to algorithmic form generators

In 1970, through a course in FORTRAN at the Control Data Institute in Minneapolis, I experienced the awesome "form-generating" leverage of algorithms executed with computing power. We could now compose the "score" for drawing with algorithms that required extensive computation for generating form.

The advent of personal computers brought that leverage into my studio, where I spent countless hours working with my own computer coding routines that I viewed as my "score for drawing." Since then my work has concentrated on developing and refining a master program of "form-generators" that grew from 25 years of experience as a painter.

Content

For me these procedures opened new frontiers of visual form, form we could never visualize without computing power. These art forms do not describe or refer to other realities—rather, they themselves are the "realities;" they have a visual life of their own. Just as a botanist might label a newly discovered flower, so also I label this or that newly found form or series of forms. Titles are often derived from evocative qualities associated with the work. They may also be labeled to celebrate or honor a person, event or experience.

Interpretation

The art works are visual manifestations of the dynamic procedures by which they grew. They may be viewed as visual celebrations of the information processing procedures embedded in today's culture. These processes inform the milieu of our evolving selves; it informs the unfolding of our "tomorrow". My pen, ink and brush drawings attempt to visualize something of that unfolding process. The finished art works invite us to savor the mystery of their coded procedures whose stark logic yields such surprising grace and beauty. These procedures provide a window on those unseen processes from which they are generated. By doing so they serve as icons illuminating the mysterious nature of our evolving selves.

Technical Procedure

By 1982 I had developed elementary computer code for initiating and improvising art-form ideas. That program, my "Magic Hand of Chance," grew into a master program capable of generating my art-form ideas in my quest for pure form. With these generators I could explore visual possibilities, make choices, refine forms and compose a procedure for creating art. The finished work is drawn with ink pens mounted on the drawing arm of a pen plotter. Controlling algorithms for all procedures are under continuing development in that master program of routines I have titled "*Hodos*," the Greek term for "pathway."

Materials

Most of my algorithmic works are original pen and ink drawings on rag paper. Technical pens with refillable inkwells employing permanent acrylic inks execute the drawings. Since the mid-1980s all drawings have been executed with Houston Instruments multi-pen plotters coupled to PCs. Some works include occasional brush strokes. For this purpose I devised an interactive routine with the pen plotter; the routine pauses the machine, as needed, so I can load a paint brush and mount it on the pen plotter drawing arm for executing brush strokes. The plotter uses the brush in lieu of ink pens. In some instances I have also used self-inking brushes instead of pens.

The Code

My software is written in elementary BASIC with DMPL as the command language for driving the plotter. Historical routines dating back to the 1980s can be called on from the controlling program. A new work could be created today (2015) with routines dating from the 1980s.

As an artist my great interest has always been mastering a technique for creating an art object. Elementary pen plotting tools and simple programming techniques have provided me with more challenges than I can exhaust in my lifetime. After more than 50 years and thousands of drawings I have learned a lot about ink viscosities, pigments, paper surfaces, honing pen tips and writing software fixes. Yet I feel that I have only begun to explore the art of writing code to brush and draw on paper.

Roman Verostko, 2015, Minneapolis, MN, USA
www.verostko.com

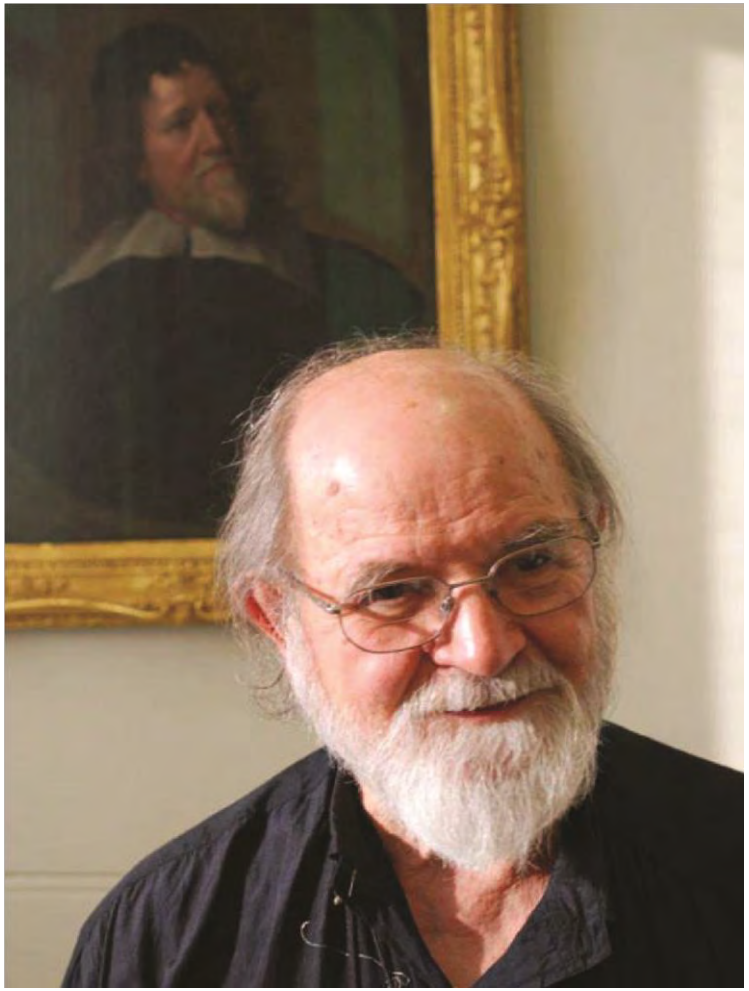


Photo by Douglas Dodds,
Victoria & Albert Museum
London Print Collection Study Room
Inigo Jones Portrait hangs on the wall.

A Roman Verostko mural located in the Latimer Family Library at Saint Vincent College. (glazed ceramic tile, 22ft by 11 ft)

Roman Verostko first row, kneeling, second from left.

Art Institute of Pittsburgh
1947-1949

No man is his craft's
master the first day.

Hand Lettered Text

1948
pen and ink on illustration board 15”
by 10”

Before electronic typography, most titles for feature publications were hand lettered.

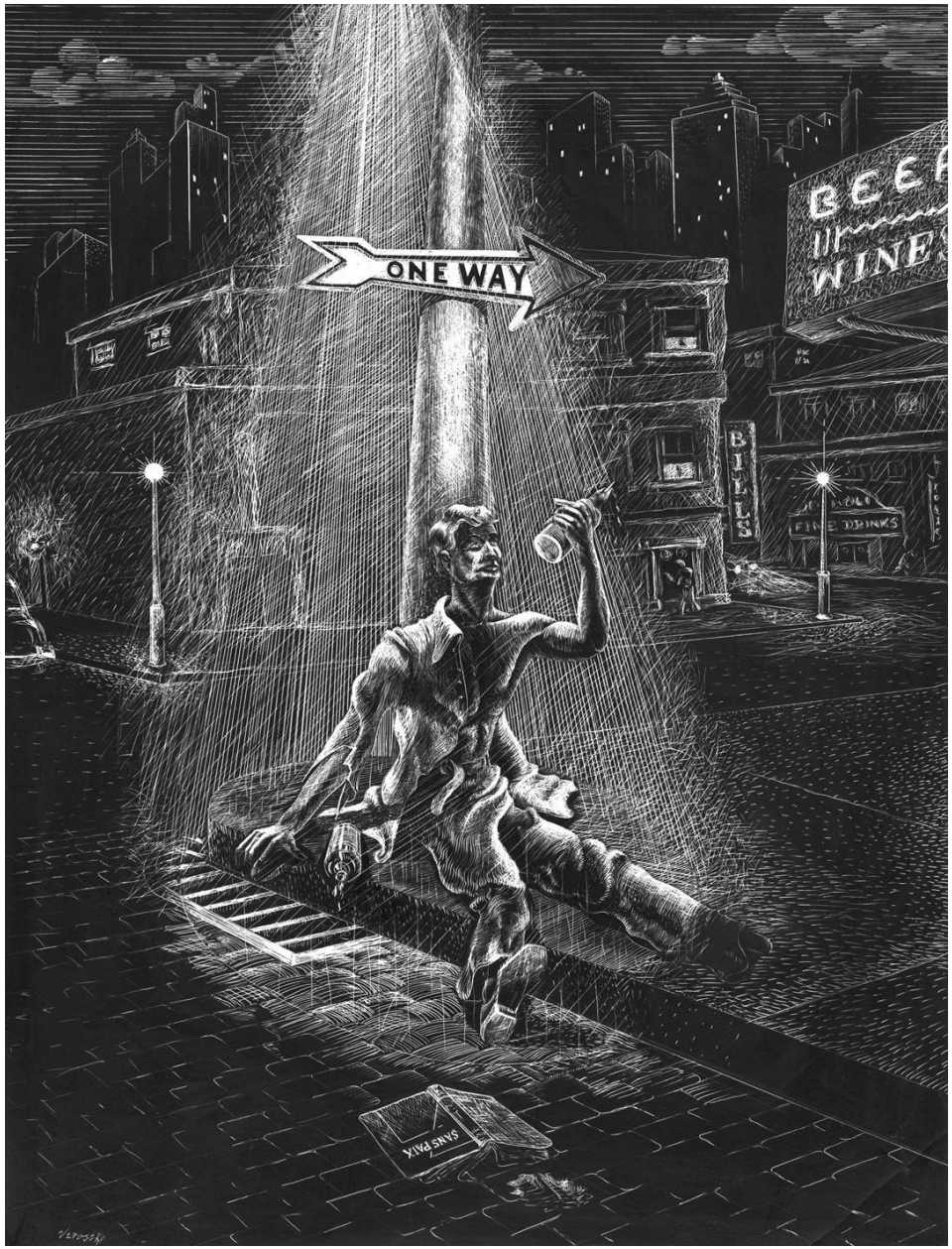

VEROBIKO

Illustration for “Christmas Stocking”

1949

pen and ink on illustration board 12”
by 16”

Aspiring to be both an illustrator and a writer, Roman submitted a story entitled “Christmas Stocking” to the 1949 Christmas Sunday section of the *Pittsburgh Press*, modelling this drawing on his younger sister, Theresa. The story has not been published.


ONE WAY
BEER
WINE
BILLS
FINE DRINKS
SANS PAIX

One Way Street

1949
scratchboard
14” by 16”

One of several moralizing drawings the artist created for his illustration portfolio. This illustration was based on the experiences of an art school roommate who grew up an orphan, fought as a Marine during World War II, experienced nightmares following the war and turned to alcohol.

Scratchboard technique: An illustration board with a white chalked surface is coated with black ink. A sharp metal point, employed like a pen, scratches through the ink to reveal white lines. The process replicates drawing with white lines on a black field.

Saint Vincent Archabbey, 1952

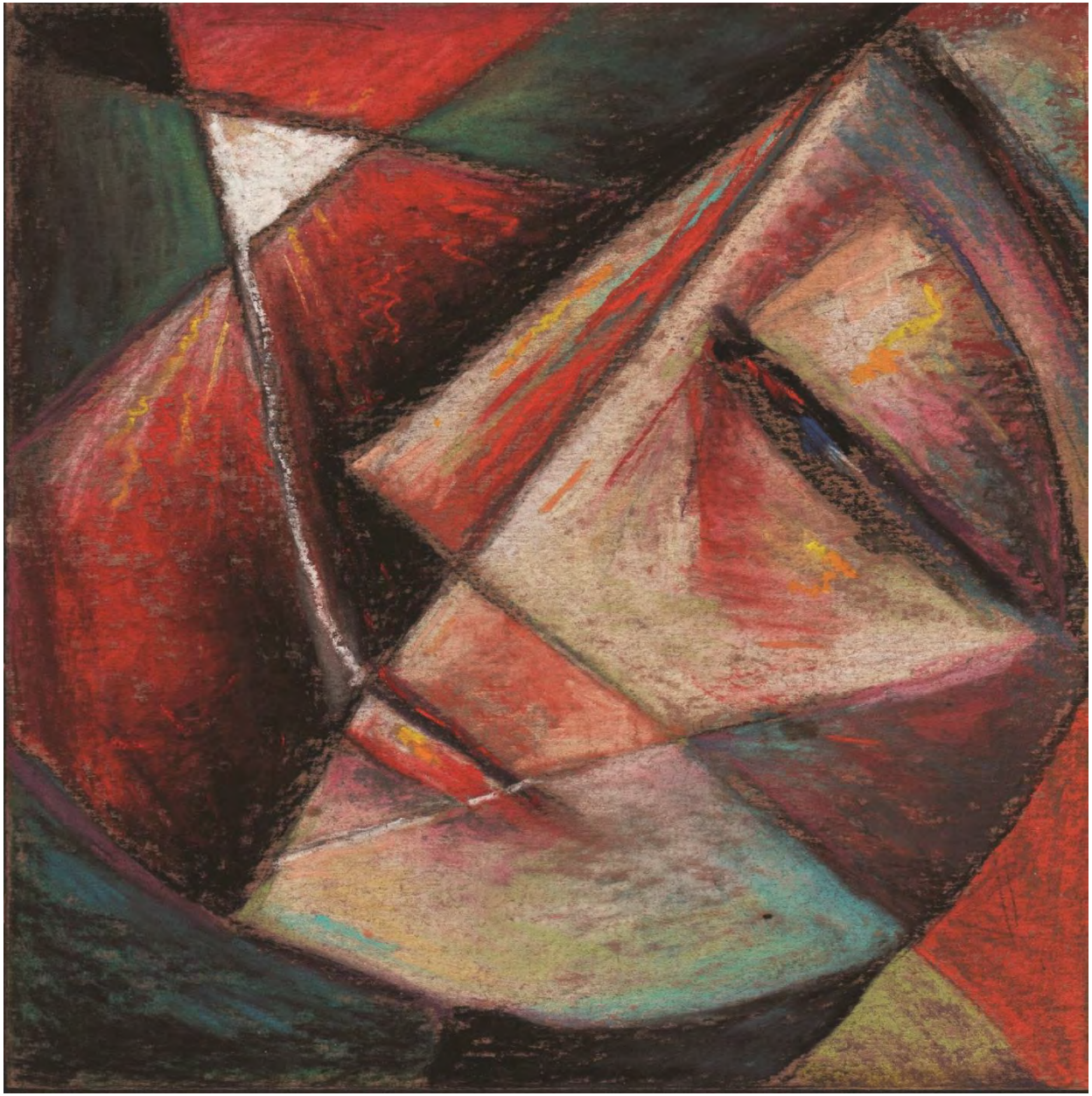
Monastic Period
1950-1968


ROMAN

The Decision Bit

c. 1951 oil on
canvas 19”
by 28”

Roman created this painting while contemplating entry into monastic life. Originally titled “Decision,” Roman recently retitled it “The Decision Bit,” reflecting his interest in coding for the “decision bit” in generative art. The decision “bit” both in life and in the process of painting and drawing share many similar features.



Communion

1953

pastel on cardboard salvaged from a Christmas gift box

10.25” by 10.5”

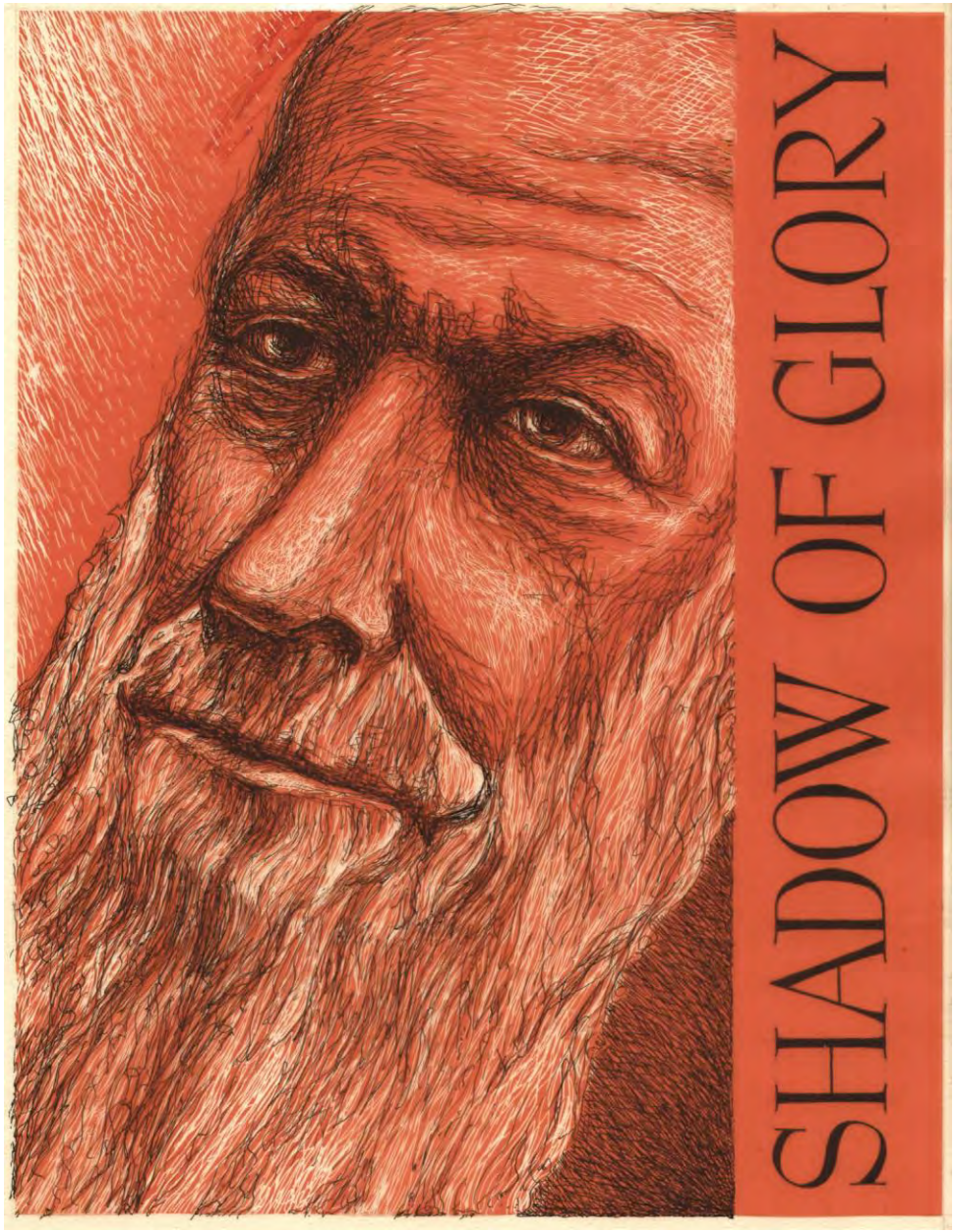
Painted on Christmas Day in 1953, this work symbolizes spiritual communion through reception of the Holy Eucharist. Roman visualizes spiritual communion as a light line, brightened at each end where it joins a communicant and a triangular Trinitarian symbol. The white triangle symbol, embedded in a cubist format, merges spiritual and physical presence in the same picture field. Cubist art often fused the real and the feigned as well as multiple views in the same plane.

Angel Mural Models

1953 pencil and pastel, Approx. 20.5” by 3”

Preliminary drawing and pastel model for a mural installed in the Saint Vincent monastic courtyard, designed by Br. René Gracida, O.S.B., now Bishop, and dedicated to Saint Thomas Aquinas, the Angelic Doctor. It included a reflecting pool and walkways with plantings that invited meditation and reflection. The Aquinas Courtyard is now known as Sebastian’s Garden.

