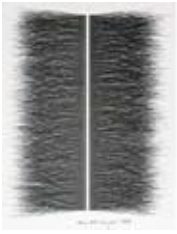
THE ALGORISTS

Four visual artists in the land of Newton




Dehlinger Hébert Horwitz Verostko

This exhibition is
presented by the
Friends of KITP.

The exhibition was
proposed and organized
by Jean-Pierre Hébert,
Artist in Residence at
the Kavli Institute for
Theoretical Physics,
as part of the
institute's initiative
Art, Images, and Science.

March 13 - June 30, 2006

http://www.kitp.ucsb.edu/
http://hebert.kitp.ucsb.edu/
http://channart.com/
http://verostko.com/

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The Algorists:
Four Visual Artists in the Land of Newton

What is an algorist? A now anonymous builder of Stonehenge, a craftsman to the Moorish kings patterning the Alhambra tiles, Brunelleschi and Alberti formulating Renaissance perspective. Among the moderns, a short list includes the architects Le Corbusier, Walter Gropius, and Mies van der Rohe; among painters Georges Seurat, Wassily Kandinsky, Piet Mondrian, Kasimir Malevich, Max Bill, François Morellet, and Agnes Martin.

In a wider sense, an algorist can be anyone who uses an algorithm to achieve a particular result. An algorithm, a word derived from the name al Khowarizimi, a 9th century Persian mathematician, is a clearly defined procedure for solving a particular problem, often numerical. Algorithmic procedures implement almost every aspect of our daily lives, from communications and utilities to industry and transportation. In the humanities as well as in the sciences, algorithmic procedures are ubiquitous. A score by Bach, for example, composed algorithmically in the 18th century, can be reread and performed by a violinist today--and tomorrow.

Although canons and conventions informed all of the arts throughout history, until recently notational systems in the visual arts were more limited than those in music. During the 1970s some artists began to experiment with algorithmic procedures using a powerful new medium--the computer. Awed by the effectiveness of the images emerging from their own original algorithms, and working independently, they found themselves both wasting and gaining time using the computer, yet fascinated by its seemingly endless potential.

Later in the 20th century a new breed of algorithm users coalesced. An informal group began to emerge in 1995 at the SIGGRAPH conference in Los Angeles, where Jean-Pierre Hébert, Roman Verostko, and Ken Musgrave had been showing their work for a number of years in the Art Gallery's juried annuals. After a panel titled "Art and Algorithms," they talked of forming a group of like-minded artists working with algorithms,

inviting Manfred Mohr, Hans Dehlinger, and Mark Wilson to join. They decided on a name for themselves--proposed by Hébert--"the algorists."

Each of the four pioneer artists in this show designs an algorithmic procedure to make a work. Horwitz composes a number-based system to govern her hand-drawn images, in contrast to her colleagues in the show, who create the software that informs their work. Like them, she begins with a concept and then imagines the number play that will produce the piece. Numeric logic is then applied, step by step, a method that requires unswerving attention as the ink is laid out line by line. For Dehlinger, Hébert, and Verostko, prefiguring the image comes first in making a new work, or, to use Hébert's word, "imagining." The artist then prefigures the algorithm that can produce the desired image. (The algorithm is programmed, computed, viewed on the display, and the image visualized as it would look on paper or another surface; the result is sent to a device, such as a plotter or printer; and a proof is made on paper.) At this stage, changes can be made in scale, color, line thickness, etc. The piece is now seen as good, or a cycle of correction or improvement starts--editing the software or changing some of the parameters, or the paper or inks. If a superior result occurs, varying the algorithm might produce something even better.

In 1949 artist theoretician Max Bill strikingly prefigured the arrival of the new algorists in his essay "The Mathematical Approach to Contemporary Art." On the eve of the computer revolution, he foresees a future art that is both ancient in origin and truly contemporary, an art of reason but with dynamic content. Lamenting the remarkable but unfortunate consequence of Renaissance discoveries--leading the artist to debase his "primal image" and simply replicate the appearance of the physical world-- he urges the artist to join the physicist in exploring, not replicating, the invisible world. Such an art would be a systematization of that world, conveyed to our senses by ideograms.

New algorists today are exploring Max Bill's still uncharted regions of the imagination.

Hans Dehlinger

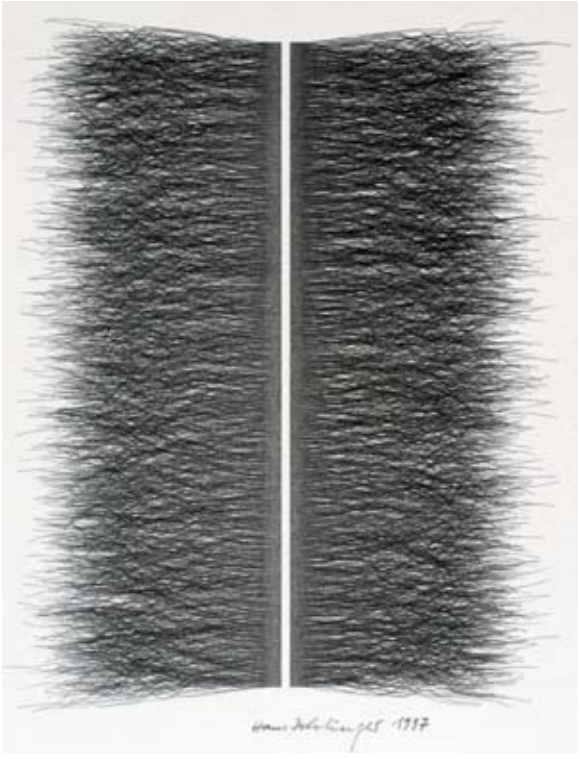
When walking through a landscape in snow, we observe many types of linear structures. The tree as metaphor and as an element of landscape is a familiar image and a poetic reminder to enjoy life. What I am trying to communicate through my work are interpretations of the mysteries and tragedies that surround us.

Computer-generated artwork, based on line drawings, is challenging for a number of reasons. It makes use of lines as the characteristic element of the generative process, and the results rely entirely on the calligraphic qualities of the lines.

Besides the heritage of hand drawings, which we conceive as a fantastically rich universe, we may conceive an equally fantastic universe of machine drawings. Line drawings populating this universe should exhibit qualities in their own right.

–H.D.

Dehlinger describes his distinctive method for generating lines. Relevant are the number of starting points, number of lines originating from a given point, angular boundaries for a polygon, spread of a segment, and number of segments in a polygon. The starting point is the first decision in