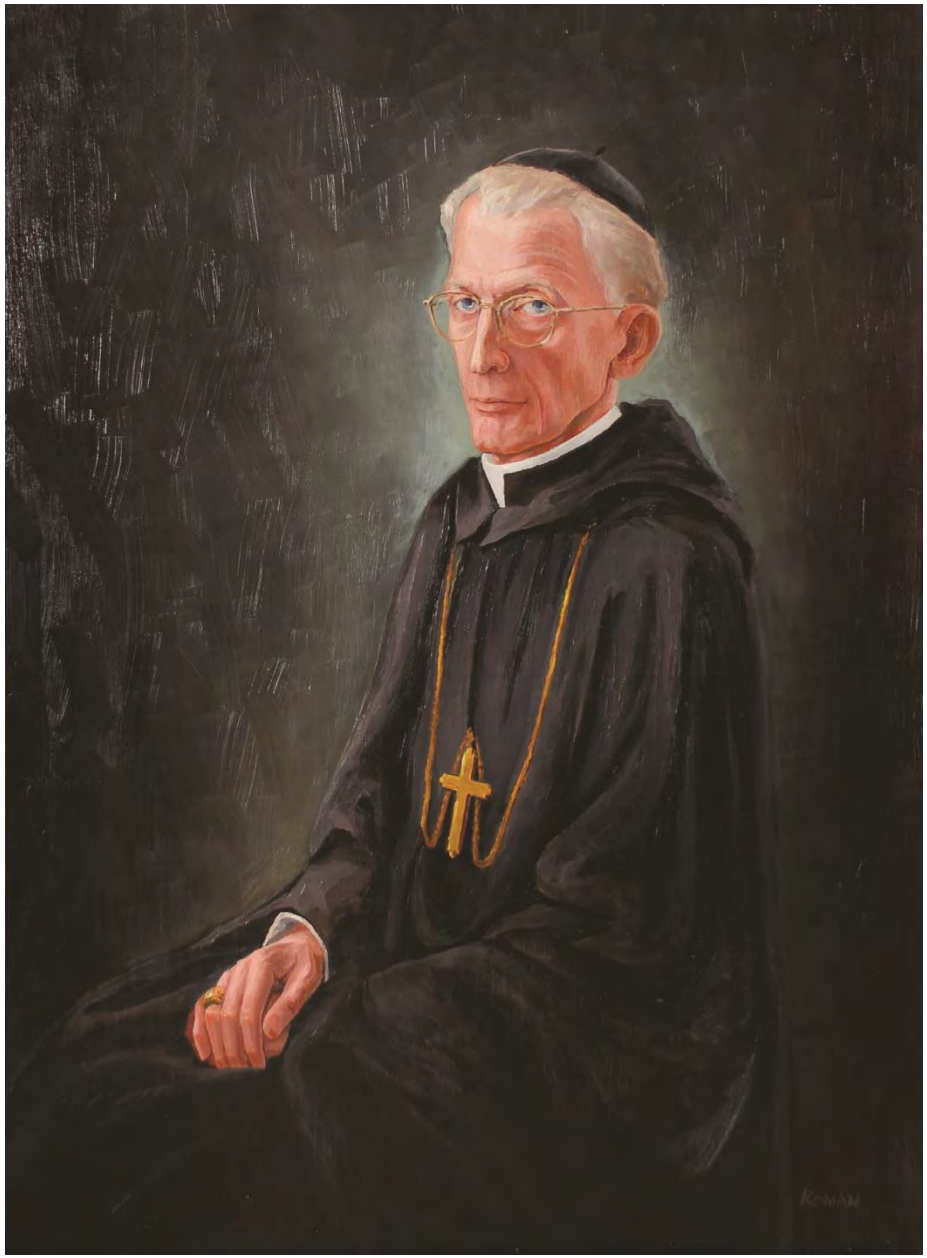
Thanks to Bartholomew Zuzik, who loaned the painted model for this exhibition. He saved this model from being destroyed in the Saint Vincent fire of 1963.


SHADOW OF GLORY

Boniface Wimmer, O.S.B., “Shadow of Glory”

1955
pen and ink drawing on white board with white lines
achieved by scratching lines on red-surfaced
transparent overlay.
8.5” by 11,” four-fold program

Original drawings for the cover of the “Shadow of Glory” program, a play on the life of Boniface Wimmer, O.S.B., founder of Saint Vincent Monastery. The play, scripted by Rev. Christopher Fullman, O.S.B., included choral arrangements directed by Rev. Ralph Bailey, O.S.B. Celebrating the key events in Wimmer’s pioneering life, the play was created, staged and performed by the monks of Saint Vincent. Roman also painted a backdrop of the historic monastery for staging Wimmer’s return from Rome bearing news of the monastery’s elevation to Archabbey.



Archabbot Denis Stritmatter, O.S.B.

c. 1955 oil
on canvas
28.5” by 39”

This piece demonstrates lessons Roman learned from Vincent Nesbert, who taught portraiture at the Art Institute of Pittsburgh. This life-size oil painting was intended to be the Archabbot’s official portrait. It was displayed only for a brief time because it presumably did not quite match the format of other abbatial portraits. This is the first time it has been shown in over 50 years.

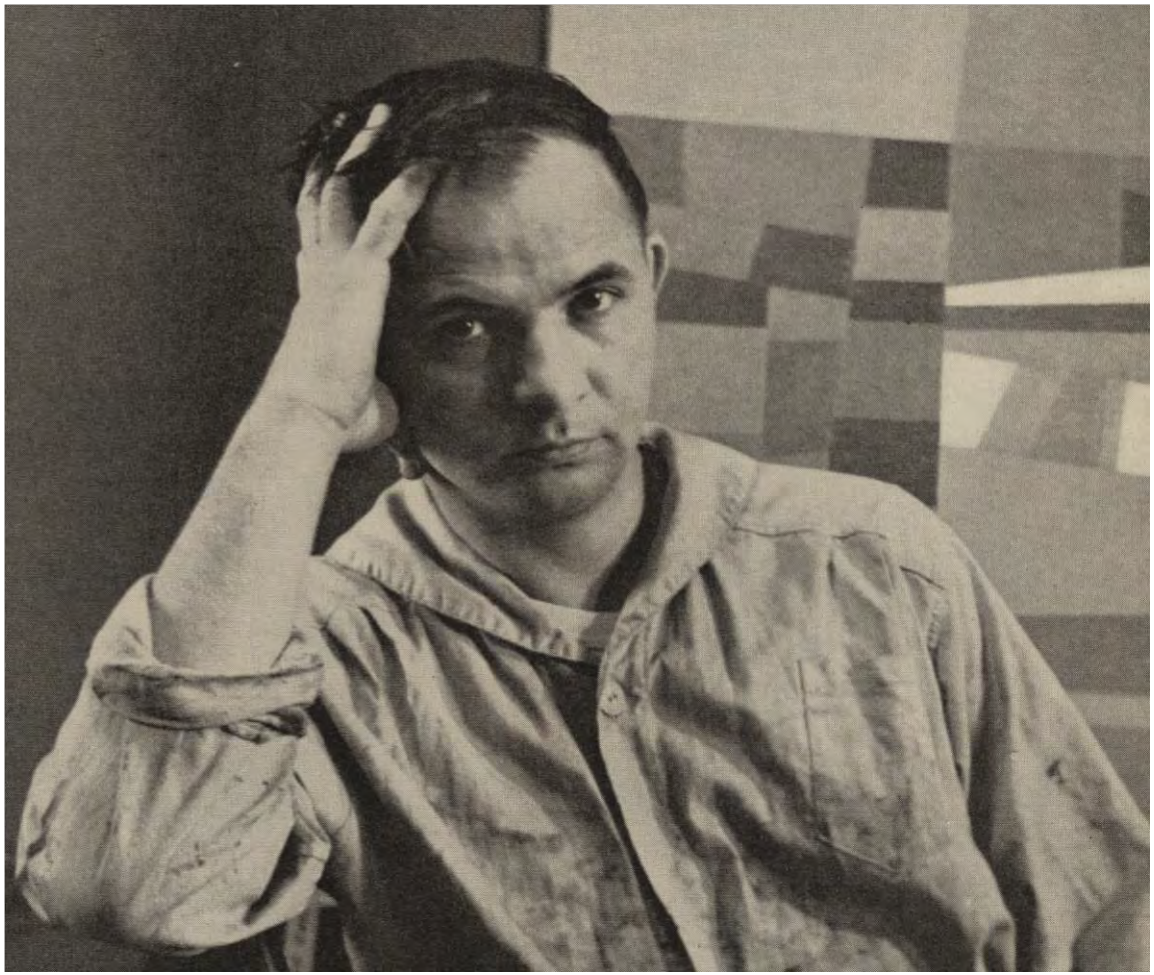
The frame was crafted in the monastery carpenter shop with walnut and strips of inlaid copper.


ROMAN

“Why do you tempt me, you hypocrites?”

mid 1950s
white and black tempera on tan paper
8” by 11”

The painting of Saint Bernard by André Girard in the Saint Vincent Archabbey Basilica Crypt influenced some of Roman’s early monastic figure drawing. Here he portrays the contemporary person who speaks truth as a Jesus type. The glow of the Jesus type and manner of suggesting a group reflects Girard’s approach to imaging transcendent moments.



"He is caught in his universe, and paints and draws with transparent power."

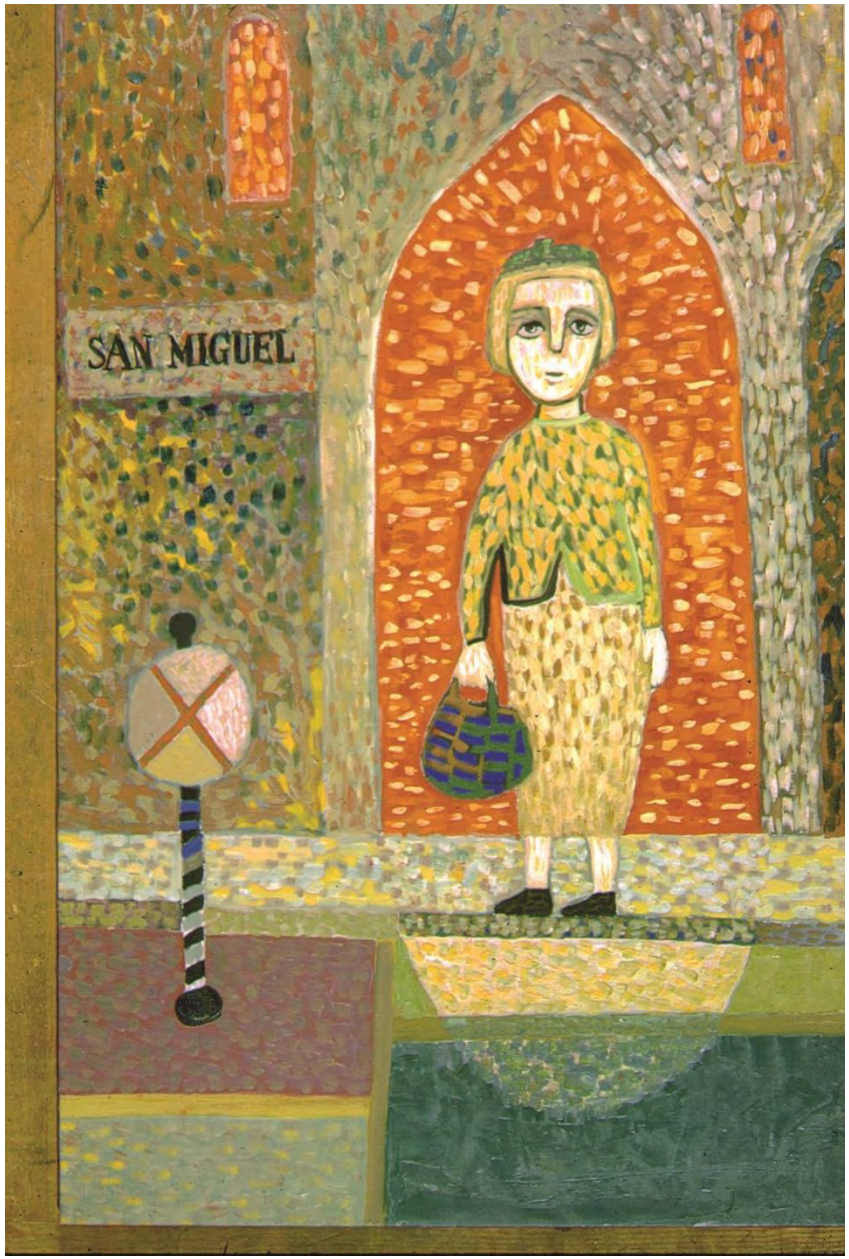
—*Jubilee*, September 1962

New York and Paris
1960-1962 and 1962-1963

Third Station of the Cross:
Jesus Falls the First Time

1960-1961
etching with some engraving
12” by 17.5”

This image shows the influence of Georges Rouault, whose work was well known to Roman. Plates and proofs were made at the new Pratt Graphic Center in Manhattan, directed first by Fritz Eichenberg and later by Andrew Stasik. Roman learned there that W.S. Hayter was reviving printmaking in Paris and influencing contemporary printmaking in New York. This led to Roman’s work with Hayter in Paris in the winter of 1962-1963. Roman’s Stations series was never completed.


SAN MIGUEL

Irish Housekeeper, Saint Michael's

1960
oil on canvas
24" by 37.5"

This midtown West Side parish, populated in earlier years by Irish workers, was transitioning to a predominantly Spanish-speaking parish, creating the pronounced social tensions depicted in "West Side Story." The housekeeper in the painting came from Ireland and is imaged next to the "San Miguel" parish church, suggesting both the cultural conflict and the cultural blending that came with the ethnic mix.

Sunrise on West 34th Street

1962
oil on canvas
30” by 42”

This painting is one of Roman’s earliest fully non-referential works titled for the experiences they might evoke. He awoke early every morning to celebrate Mass for the Presentation Sisters in their chapel at Saint Michael Academy on 33rd Street. This painting was mounted on his easel when Robert Lax photographed him for a 1962 feature in *Jubilee* magazine.

"A way-out painter (abstract expressionism) who is obsessed with ambiguity and lives his obsession as he paints it."

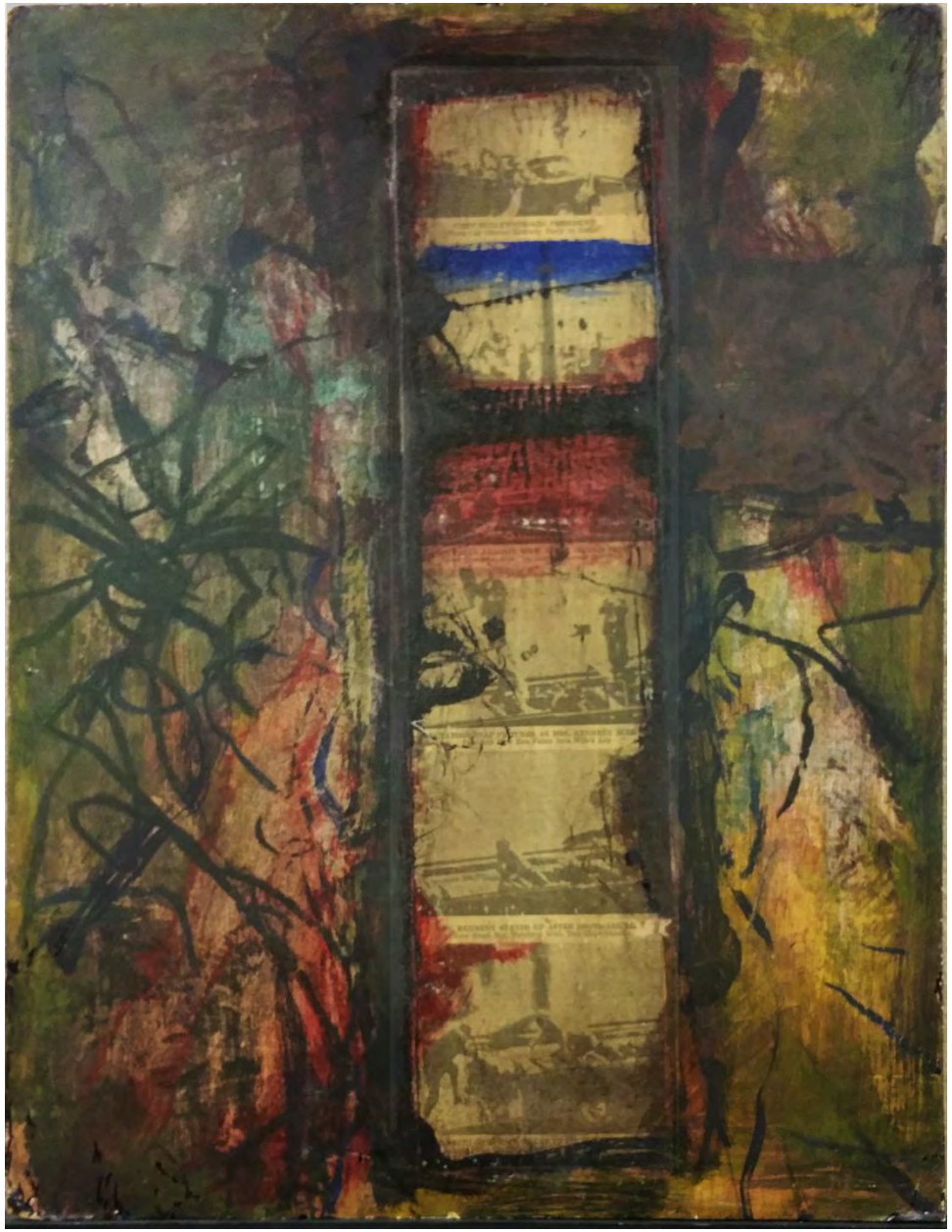
—*The Washington Post*, May 24, 1965

Saint Vincent and Catholic University 1962-1968

Letter to Birmingham

1963 mixed media on
wood 48” by 65”

This panel was intended to suggest hope for spiritual transformation during the bitter moments following the bombing of the Sixteenth Street Baptist Church in Birmingham on September 15, 1963, when four African American girls were killed. On September 18, burial services for three of the girls were held at the Sixth Street Baptist church. Roman had this funeral in mind when he introduced three bright pictorial units in the work.



Assassination

1963
collage with mixed media on wood
18” by 24”

Frames from the 8-mm Zapruder film that were printed in the newspapers following the assassination of President John F. Kennedy were harrowing to a shocked public. This artwork, with the newspaper clips and Roman’s fiercely disturbed brush strokes, speaks graphically of those darkly troubled historic moments.

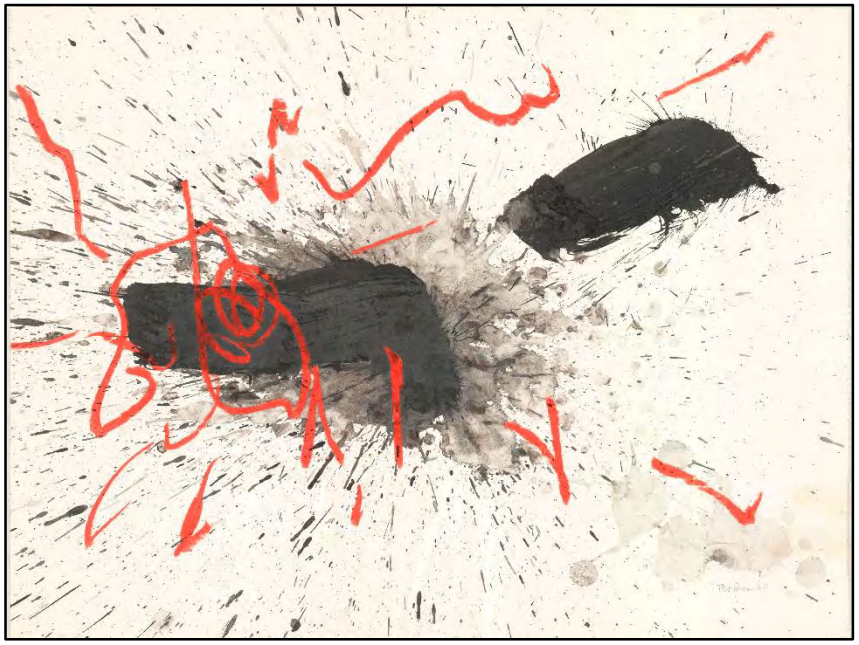

Roman '64

Elle Passe #7

1964
pencil, crayon and brush with gouache
30” by 22”

The French title quotes from the passage in Saint Paul’s first letter to the Corinthians, in which he observes “. . . the face of this world is passing away.” Roman created a series of drawings and several murals based on this text “. . . elle passe, la figure de ce monde” (I Cor. 7,31). This work was shown in the artist’s Westmoreland Museum of Art exhibition in 1965 and at a Seton Hill College exhibition in 1966.


love



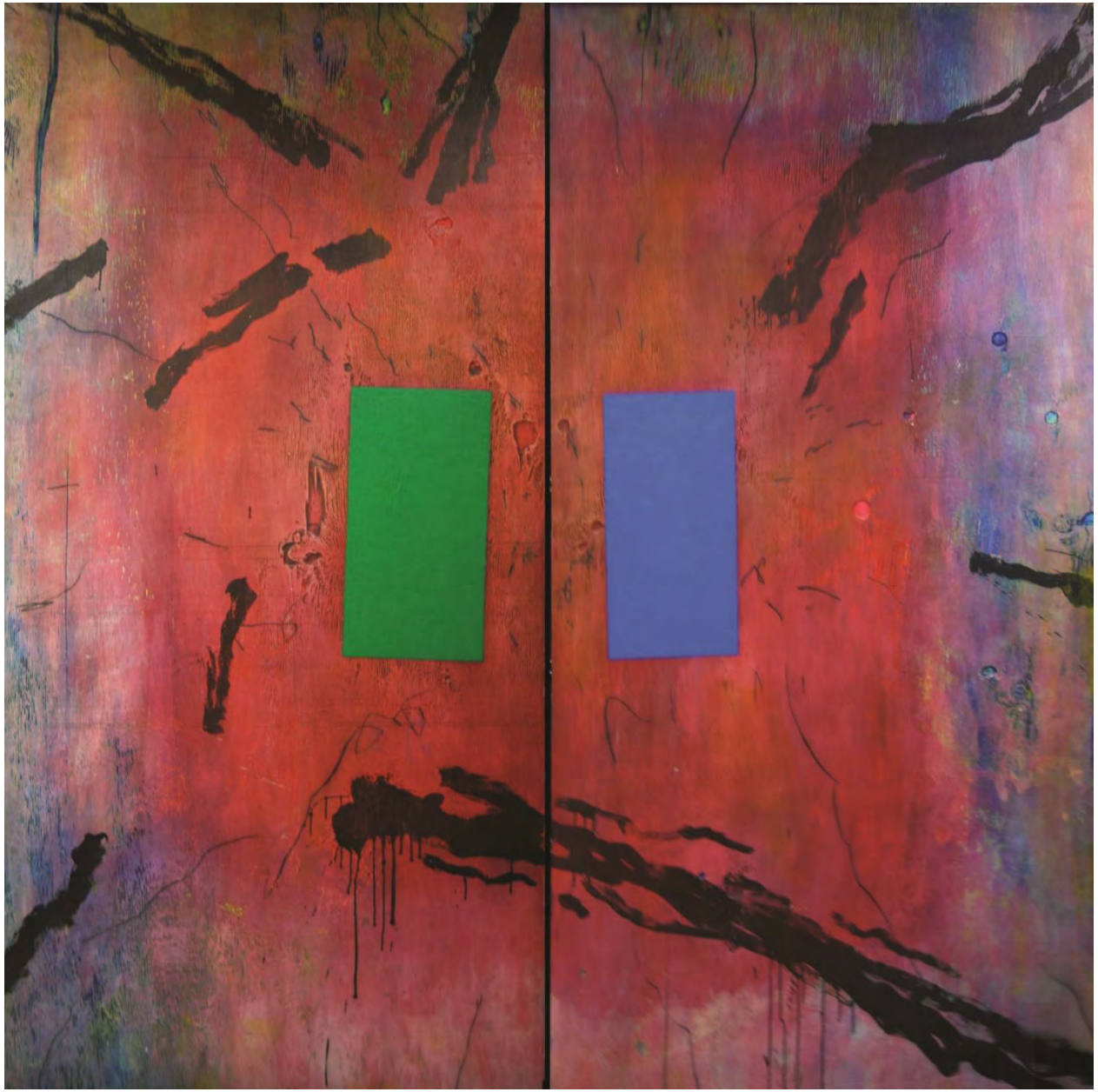
Drawings for “Psalms of Love”

1967

brush, watercolor and crayon

18” by 13.5”

Two of more than 70 drawings with a 3:4 ratio that were created to make slides for “Psalms in Sound and Image,” a series of electronically synchronized audiovisual programs. Presentations were held at galleries, colleges and retreats around the country, including Fisk University in Nashville, the Yale Disciples House in New Haven and a 1967 holiday season presentation at Marymount Manhattan College in New York City.



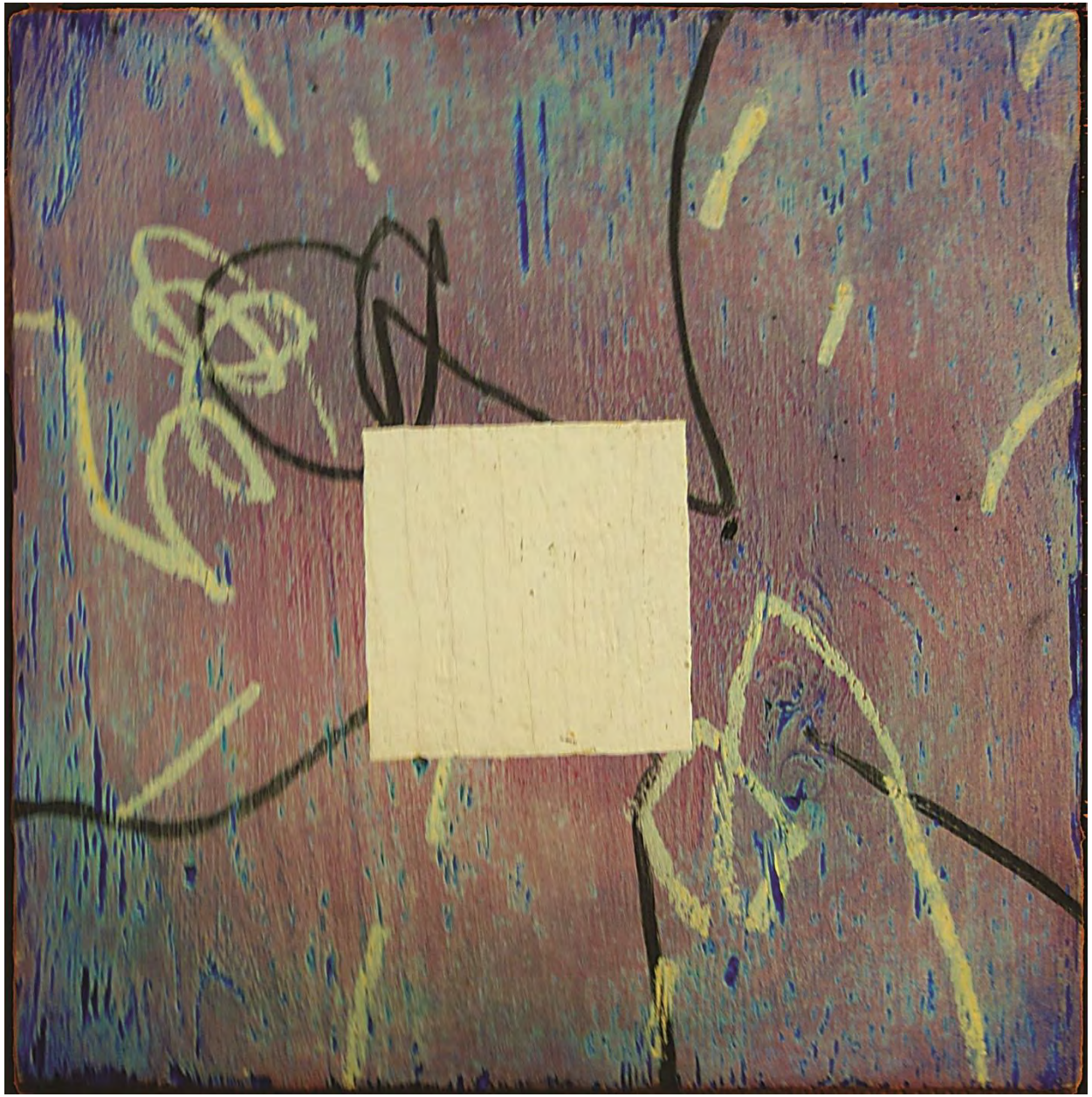
The New City Grows

1967
mixed media on wood panel primed with gesso
8’ by 8’

With calculated geometric form and spontaneous gesture merged in the same picture field, the artist attempts to achieve a harmony of visual oppositions. Such merging of opposites symbolized his belief at that time, a belief in Parousia, a final fulfillment with the end of human conflict and ultimate peace.

“My paintings are spontaneous emotion; they are also calculated precision; they search to resolve oppositions in a visual dialogue; they are born from the belief that we are growing to a great love that will resolve the ambiguous and deliver us to Peace . . .”

Artist’s Statement
Westmoreland County Museum of Art Catalogue
April 1965



The New City Yes

1965
mixed media on wood panel primed with gesso
12” by 12”

The New City paintings look to experiences of faith that affirm belief in a fulfilment. The “YES” to life, rather than to despair or dissipation, bears witness to that faith or hope.

The New City: People of God (Campion)

1966
mixed media on wood panel primed with gesso
36” by 36”

The believing community includes those whose faith and belief shine for others as a beacon of hope. True believers are likened to “the people of God” as they represent the Jesus presence for the believer. This piece honors Roman’s classmate, colleague and friend, Rev. Campion Gavaler, O.S.B.

The New City Grows

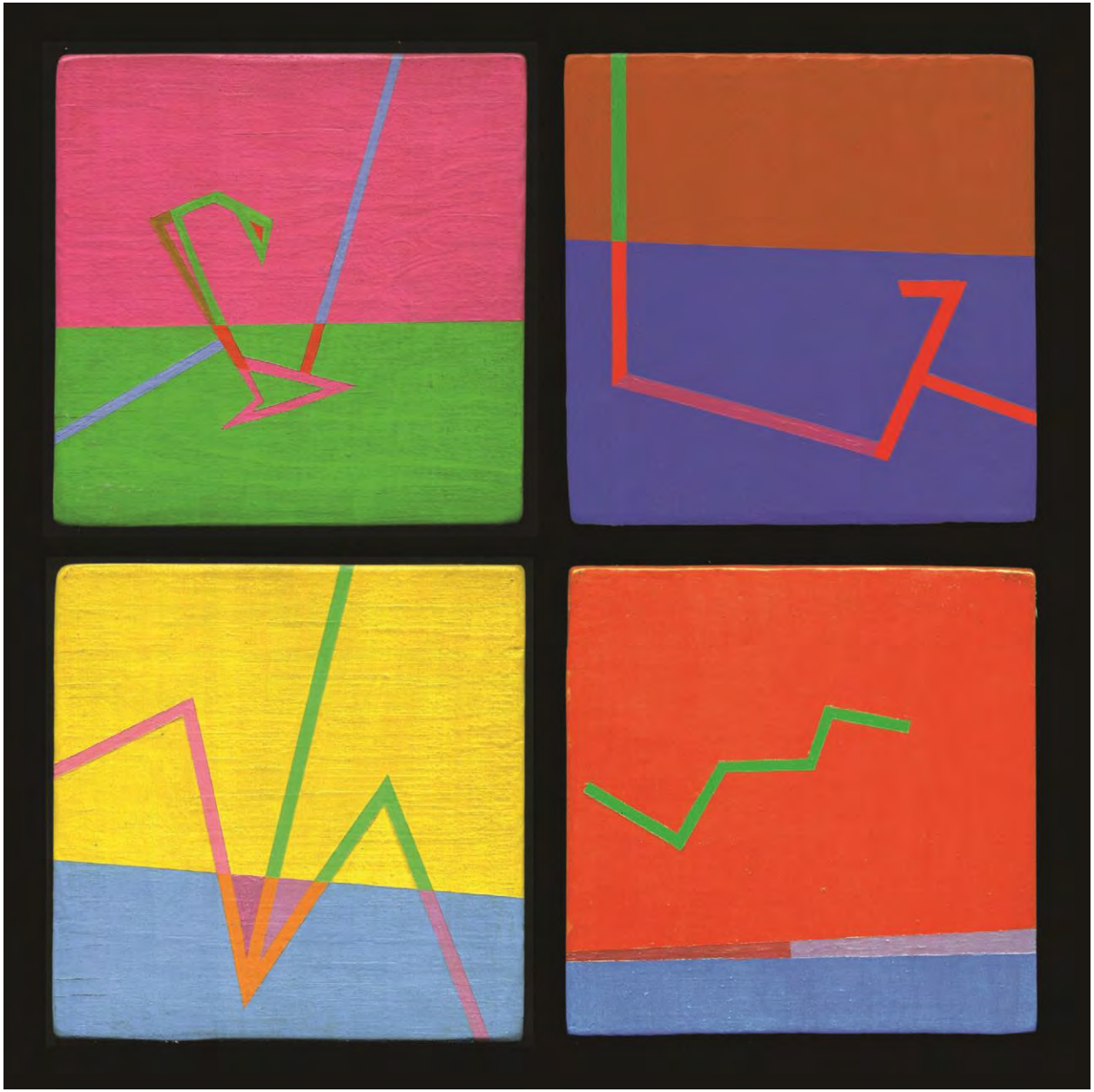
1965
mixed media on wood panel primed with gesso
36” by 36”

This work displays a visual horizon separating a bright illuminated area above and a dark blue area below with thick black brushwork and a glimmering red rectangle. This arrangement signals experience of a heaven and earth conflict struggling to merge in a resolution of opposites.

"His works are light and happy in spirit; they have the childlike exuberance seen in Miro and also the life-awareness that makes Miro more significant than a childish scribbler."

—*Minneapolis Star*, November 16,1972

Minneapolis
1968 to present



Four Eikons

Eikon 105 top left

Eikon 103 top right

Eikon 104 bottom left

Eikon 101 bottom right

1969-1972
acrylic on wood panels primed with gesso 6”
by 6” each

Carefully crafted as portable eikons/icons, these were some of Roman’s first experimental works in Minneapolis. They exhibit his mastery of color and were intended to be meditations on the interaction of color oppositions. They were yet another foray into the resolution of oppositions. These were exhibited in Roman’s “Imaging the Unseen” exhibitions at West Lake Gallery, Minneapolis, in 1972, and Trajectory Gallery, London, Ontario, in 1973.

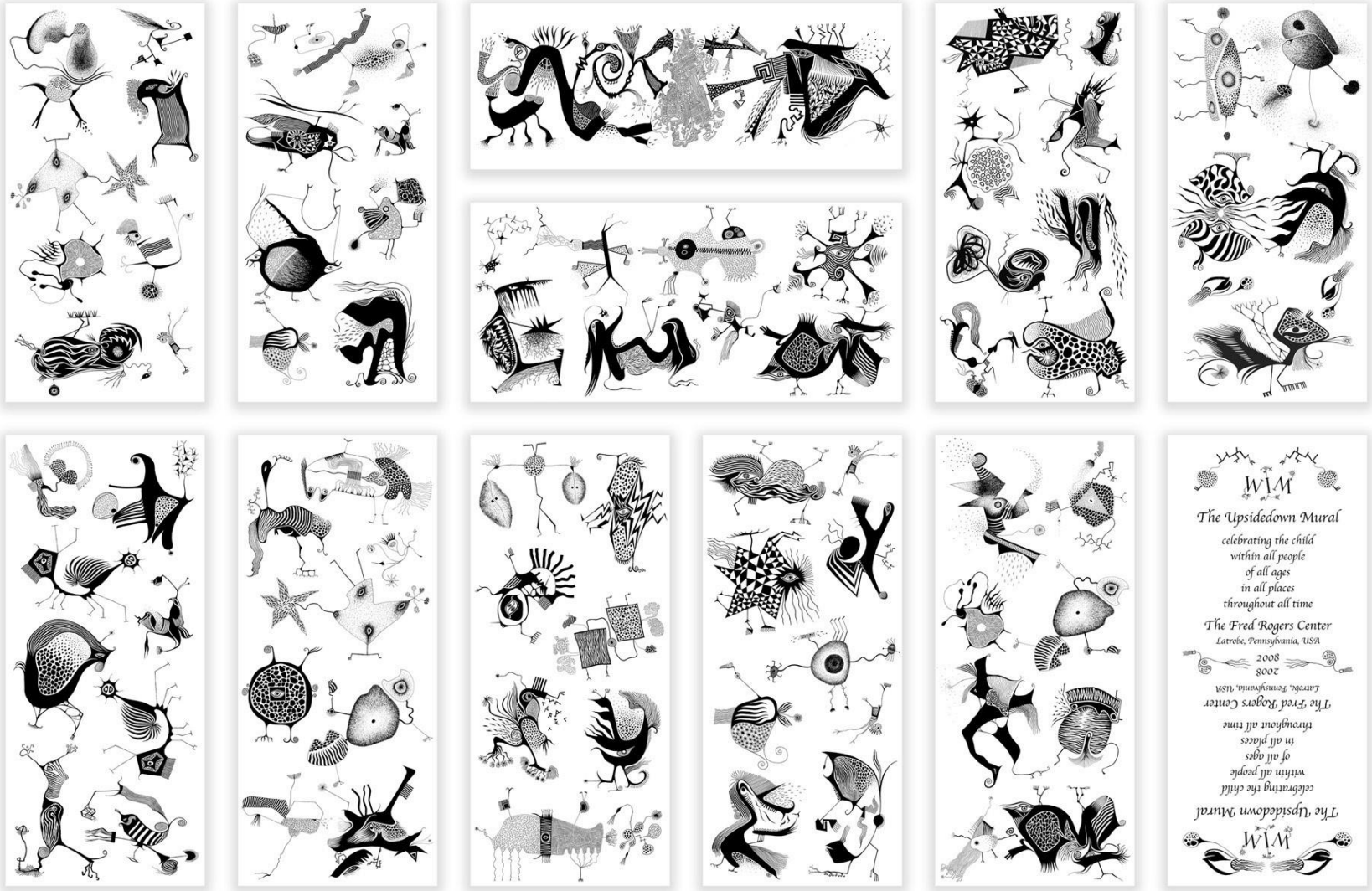
Eikon 203, Untitled

1970-1971
acrylic on wood panels primed with gesso
24” by 24”

Eikon 205, Untitled

1970-1971
acrylic on wood panels primed with gesso
24” by 24”

Paintings in this series and similar pen and ink drawings were included in the 1972 West Lake Gallery exhibition, “Imaging the Unseen.” Some of the black ink drawings from the same show were incorporated into the Upsidedown Mural in the Fred Rogers Center of Saint Vincent College.


WIM
The Upsidedown Mural
celebrating the child
within all people
of all ages
in all places
throughout all time
The Fred Rogers Center
Latrobe, Pennsylvania, USA
2008
WIM
The Upsidedown Mural
celebrating the child
within all people
of all ages
in all places
throughout all time
The Fred Rogers Center
Latrobe, Pennsylvania, USA
2008

Scale of WIM: The Upsidedown Mural

This digital print, scaled from the original 26-foot by 18-foot mural installed in Saint Vincent College's Fred Rogers Center in 2008, includes a documentation panel that is not part of the mural wall. Some of the drawings in this mural were exhibited in Roman's 1972 West Lake Gallery exhibition that included the "Eikons" also shown here.

"... Verostko was the first artist to probe, in its multifarious forms, the inner world of the emerging digital consciousness. In his "Magic Hand of Chance," the artist channeled the language and spirit of ancient traditions through non-repetitive free forms in sound, image, and text."

— Grant Taylor, quoted in *all.go.rhythm: idea >> machine >> art*
Ukrainian Institute of Modern Art
Chicago, October 2015

Algorithmic Art
Since 1982


THE MAGIC HAND OF
C H C H A E
C H H N C C
A C A A C E
C H A N C E
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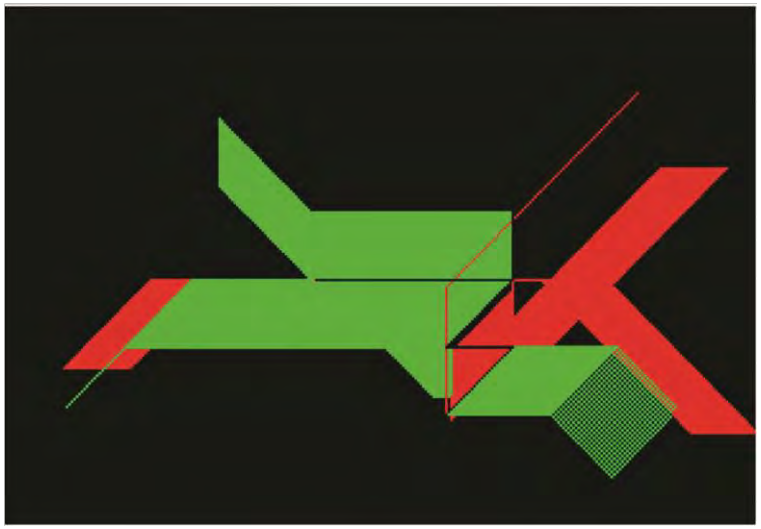
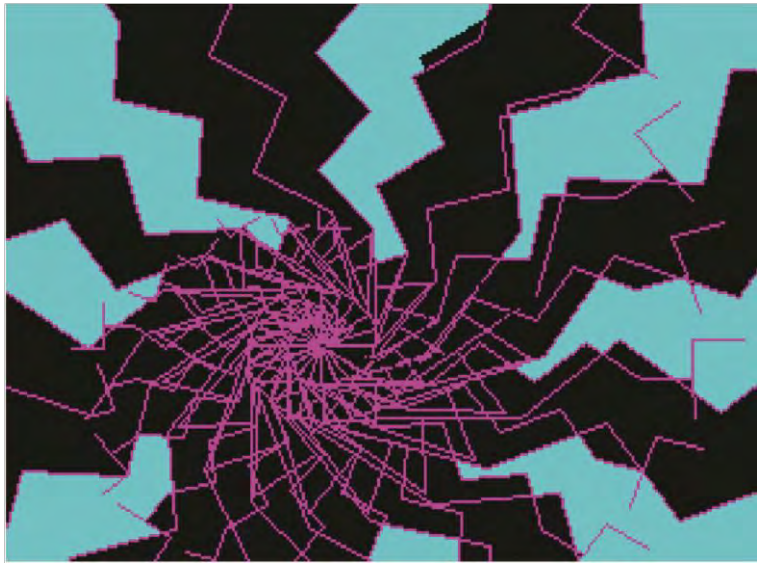





The sayings of Omphalos . . .

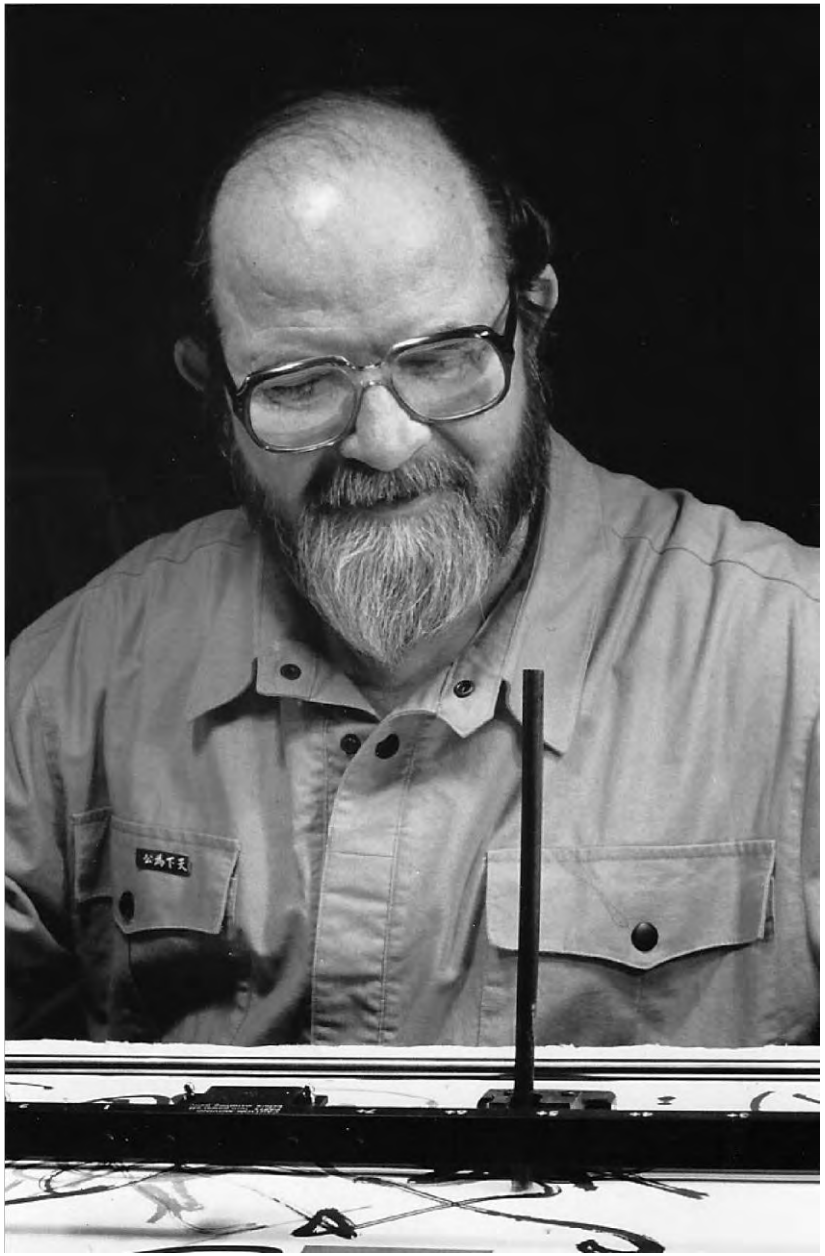
Magic Hand of Chance

1982
written in BASIC with a first edition IBM PC (5150) for a CGA color monitor.

The original program is presented operating on a simulated DOS environment. The presentation generates texts and images using the same program and dictionaries that were used in the original PC presentations. Roman's wife, Alice Wagstaff assisted in building the vocabularies for the dictionaries. Her knowledge and skills with alliteration and evocative qualities of words created a very lean and rich set of word files. Roman senses her presence in the code in the titles and the "Sayings".

The master program for this display occupies only 32 kb of space, the size of a thumbnail digital photo. Limited to 320 by 200 pixels of resolution and three colors per frame in its CGA graphic mode, the "Magic Hand" generates surprisingly colorful bits of charm and humor with non-repeating visual improvisation and textual invention.

The Magic Hand of Chance is one of the first examples of generative art programmed with an IBM PC. Its first public showing took place in a Minneapolis computer parts storefront window in 1983. Twenty-one years later, in 2004, it was included in the Algorithmic Revolution exhibition at the Center for Art and Media Technology (ZKM), in Karlsruhe, Germany.



Algorithmic Art with Drawing Machines, 1986 to Present

In 1985, Roman served as a visiting professor at the Zhejiang Academy of Fine Arts in Hangzhou, China. On his return, he acquired a 24" Houston Instruments DMP52 pen plotter, a drawing machine that was designed for engineers and architects. He began using it by converting some of his Magic Hand algorithms into routines for drawing in pen and ink with the machine.

One could think of his drawing machine as a robot and his software as his "art-form" ideas guiding the robot. The software code embodies a set of instructions that are detailed procedures directing how the drawing arm of the machine should precede, step by step, in executing his art-form ideas. Such a procedure could take hours or even days, depending on the complexity and size of the drawing. By 1986, influenced by his experience in China and his own earlier brushwork, he adapted Chinese brushes to fit the drawing arm of the plotter. He also wrote code that would control brush strokes as well as the pen and ink strokes.

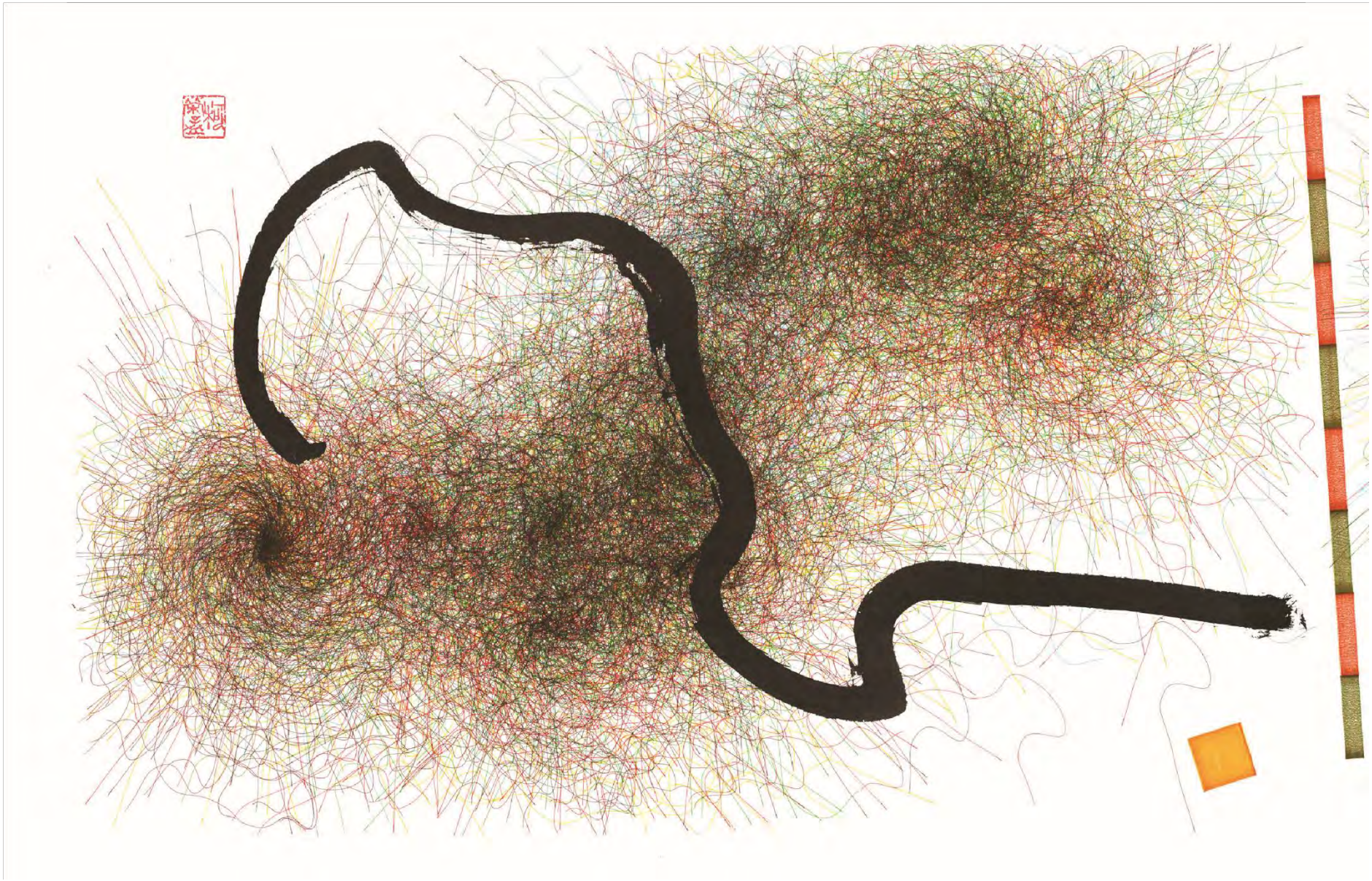
Roman named his master program, "*Hodos*," Greek for "path" or "way." Wang Dong Ling, a *shufa* (Chinese calligraphy) master who had taken Roman's 20th century art course in China, carved a studio seal for him in an ancient Chinese script reading "small pathway studio."

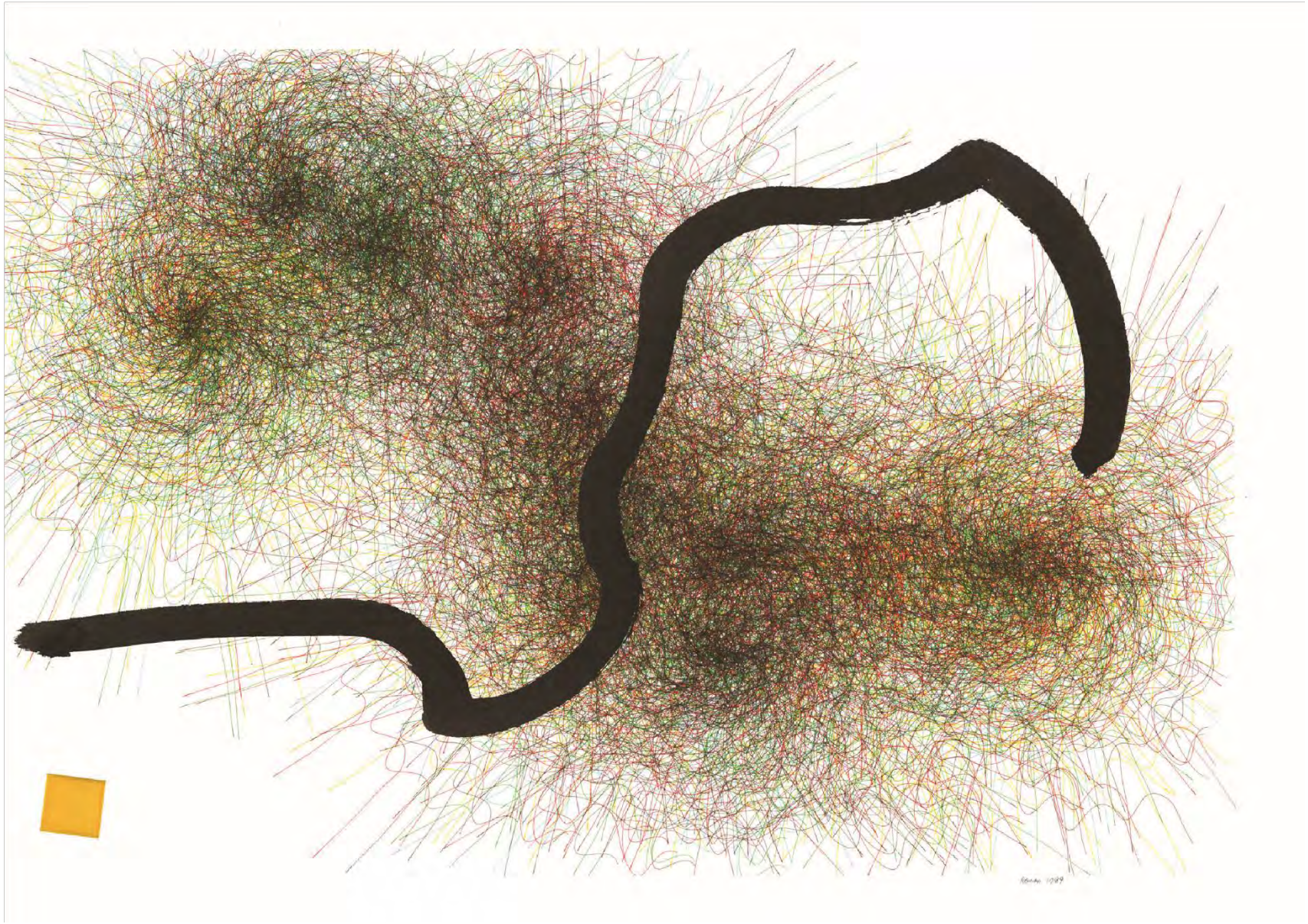
Roman's software style, informed with years of experience as an artist, became so distinctive that one colleague suggested that he could send his software to universities as a "visiting artist."

Pathway Series 5

1988
pen, brush and ink, artist's code with drawing machine
22" by 30"

This work was shown in the "CRASH: ComputeR AssiSted Hardcopy" exhibition in October 1988 at the Wright Museum of Beloit College in Wisconsin. The brush work and vertical rectangular divisions present a unity of opposites employing columns of brush work reminiscent of vertical calligraphy in Asian art.





Lung Shan II (Dragon Mountain)

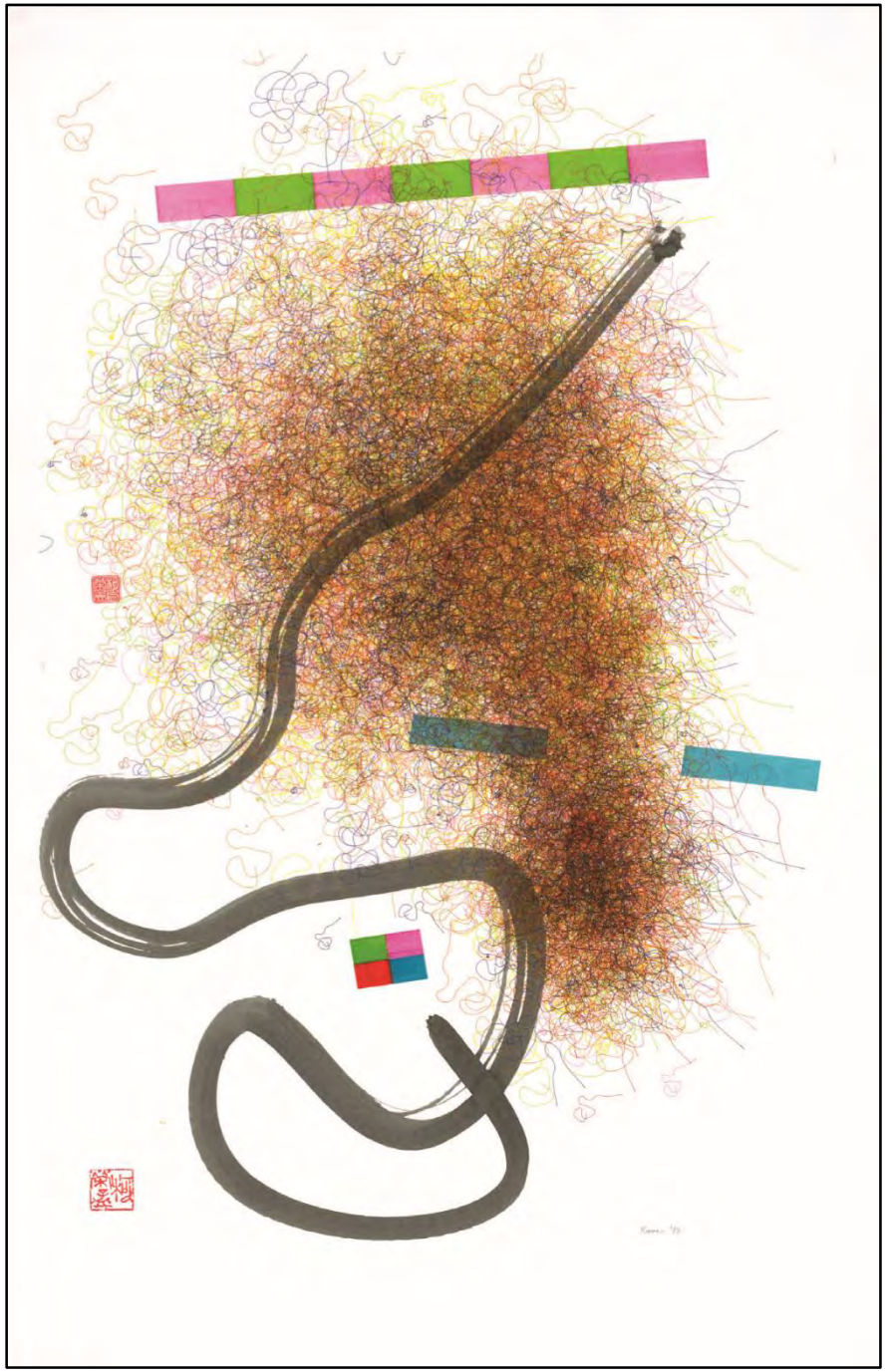
1989
algorithmic pen, ink and brush
72” by 24”

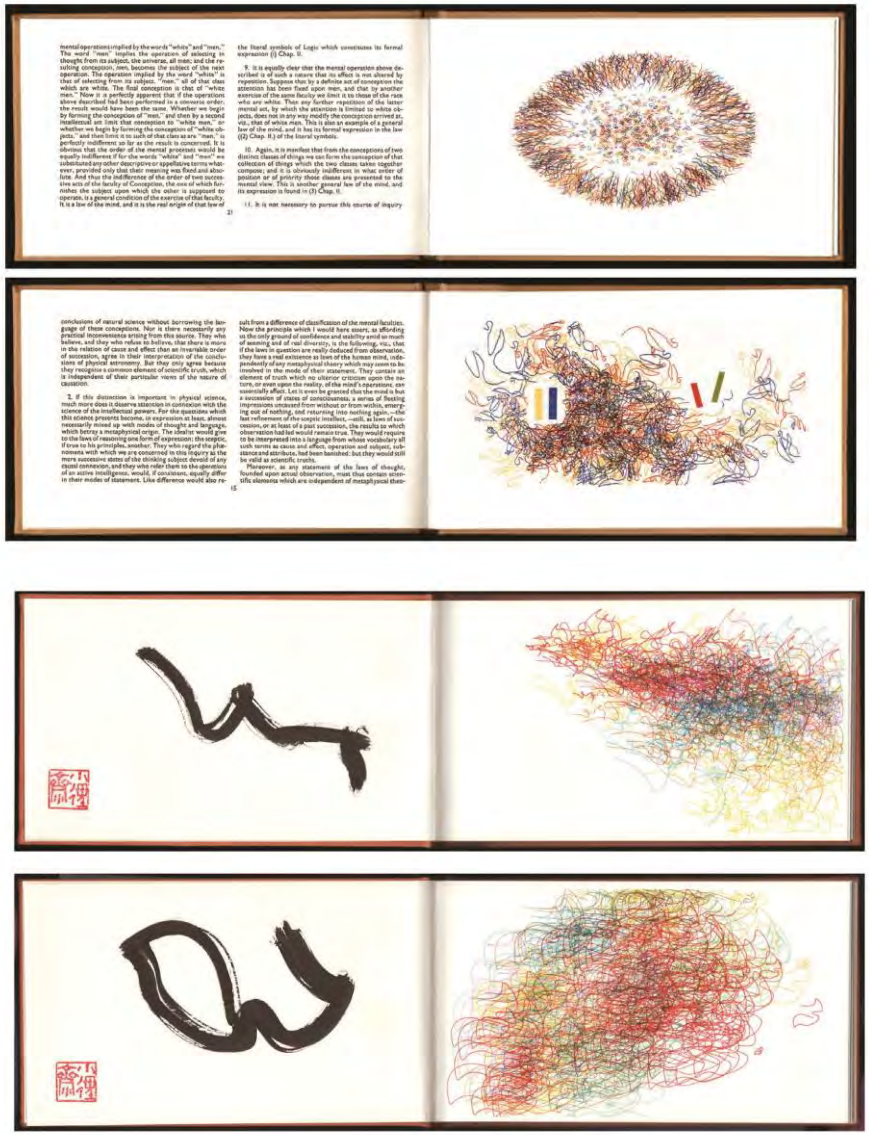
In these works, Roman’s algorithms throw dice within controlling parameters to set the initiating coordinates. The code (algorithms) distributes these using a similar set of rules throughout his work. The algorithmic decisions employ both control and chance. In effect, opposing procedures are married in a process that yields an in-depth self-similarity. Again, Roman achieves a unity of opposites similar to the intentions of his pre-algorithmic New City paintings.

Carnival

1989
algorithmic pen, ink and brush
24” by 40”

This coded brush and ink work merges “order and chaos.” The coordinates for the brush stroke have been viewed as the DNA for this work. Both the pen and ink strokes and the initiating <0,0> for the geometric rectangles were generated from relationships ruling the brush stroke. It seeks the same resolution of opposites addressed in the New City paintings.





Derivation of the Laws

Saint Sebastian Press, 1990

This limited edition book was conceived as an homage to George Boole for his contributions to the symbolic logic underlying the information revolution. The illustrated text is an excerpt from *An Investigation of the Laws of Thought* by George Boole, first published by Macmillan, London, in 1854.

Frontispiece examples

brush, pen and ink, artist's code with drawing machine

The same parent code generated a unique frontispiece and end piece for each book in the edition. This edition may be the only example of generative art where a family of forms, generated with the same parent code, has been bound in a letterpress edition pulled by hand.

Illustrations

Sample book pages show text with four-color letter-press illustrations printed with line-cut zinc plates for each color. The zinc plates were etched from plotted pen and ink drawings, with a separate drawing made for each color. The edition was printed with a Vandercook Proof press, also known as a "Vandy," which achieved an impression in one run over four plates. Each page was pulled by hand. The hand-set typography and presswork were done by Michael Tomaszewski in 1990.

Celebrations of Earth and Cosmos

Gaia Triptych

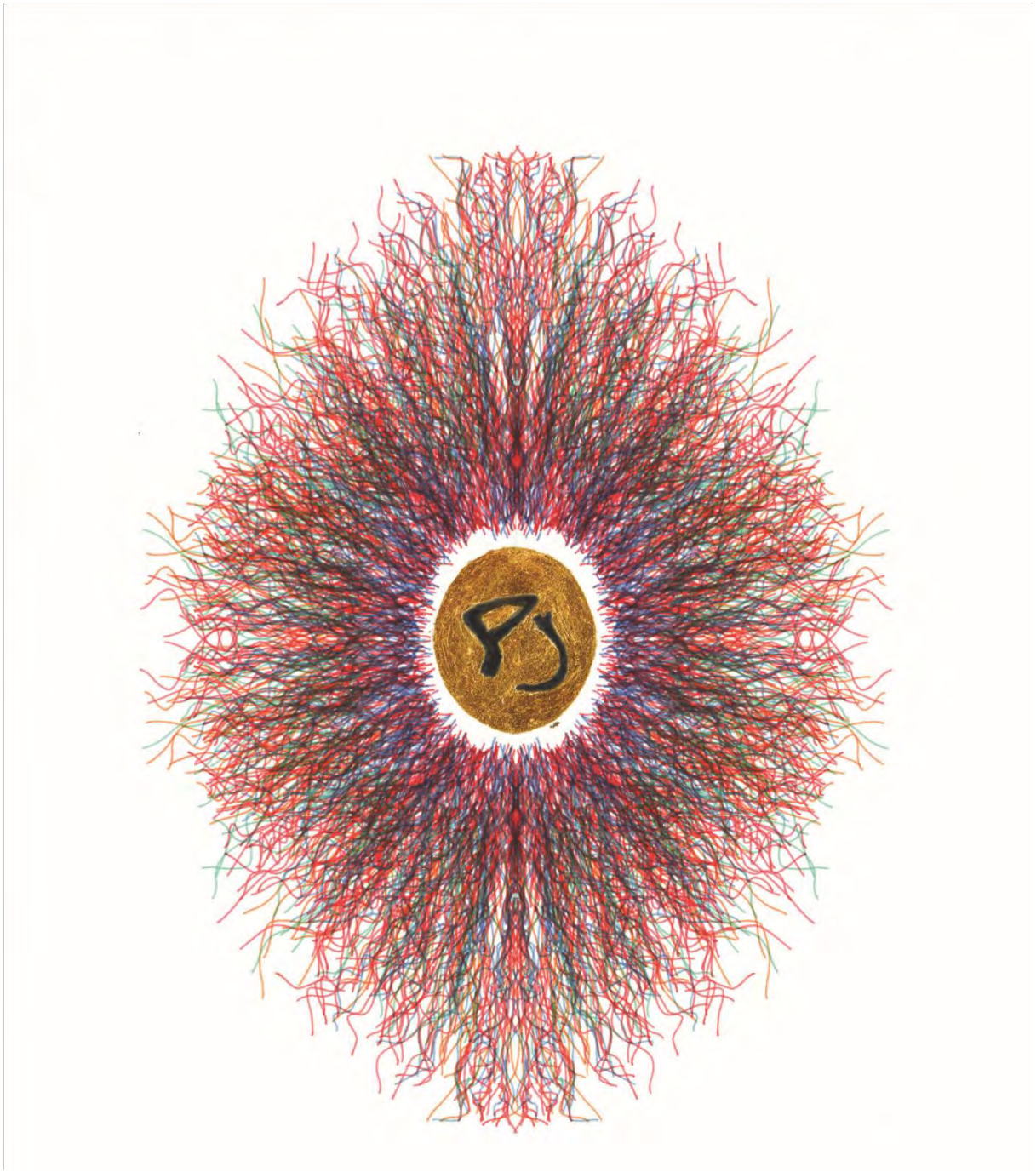
1990
algorithmic pen, ink and brush 76”
by 41” open; 38” by 41” closed

This triptych celebrates Gaia as Mother Earth. The artist became aware of the impending ecological crisis in his monastic years through Rev. Maximilian Duman, O.S.B., who introduced him to Rachel Carson’s *Silent Spring*. The brush stroke in this triptych may be viewed as the DNA for the entire art work. The code and the data for the brush stroke contain the information controlling every pen stroke throughout the five panels.

Gaia E II

1996 pen plotter
drawing 30” by 22”

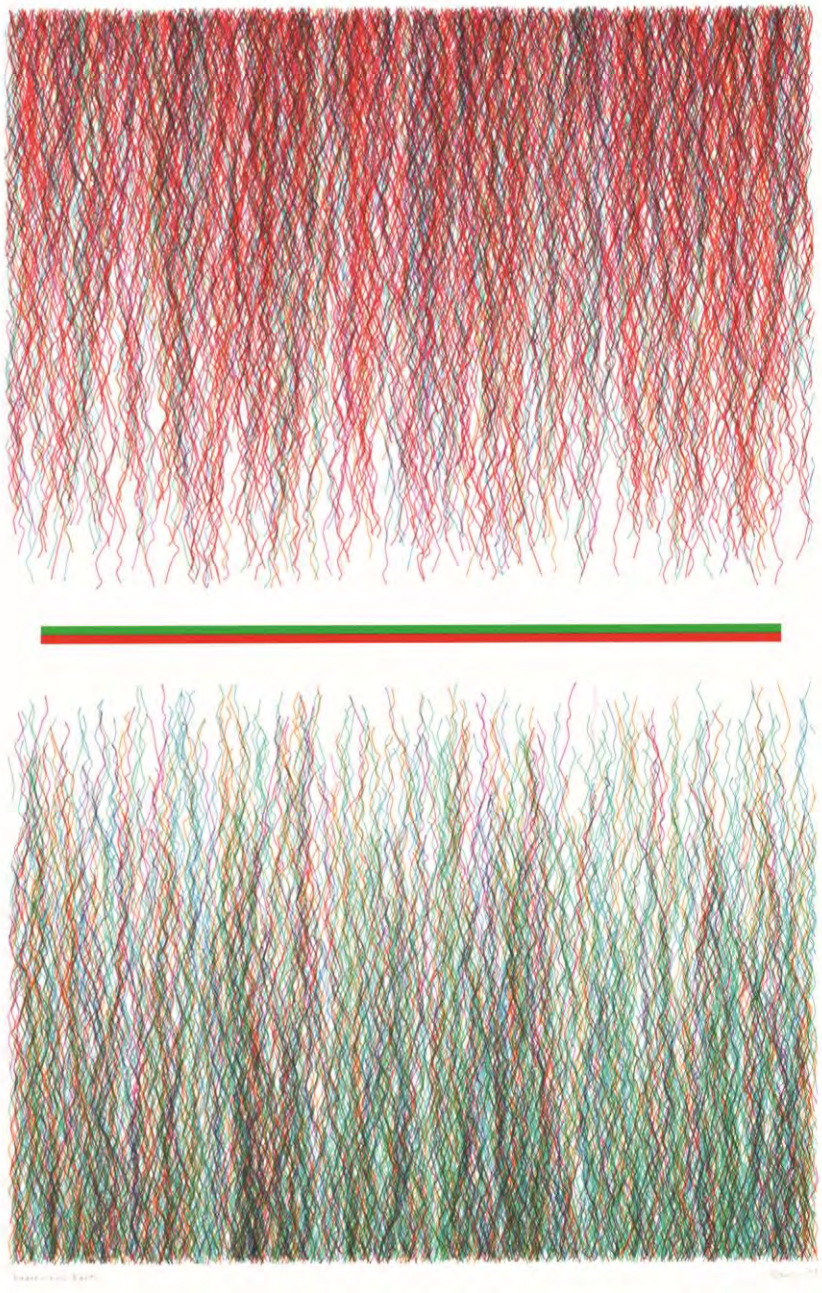
This is one of a family of “Three Sisters,” pieces that were created as a celebration of Mother Earth using the same parent code.



Sun Canticle VI

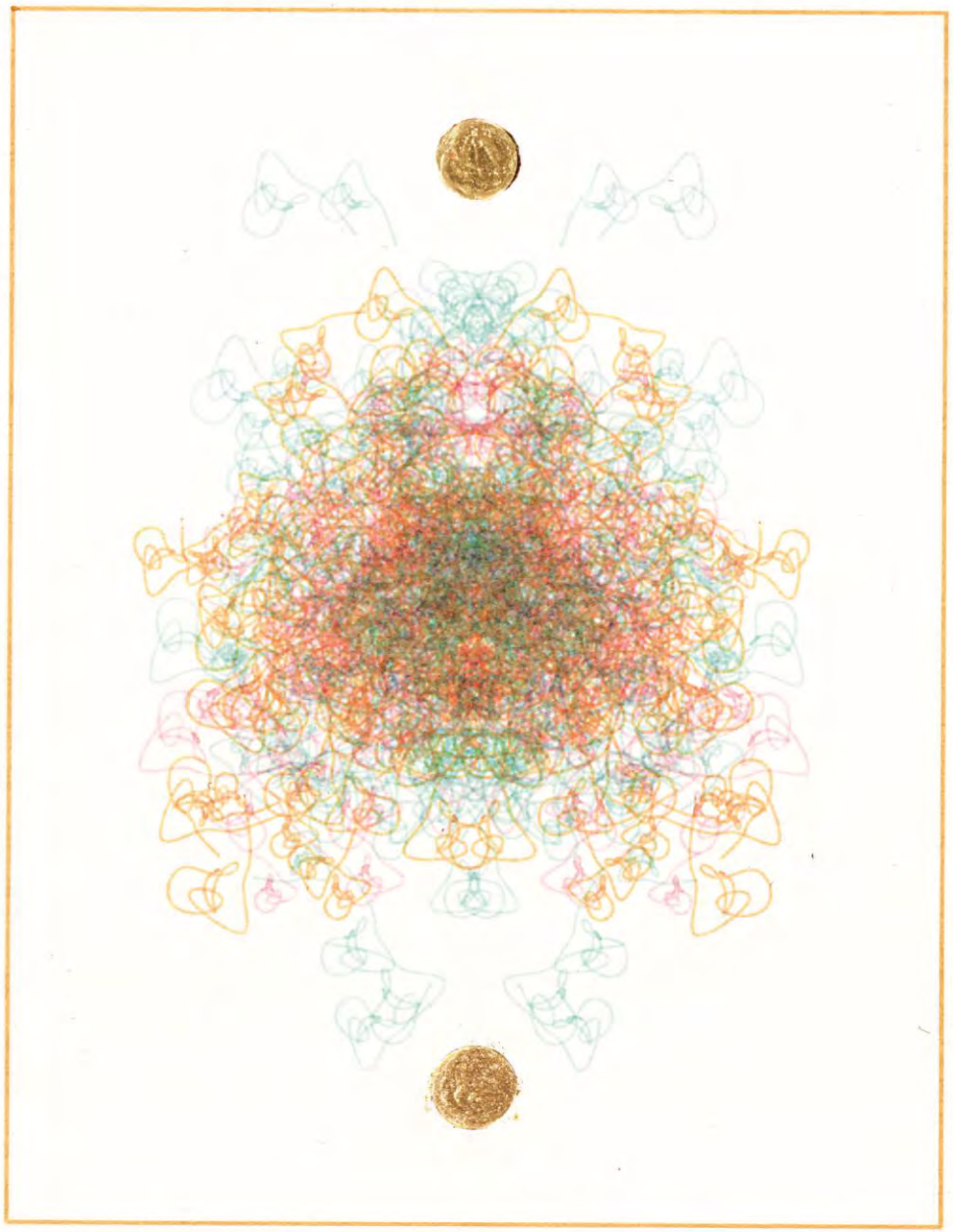
1996
pen, ink and artist's code with drawing machine
and gold leaf enhancement by hand 13" by 19"

During his monastic period, Roman also created an art panel based on Saint Francis of Assisi's "Canticle of the Sun," known also as "Praises" or *Laudes*.



Heaven & Earth

2000 pen and ink plotted
drawing
29” by 23”



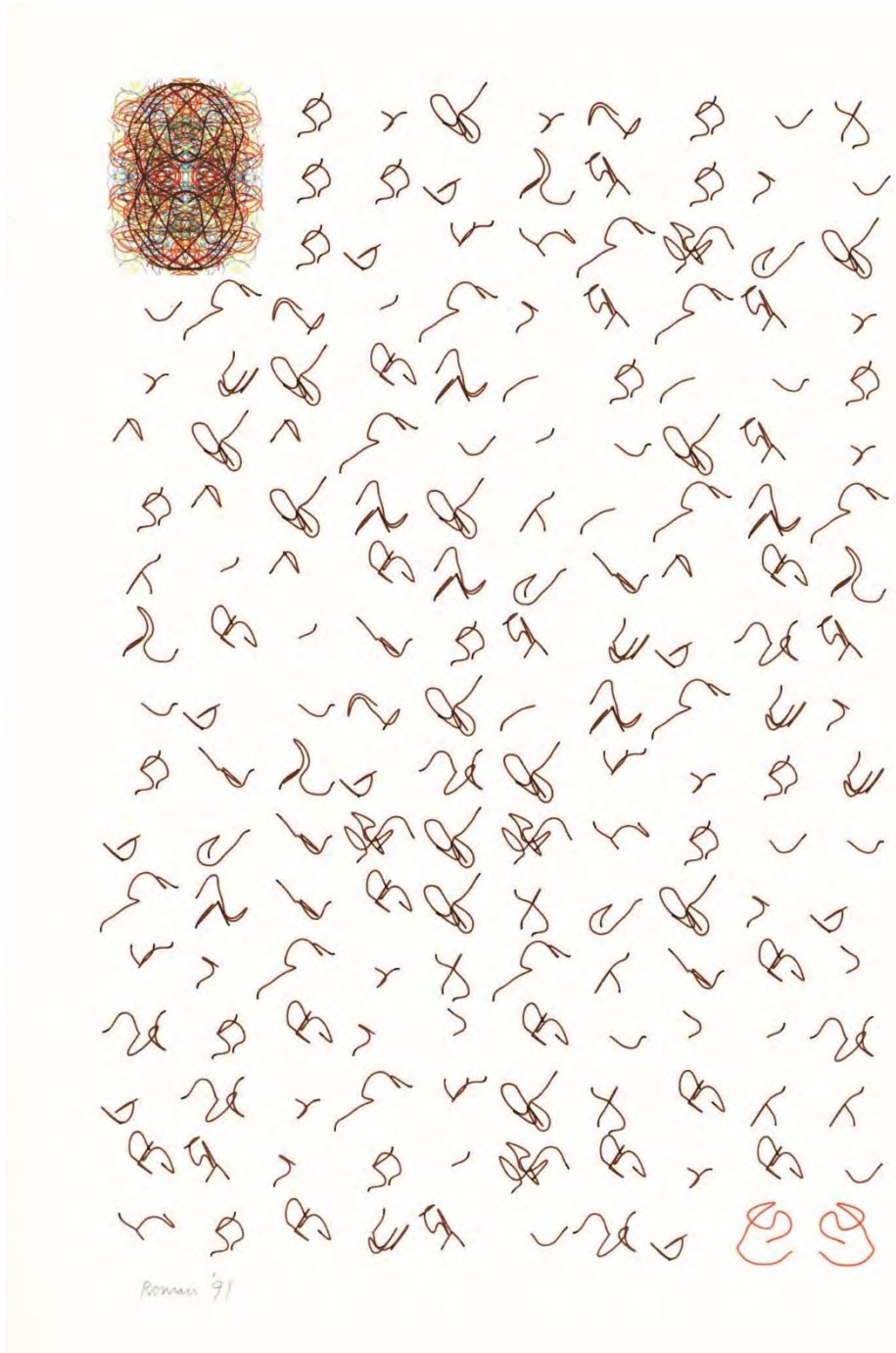
Gaia Millenaria, Celebrating 2000 Years

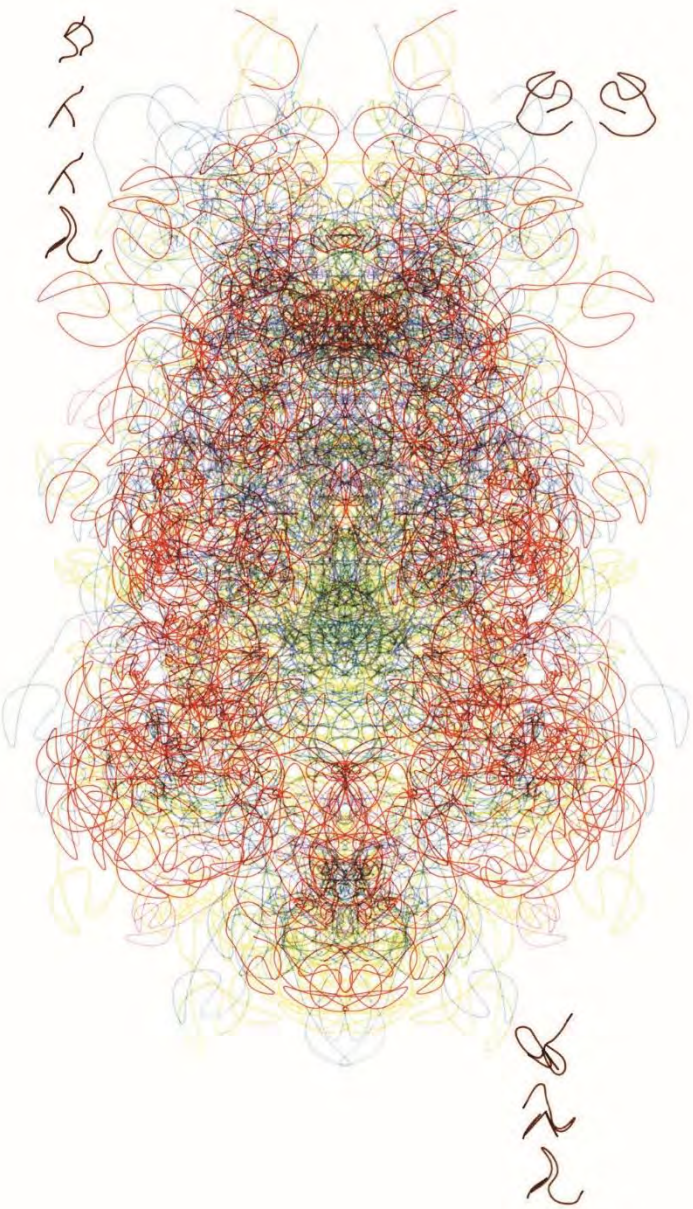
2000

pen and ink plotted drawing with gold orbs

8” by 11”

This work is a celebration of Mother Earth in the 2000th year of our Western calendar. While minute in Mother Earth’s time span, 2000 years of human growth has not always affected the planet in positive ways. The golden orb symbolizes hope for a return to a healthy communion with the earth.


Roman '91



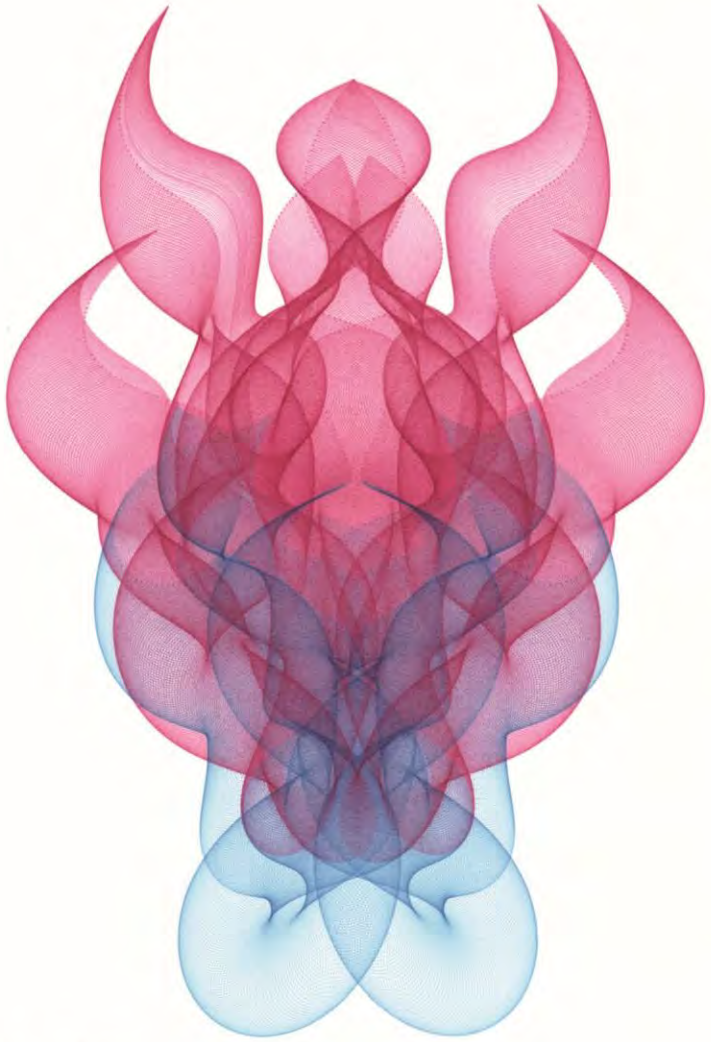
Illuminated Scripts

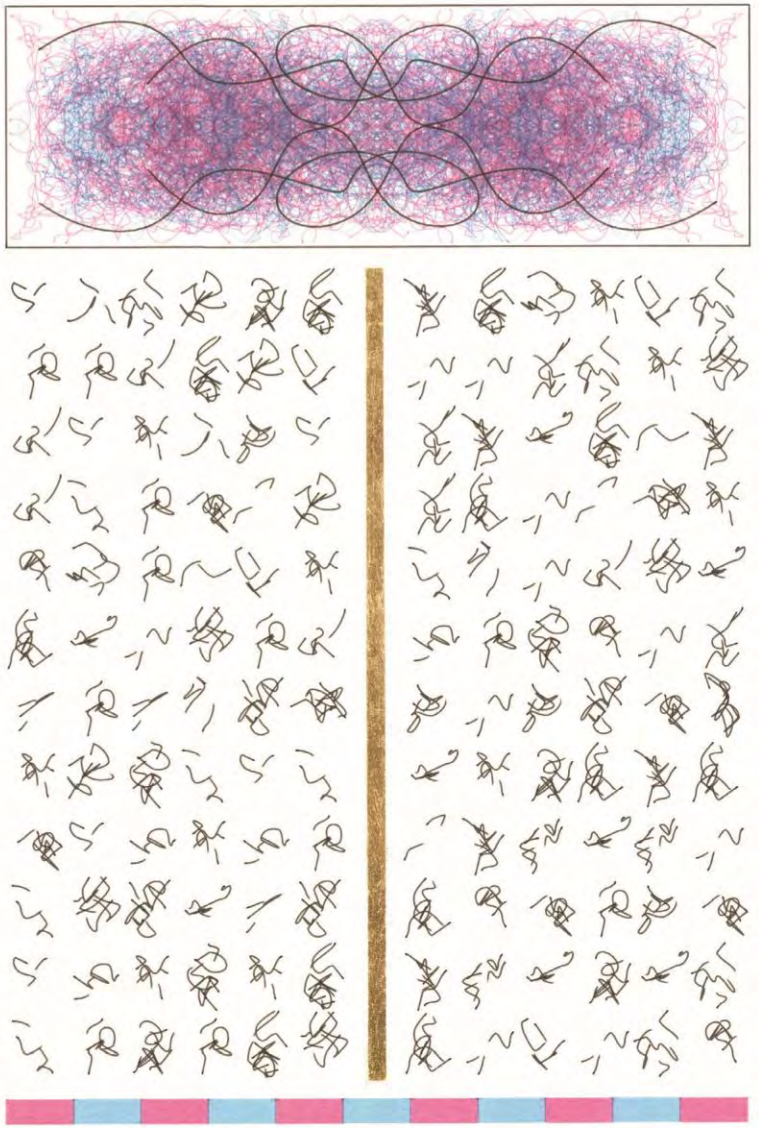
Roman came to view his studio as an electronic scriptorium with a network of several pen plotter “scribes” capable of delineating his scripts and drawings. His “Diamond Lake Apocalypse” and “Pearl Park” series were named after Diamond Lake, which he viewed from his studio window, and Pearl Park, where he walked every morning. In his earlier “Apocalypse” series, one side displays non-rational glyphic characters and the other side displays a drawing. Some years later, for his “Pearl Park Scriptures,” Roman introduced “glyphic” alphabets that were algorithmically generated with the same codes that made the drawings. Most of the “Pearl Park” series and all of his “Flowers of Learning” display translations of actual texts drawn in alphabetical “glyphs.”

Diamond Lake Apocalypse, untitled

1991
algorithmic pen and ink drawing
24” by 20”

With a format reminiscent of medieval illuminated manuscripts, this series illuminates 20th century electronic scripts celebrating the coded procedures by which they were generated, namely the algorithms that have been transforming world culture.

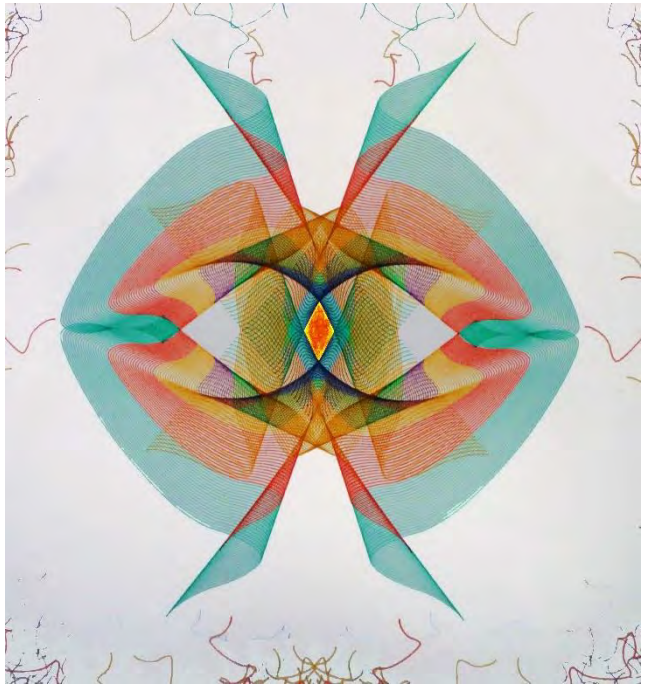




Diamond Lake Apocalypse, Burning Bush

2000 pen-plotted
drawing 23” by 29”

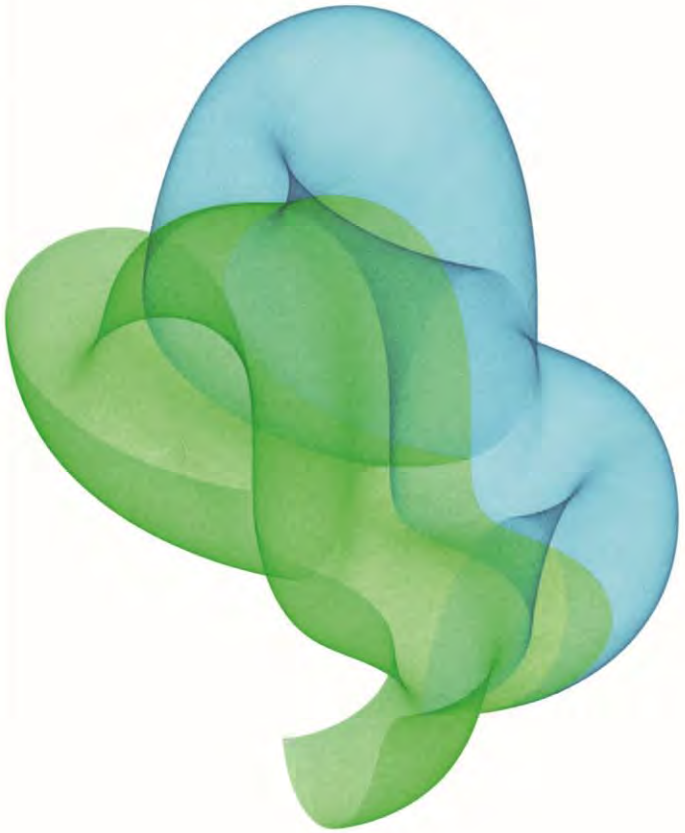
Another example of the many formats Roman adopted for illuminating electronic scripts.
The glyphs in this text are non-rational visual characters.

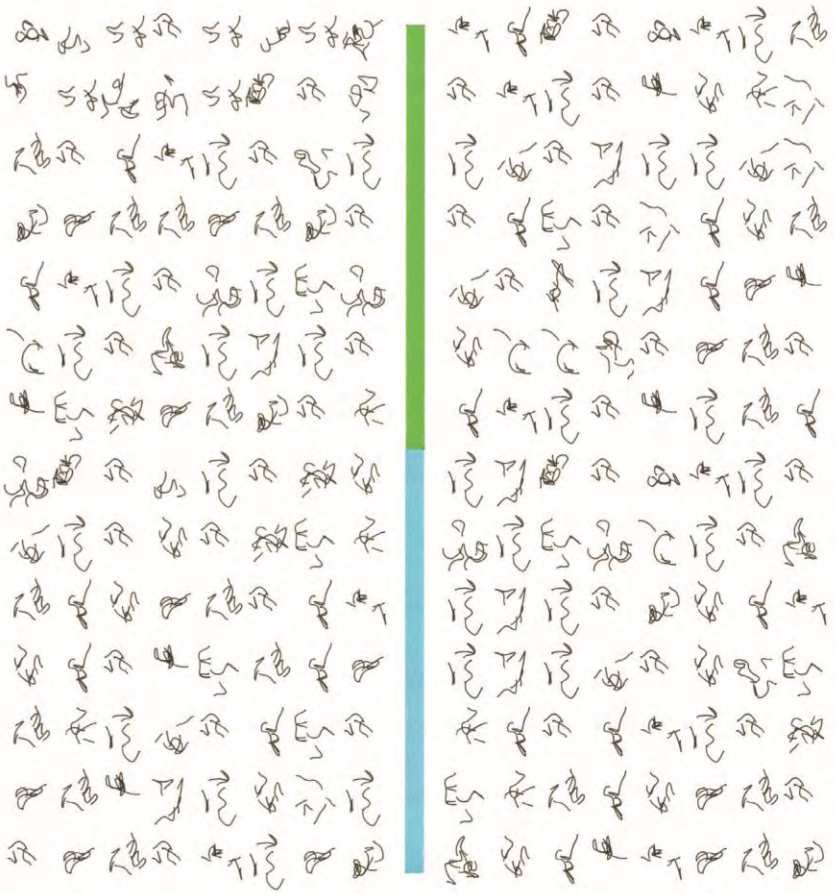


Ezekiel, Vision

1993
robotic pen, ink, brush and gold leaf
32” by 40”

Hand laid gold leaf frames the master stroke, mirrored on both the *x* and the *y* axis. Peter Beyls likened this information to the DNA for this work. The coordinates for this piece were generated with information that controls every pen and ink stroke in this work, including the distribution of the strokes. Even the more geometric central arrangement was generated, line for line, with the same controllers. This “stroke within a stroke” evokes the Old Testament Ezekiel vision of a “wheel within a wheel.”



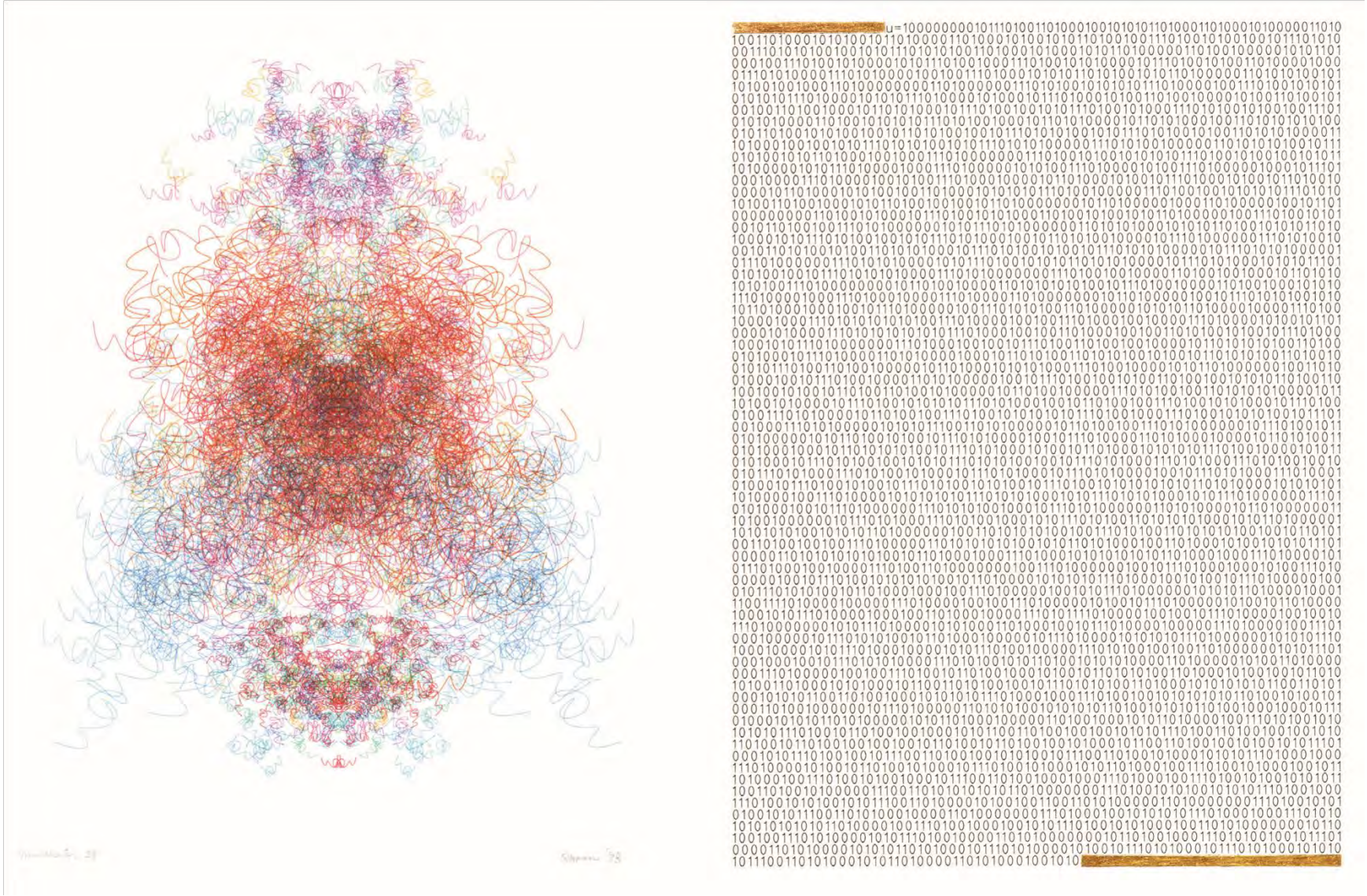


Pearl Park Scriptures, Jicarilla Apache

2005
algorithmic pen and ink drawing with algorithmic
glyphic translations of a Native American Apache text
30” by 20”

Text translation: *The Emergence. In the beginning the people were coming up. He made a mountain that continued to increase in height. Then he caused reeds to stand vertically in the center. The people were gathered about the mountain watching*.

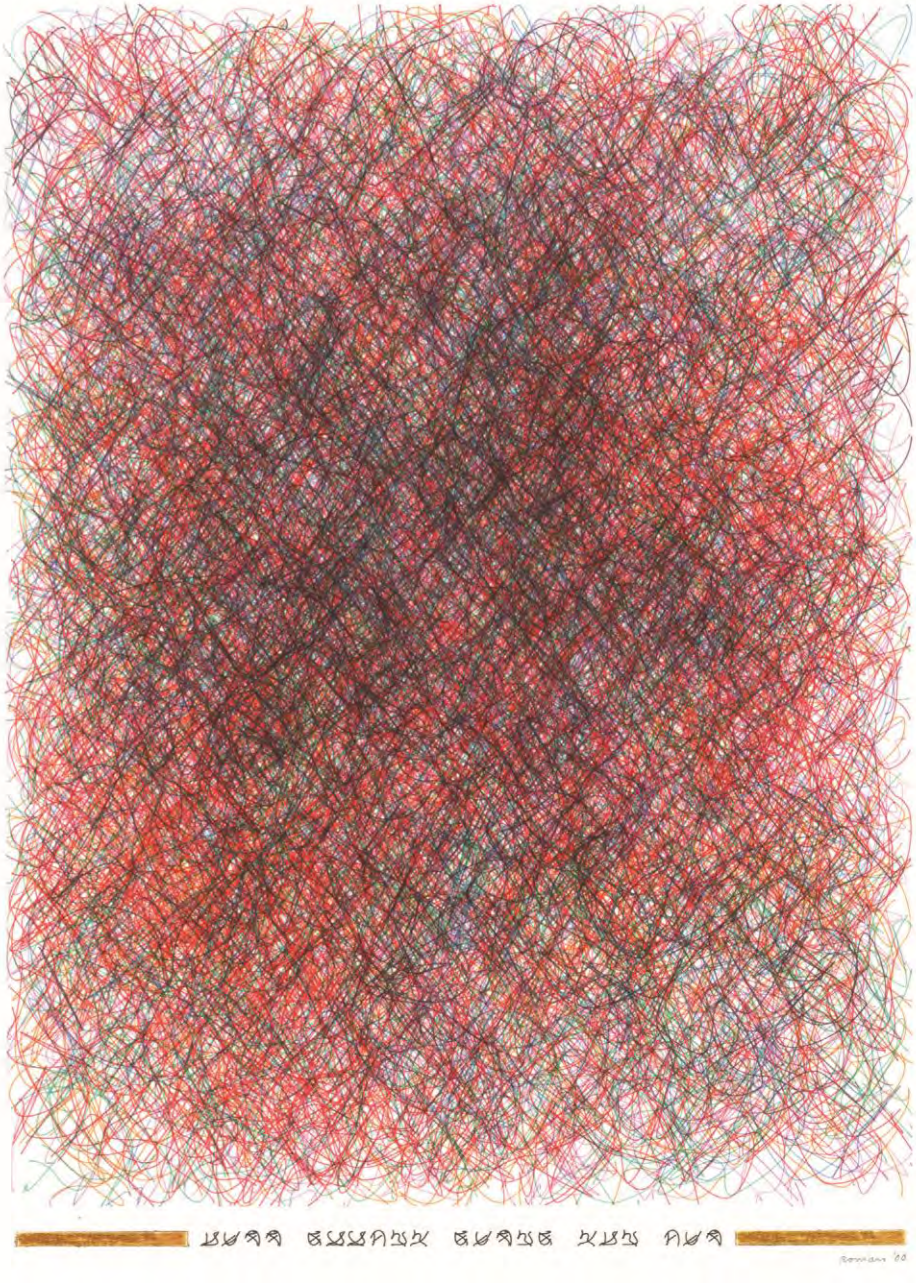
Text source: *Jicarilla Apache* Texts by Pliny Earle Goddard, New York: Anthropological Papers of the American Museum of Natural History, Vol. VIII. [1911]. ns.



Manchester Illuminated Universal Turing Machine #25

1998
algorithmic pen and ink drawing with code
22” by 30”

Fifteen versions of this work were shown at Manchester University, England, in 1998, the 50th anniversary of the “Baby” computer developed by Alan Turing. The text for this version of a Universal Turing Machine (UTM) is quoted from Roger Penrose’s book, *The Emperor’s New Clothes*. This code embodies the logic of Alan Turing’s 1936 paper on “Computable Numbers,” a seminal work contributing to the circuit logic of general computers. Roman celebrates this code as an important, authoritative text of the 20th century.



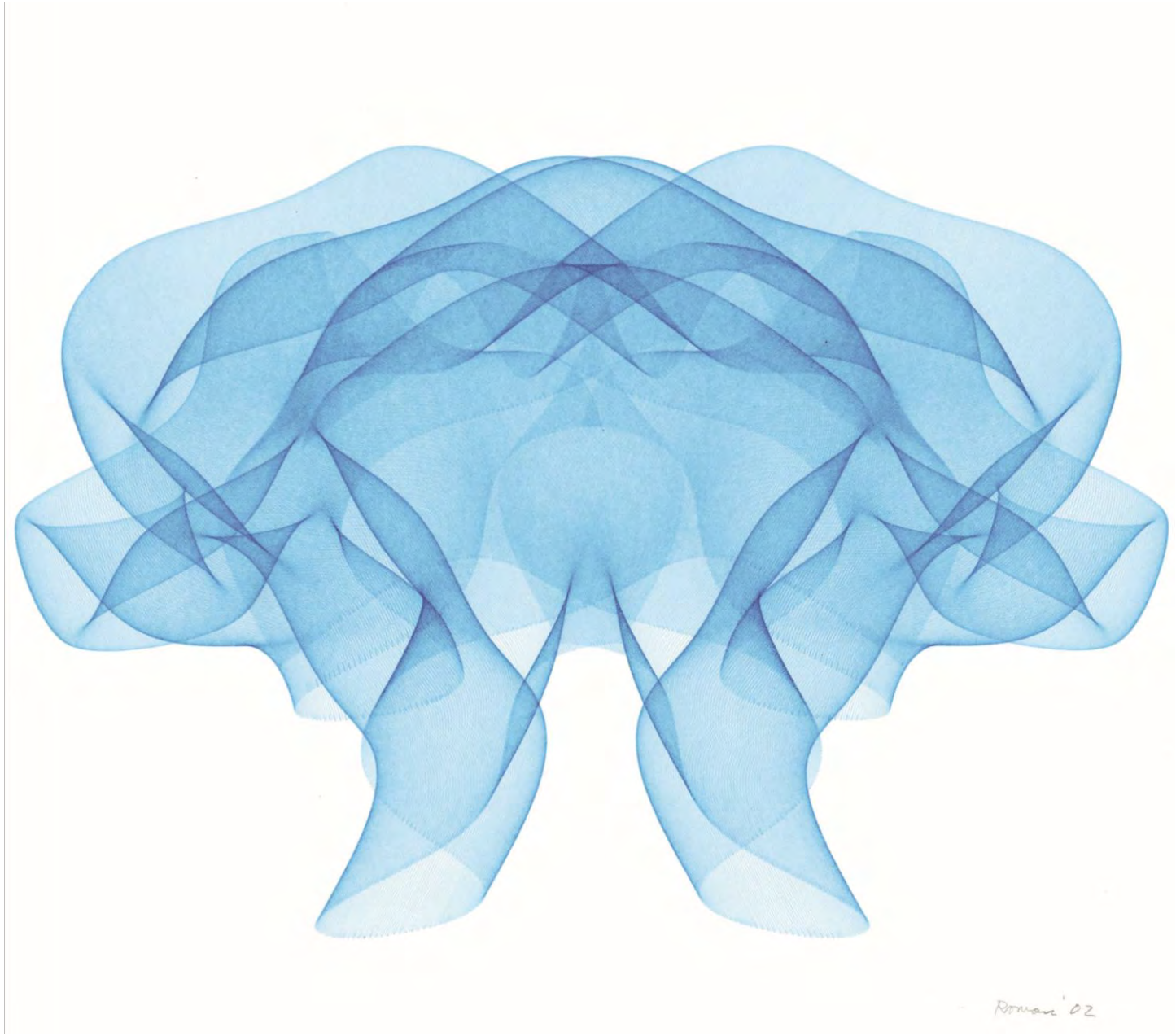
Untitled Pathway B

2000

pen and ink algorithmic plotted drawing with gold leaf enhancement

29” by 23”

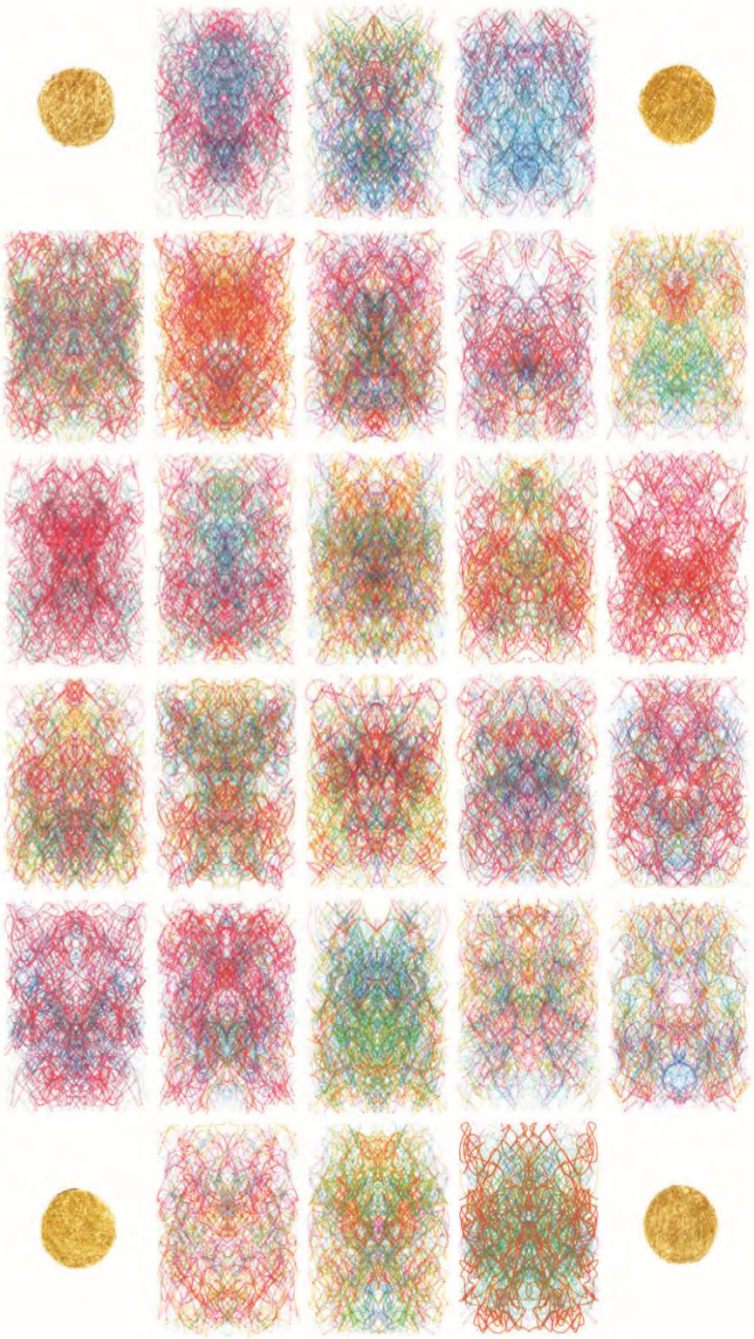
The script-like figures on the bottom, enhanced with gold leaf, are non-rational algorithmic glyphs drawn with pen and ink with the same master code used for the all-over pen and ink drawing. The first drawings of this type were made in 1987 as a form of “computer automatism.”


Roman '02

The Cloud of Unknowing

2002
pen and ink plotted drawing
14.5” by 11.5”

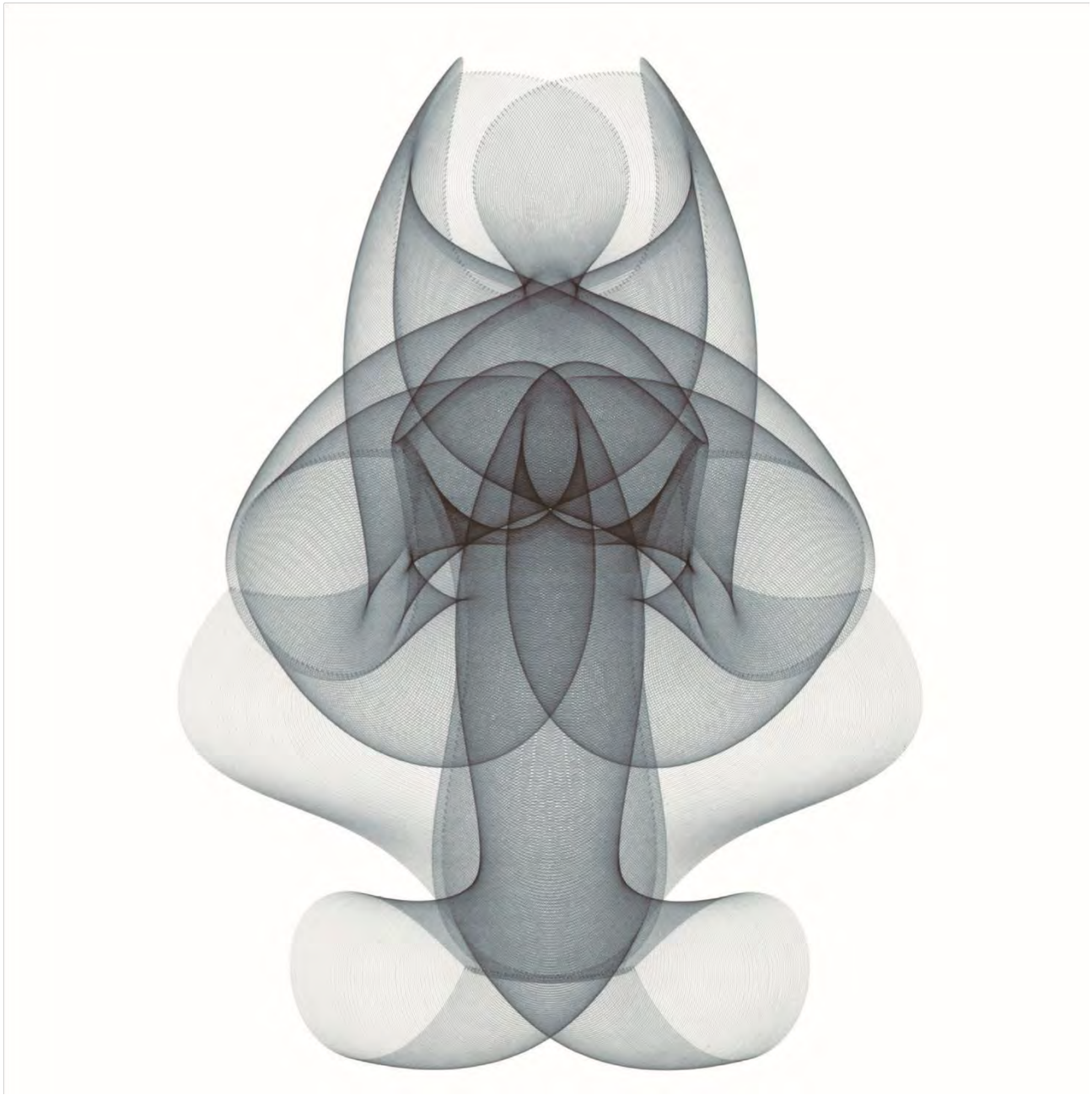
This work exemplifies Roman’s interest in the “Cloud of Unknowing,” a spiritual treatise on contemplative prayer written in the latter half of the 14th century by an unknown author. Roman’s essay of the same title was written for his exhibition of 15 versions of his Illuminated Universal Turing Machine at the University of Manchester, England, in 1998.



Twenty-Six Visions of Hildegarde

2004
pen and ink plotted drawing with gold leaf roundels by hand
29” by 23”

This series is intended as an “algorithmic bow” by the artist. It honors Hildegarde von Bingen, a learned and visionary 12th century Benedictine abbess whose mystical drawings, music and theological writings inspire him.

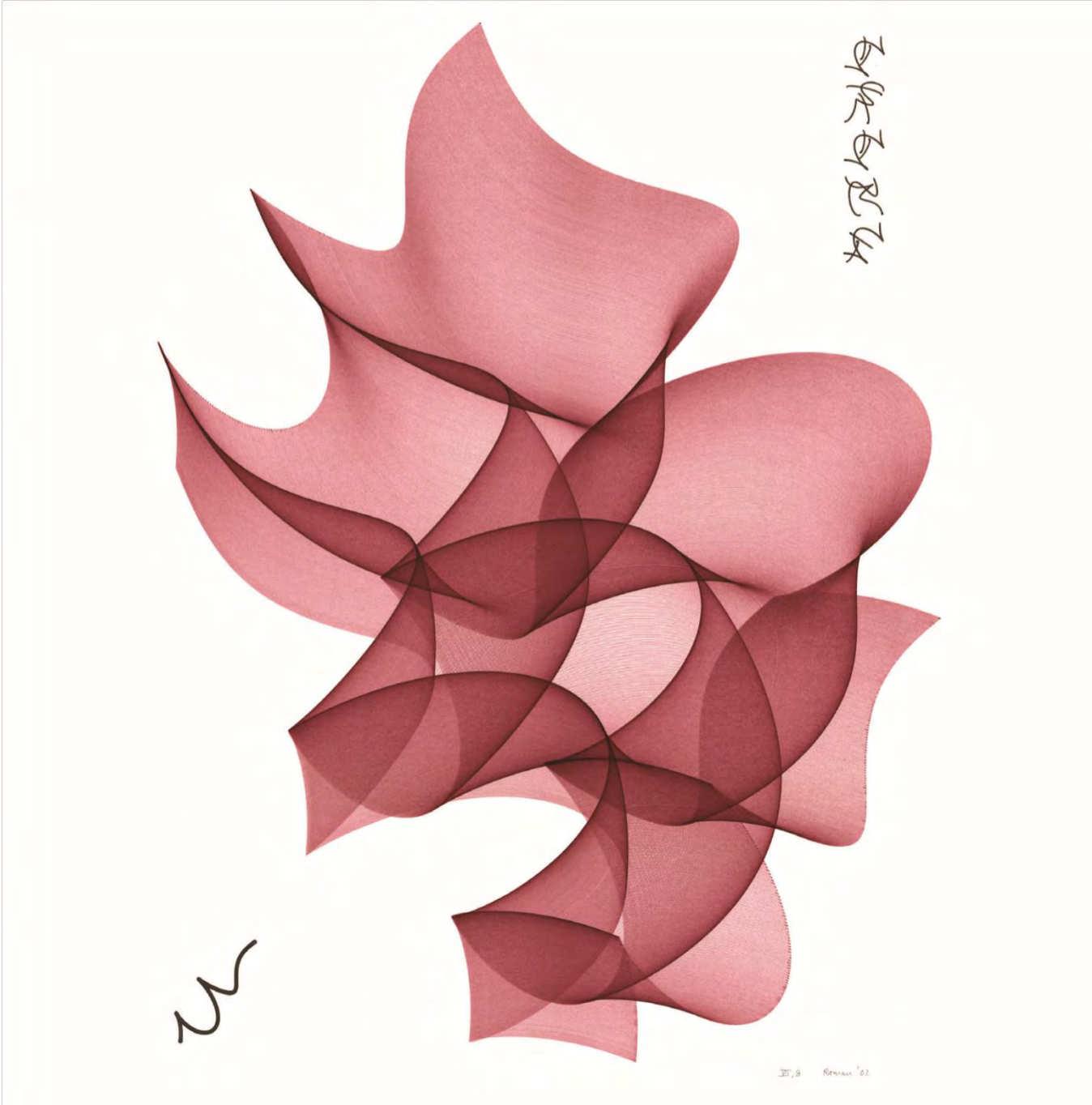


Black Madonna of Montserrat

2003
pen and ink plotted drawing
19” by 24”

During a visit to Montserrat in 2002, Roman visited a museum where he saw a minimal version of the “Black Madonna” drawn by Subirachs. Inspired by this experience, he thought of a possible algorithmic Black Madonna. Later that year, while experimenting with a coded sequence, he saw his algorithmic “Black Madonna” emerge in this drawing.

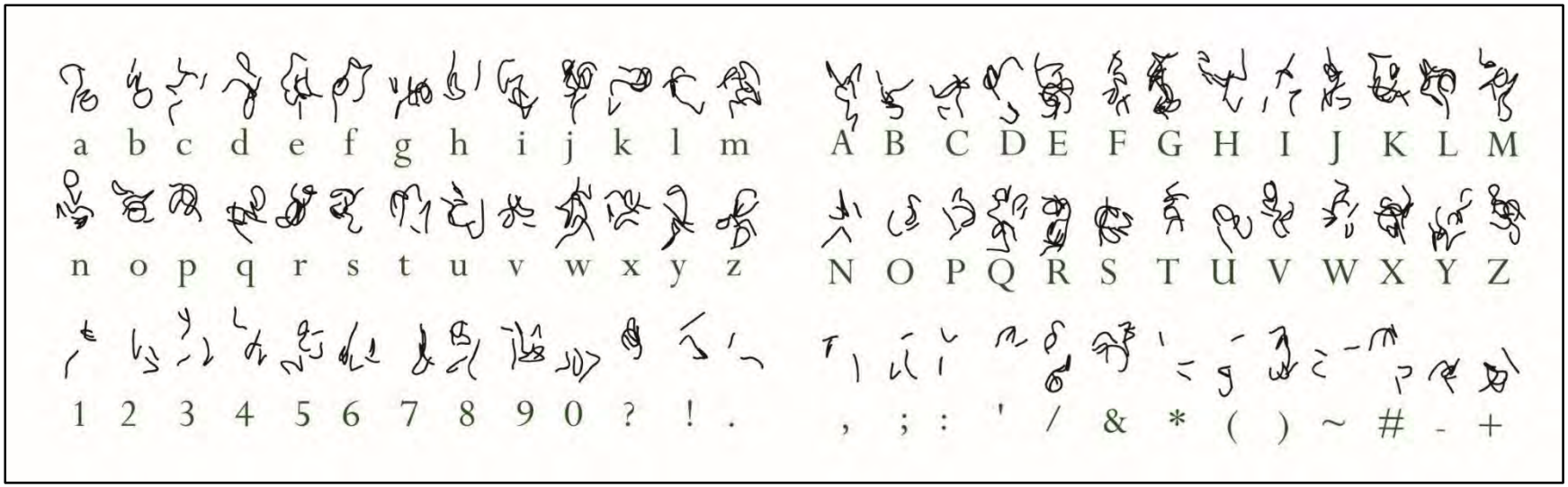
In 2003 he made two versions, one for Saint Vincent Archabbey and the other as a gift to the Abbey of Montserrat. The Victoria and Albert Museum in London has also acquired a Verostko Black Madonna, which matches the size of its 11th century print of the Black Madonna of Einsiedeln in Switzerland.



Cyberflower Red, vii, #8

2002
pen and ink plotted drawing
17” by 25”

Roman coined the term “cyberflower” for a series of forms generated from a single curved line repeating itself. In some instances he made one or more clones of a preferred cyberflower. Clones were achieved with the same parent algorithm by seeding the algorithm with the same seed. Clones were also made with different shades and colors of ink. Roman was fascinated by the biological analogy to “cloning;” each drawing is an original, drawn line for line with pen and ink. This piece is a clone of “Red,” the seventh (vii) cyberflower in this series.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Flowers of Learning

Seven pen and ink cyberflower drawings were created to honor educators at Spalding University in Louisville, Kentucky. Those shown are from a limited edition supervised by the artist in 2006. Below each cyberflower are glyph-like characters that are coded quotations from different fields of learning and culture.

The alphabets were generated with "*Hodos*," Roman's master drawing program.

Madame Curie

2006
30” by 40”

The algorithmic text for this cyberflower is quoted from *Madame Curie* by Eve Curie:

Humanity certainly needs practical men . . . But humanity also needs dreamers, for whom development of an enterprise is so captivating that it becomes impossible for them to devote care to their own material profit.

—Marie Curie, 1867-1934

Homer

2006
30” by 40”

Ulysses and his son fell upon the front line of the foe. Minerva raised her voice aloud, and made every one pause. ‘Men of Ithaca’, she cried, ‘cease this dreadful war, and settle the matter at once without further bloodshed.’

—Homer

Text Source: Homer, *The Odyssey*, Trans. Samuel Butler, Book XXIV [520]. Translation detail available at www.verostko.com/archive/spalding/homer-txt.html

Algorithmic Poetry, April Green (h16g)

2010

pen, brush and ink, artist's code with drawing machine

22" by 30"

"These works celebrate the charm and grace of algorithmic form, 'the joy of digital' . . . This process marries mind and machine," stated notes from an exhibition at DAM, Berlin, in 2010. This exhibition presented bold, expressive brush work beside undulating pen and ink forms, the visual poetry of both pen and brush complementing one another.

Algorithmic Poetry, Tumbleweed (h3d)

2010

brush, ink and watercolor with the artist's code

22" by 30"

This brush work is a form of visual haiku, the 17-syllable Japanese poetic form associated with experiences of nature. This work displays 17 large brush strokes that are repeated in 17 small black strokes arranged vertically. The large central black shape is repeated as the first calligraphic stroke in the top upper left column.

Algorithmic Poetry, Green Cloud

2011

pen and brush, robotic with HIPLOT-6000

27” by 23”

The drawing was coded to begin at sunset and end at sunrise as part of the Minneapolis “White Night” of June 4-5 in 2011. An eight-hour video of the drawing was made beginning with the first pen stroke and ending with the last calligraphic brush stroke. This eight-hour drawing session was projected on the north three story white brick wall at the Minneapolis College of Art and Design. It displayed the pen tracing the green lines on the wall, as it were, forming a
“three-story drawing machine.”

Original drawing from the collection of Tasso & Jane Katselas.

Appendix I

Roman Joseph Verostko, Biographical Summary

Born September 12, 1929, Tarrs, Pennsylvania, USA
"Joseph" is Roman's baptismal & legal name. Roman was his monastic name, the name by which he is now known.

Education

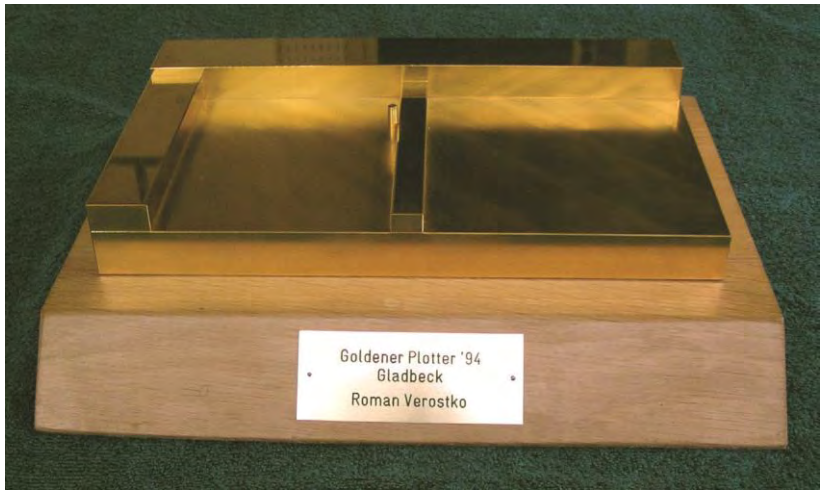
1935-1941	Tarrs East Ward Grade School, Tarrs, PA
1941-1947	Junior & Senior High School, Alverton, PA
1947-1949	Diploma, Art Institute Pittsburgh, PA
1951-1955	BA, Philosophy, Saint Vincent College, Latrobe, PA
1955-1959	Theology, Saint Vincent Seminary Latrobe, PA
1960-1961	MFA, Pratt Institute, Brooklyn, NY
1961-1962	Art History, Columbia & NYU
1962-1963	Printmaking, Hayter's *Atelier* 17, Paris

Professional positions

1952-1968	Benedictine Monk, Ordained Priest (1959), Saint Vincent Archabbey, Latrobe, PA
1963-1968	Faculty, Saint Vincent College and Seminary, Latrobe, PA
1964-1967	Staff Editor for Art and Architecture, New Catholic Encyclopedia, Washington, DC, First Edition, 1967
1968	Departed monastic life and married Alice Kennedy Wagstaff
1968-1994	Minneapolis College of Art and Design Liberal Arts Faculty, 1968. . . Academic Dean, 1975-1978 Chairman, Liberal Arts, 1988-1991 Professor Emeritus, 1994
1969	Participant, Ekistics Institute, Athens, Greece
1969-1971	Humanities Consultant, Tetra Corporation, Minneapolis, MN

1970	Summer, Bush Leadership Fellow, Center for Advanced Visual Studies, Massachusetts Institute of Technology, Boston, MA
1985	Visiting Professor, Zhejiang Academy of Fine Arts (later the China Academy of Art), Hangzhou, Peoples Republic of China
1992-1993	Program Director, Fourth International Symposium on Electronic Art (ISEA 1993), Minneapolis, MN
1992-1996	Board Member, Inter-Society for Electronic Art
1998	International Advisor, Inter-Society for Electronic Art
1998	Visiting Professor, Seminar on Algorithmic Art, China Academy of Art, Hangzhou, Peoples Republic of China
2005	Advisory Board, International Symmetry Association

Awards



Golden Plotter Award, First Prize, 1994, Gladbeck, Germany

2009	SIGGRAPH Distinguished Artist Award for Lifetime Achievement
2006	Nominated for the “[ddaa] dam digital art award”
1995	ARTEC, Nagoya, Japan, Commended
1994	Golden Plotter, Gladbeck, Germany
1993	Prix Ars Electronica, Honorary Mention
1970	Bush Leadership Fellow
1971, 1974	Outstanding Educators of America

Collections

Listing includes institutions that hold an original of the 1990 Boole limited edition book.

Anne and Michael Spalter Collection

Arizona State University, Tempe, AZ

Ars Electronica, Linz, Austria

Block Museum, Northwestern University, Evanston, IL

Carl and Marylin Thoma Foundation

College of Saint Benedict, Saint Joseph, MN

Duquesne University, Pittsburgh, PA

Frank Dietrich Collection

Robert Hendel Collection

Howard Stein Collection

Janssen Pharmaceutica Corporation
John and Margaret Gavaler Collection

Larry Greenburg Collection

Miles Fiterman Collection

Minneapolis College of Art and Design, MN

Minneapolis Institute of Art, MN

Museum der Stadt Gladbeck, Gladbeck, Germany

Pratt Institute, Brooklyn, NY

Saint Vincent Archabbey, Latrobe, PA

Saint Vincent College, Latrobe, PA

Saint John's Abbey, Collegeville, MN

Slovak National Gallery, Bratislava, Slovak Republic

Spalding University, Louisville, KY

Suzanne Arnold Collection, Annville, PA

Tama Art University Museum, Tokyo

Tweed Museum of Art, Duluth, MN

Tasso and Jane Katselas Collection

University of Saint Thomas, Saint Paul Campus, MN

University of Saint Thomas, Minneapolis Campus, MN

Victoria and Albert Museum, London, UK

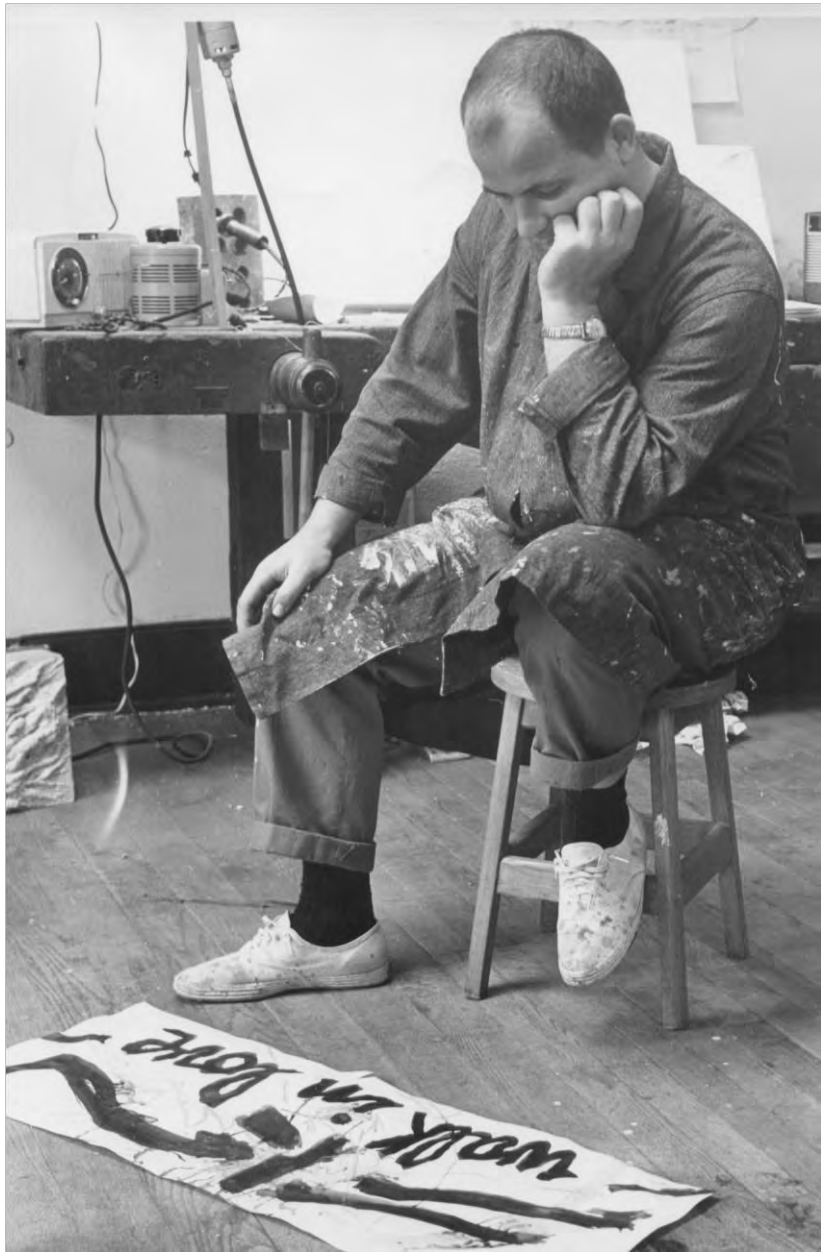
Walker Art Center, Minneapolis, MN

Yeiser Art Center, Paducah, KY

ZKM Museum, Zentrum fur Kunst und Medientechnologie, Karlsruhe, Germany

Exhibitions and Publications

Roman Verostko has exhibited so extensively as an artist in both solo and group exhibitions, in the United States and abroad, that it is impossible to list them all in the limited space a catalogue of this kind permits. Likewise, countless articles authored by him and others about his work date to the early 1960s and have appeared in publications internationally. For a complete listing of these important works, we invite you to visit his website: www.verostko.com



Appendix II

Form, Grace and Stark Logic: 30 Years of Algorithmic Drawing

SOURCE:

This was an invited article on the occasion when Roman received the SIGGRAPH Lifetime Achievement Award, August 2009. Leonardo is first publisher. Reference is: *Leonardo*, V 43 #3, (June 2010).

ABSTRACT: *This essay outlines personal experiences, influences and ideas that underlie 60 years of my artwork and that drew me to embrace "algorithmic art." It spells out qualities of form unique to computer-assisted algorithmic drawing, its pitfalls, and my good fortune to have been an active participant in what Peter Weibel has labeled the "Algorithmic Revolution." RV*

My approach to art grew from a curious wonder I have enjoyed since childhood. This wonder awakened easily when I came upon something in my world that I had never seen before. When I first came upon the work of Jean Arp, I felt a marvelous awakening upon seeing such graceful form. Later in life, to my own surprise, I was also drawn by a curious fascination for circuit boards, computer languages and the visual forms one could generate with simple algorithms.

During the 1960s, the first phase of my mature work as a painter concentrated on creating visual form inspired by early 20th-century pioneers of "non-objective art." Artists such as Piet Mondrian, Naum Gabo and his brother Antoine Pevsner pointed the way to a new world of form. I embraced the constructivist concept of a "new reality" that could stand by itself as an art form without reference to other reality. Such art led to the creation of visual forms that were unique realities themselves—forms or objects we had never seen before.[1]

This quest for a "new realism" courses through all my mature work as an artist. It migrated directly from my painting practice of the 1960s into the procedures I adapted for my first algorithmic drawing and painting.[2]

The Attraction of Algorithmic Art

What drew me to algorithmic procedure was the "form-generating" potential of algorithms executed with computing power.[3] The potential for generating visual forms I could not otherwise envision beckoned me, and I waded in with vigor. Programs like my "Magic Hand of Chance" and "Omphalos" generated non-repeating animated visual forms and verbal displays on a computer monitor. While these programs enjoyed modest success with their innovative sequences, the screen

display did not satisfy the visual qualities I valued most as a painter.[4] I turned to the pen plotter that could manage a palette of ink pens and draw at 1000 increments per inch. With my first algorithmic pen and ink drawing on paper I was smitten and converted to plotter drawing. I began generating surprising worlds of form with BASIC programming using logical procedure and elementary plane geometry.

By adapting oriental brushes to the drawing arm of the pen plotter, I was able to achieve some of the life I valued in Chinese calligraphy (*shufa*). I wrote an interactive program so that the software guided both brush and pen strokes. Brush strokes coupled with clusters of pen strokes on similar form structures emerged in my Pathway Series (Fig. 1). Drawing instructions could specify thousands of pen strokes with subtle internal relationships of scale, position and distribution. This ability to draw visual forms with clusters of precisely distributed pen strokes exceeded what I could do by hand.

Qualities of Form in Algorithmic Drawings

All media have unique form features as a consequence of the form-making process. I valued the mark of the sculptor's chisel, the painter's brush stroke and the letterpress imprint of type on paper. The artist's tools and materials, in the process of transformation, leave their traces as a legacy of the art itself, and, for the master, certainly the mark of the individual artist as well.

We must ask, "What unique form features reveal the nature of algorithmic pen plotter drawings?" As I reflect on years of work, I see three pronounced features that I have come to value:

1. *Form-generating power.* This is both an attractive and a frustrating feature of algorithmic procedure implemented with computing power. With the introduction of nested loops for visual improvisation, the procedures quickly exceed what humans can compute. The form-generating power staggers the

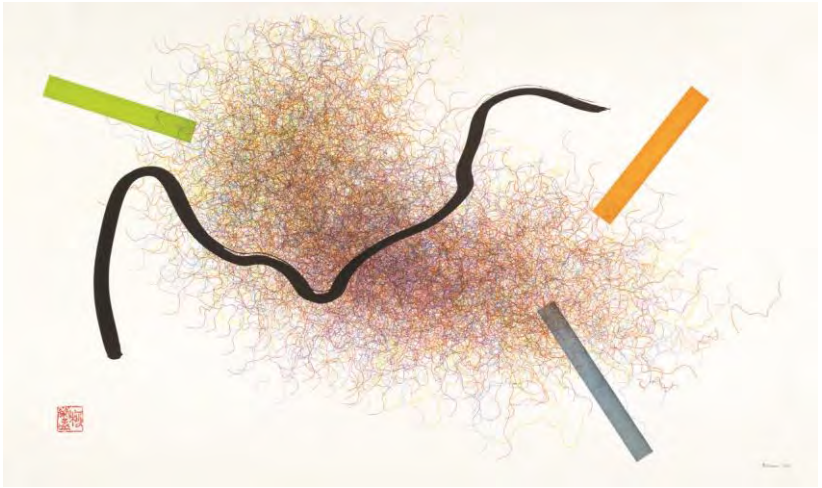


Fig. 1 Pathway Series, Bird 2. 39.5" by 24", 1990. Algorithmic drawing with ink pens and oriental brush with artist's seal, Ké Reng Meng. Victoria and Albert Museum Collection, London. Images courtesy of the artist. © RV

imagination, as endless arrays of form are possible. One dilemma follows: How does one program "art-form decisions" to separate, as it were, the wheat from the chaff? I work at it using trial and error in refining routines and setting filtering parameters. Yet the best procedures I have achieved generate forms that fail. I view the problem as "the art-form decision bit," for which I have never found a totally satisfying solution.

Figure 2. Cyberflower, Sunshine I. Algorithmic pen and ink drawing, 23" by 29", 2008. Victoria and Albert Museum, London. Images courtesy of the artist. ©RV

2.Variability and self-similarity of form. In his *Ars Poetica*, Aristotle laid out the value of variation on a theme or a character, which is to say that art thrives on visual analogues with various twists and turns of form. With algorithmic procedures, the artist invents and controls the latitude of the twists and turns employed by the generator.

Nested loops can operate on an initiating data array, and, through each successive loop, the code can have a rule (or changing rule) for modifying data. The change wends its way through each drawing loop, yielding similarity and change for each loop. My cyberflowers play with an initial set of control points. Forms can be built from relationships that control the entire structure. My cyberflowers are generated from the relationships of four to eight sets of coordinates. The program employs the relationship parameters for each set to control every pen stroke in the work.

A family of forms generated by the same parent code necessarily yields a "self-similarity" coursing through each member. Yet each member retains a unique identity. In my work, examples would be the Visions of Hildegarde, the frontispieces for the limited edition of George Boole's *Derivation of the Laws* . . . and my Cyberflowers (Fig. 2).

3. *Tireless and extensive precision in drawing.* The pen-plotter and the computer, working together, proceed at an even and tireless pace. They are capable of maintaining precision for 24 hours without fatigue. Drawing precisely, with a seemingly endless ability to improvise, pen plotter drawing yields evenly drawn pen-and-ink lines that start and end without the flourish

sometimes found in drawing by hand. Algorithmic drawing by machine creates work that is uniquely different from drawing by hand. I value each for its unique qualities. Individual algorists also have distinctive drawing styles embedded in their form-generating code.

Bugs, Clogged Pens and Such

Let me hasten to add that there are hazards in this art; code gets buggy, pens fail, paper loses its register and sometimes a honed ink pen cuts into the paper. Success depends on knowing when to discard a pen, getting the right ink viscosity, controlling drawing speeds, experience with handling paper and a wealth of patience so that one takes time to fix software and restrains oneself from taking a hammer and thrashing the machines.

Concluding Note: The Algorithmic Revolution

When astronauts landed on the moon in 1969, I counted it my great fortune to have been alive at that important historic moment. A few years later I came to realize my greater good fortune was to have had the opportunity to participate in the unfolding of the "Algorithmic Revolution."[6] By wrestling with algorithmic drawing procedures, however primitive and elementary, I have experienced marvelous moments when the stark logic of coded procedure transforms paper and ink into surprising grace and beauty. For me such moments magnify the mysterious nature of our evolving selves and lighten the tedium of working on software.

Acknowledgment

My wife, Alice Wagstaff Verostko, passed away in December 2009 after a year of 24-hour nursing home care. Among other handicaps, she had difficulty with cognitive functions like finding the right word and managing simple tasks like writing and speaking. Even though she could hardly write and I didn't know what went on inside her head, I took this article to her for editing, as usual. She was my faithful editor with great insights on all my writings.

I thought she never did get to editing the article and it got mixed up among items in the nursing home, but when I removed her belongings from the nursing home I found the article and discovered that she did indeed edit it—her two editing notes made a remarkable improvement. I will always cherish the original document she edited knowing she had a vibrant inner life up to the end. And it will be a consolation knowing that within weeks of the end she contributed to an article I wrote for Leonardo that includes her last edit even as she struggled with severe handicaps.

Roman Verostko, January, 2010

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[1] Realistic Manifesto, Aug 5, 1920. Naum Gabo & Antoine Pevsner advanced "the new reality" denouncing descriptive line and color. Gabo reads manifesto: http://www.ubu.com/sound/gabo.html

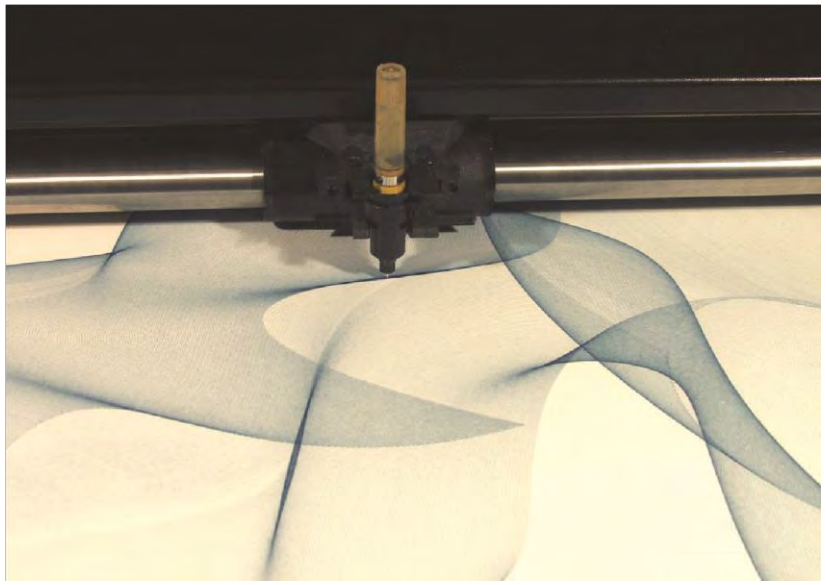
[2] http://www.verostko.com/history/compare/compare.html

[3] An algorithmic sequence I had filmed at Univac in St. Paul, MN, in 1969 drew me to the power of algorithmic art: http://www.penplot.com/history/mpls/univac/univac.html

[4] http://www.penplot.com/epigenet.html#The_Magic_Hand_Of_Chance__

[5] http://www.verostko.com/boole.html

[6] Peter Weibel's catalogue essay on the ZKM Algorithmic Revolution exhibition notes how it happened quietly without fanfare: http://www.zkm.de/algorithmische-revolution/



Appendix III

Pathway Studio

Verostko's Pathway Studio has evolved into a network of pen plotters that may be viewed as a modern day digital scriptorium. The studio network includes three multi-pen plotter work stations and a small gallery of Roman's work. He has adapted paint brushes to fit the drawing arm of his pen plotters. He views these plotters as electronic scribes employing procedures that are the present day equivalent of the drawing techniques practiced in medieval manuscript illumination.

Drawing Technique. Roman's drawing techniques began to change radically after he followed a course in FORTRAN programming at the Control Data Institute in Minneapolis in 1970. A decade later, with his own studio PC he began writing algorithms that are coded instructions for executing his drawings. He developed a personal expert system that has been central to his work for well over a quarter century. This opposite page shows the hardware he uses to implement his software. But the creative side of his work is lodged in his code, the original programs (algorithms) that guide these machines.

Roman's tools for creating his art join traditional artist's materials with computing procedures. The software he writes and the machines he uses converge in a studio environment committed entirely to a fine art literally grown with algorithmic procedures.

Studio Seals. Many works include this studio seal. Earlier works and some series of later works do not have seal imprints; some works have one or more seals including name seals or an alternative size or style of studio seal. All of Roman's studio seals bear the same characters (see below). Wang Dong Ling, the master calligrapher who followed Roman's course in China in 1985, chose these characters for Roman's "***Pathway Studio***".

小 徑 齋

"Little Path Studio"

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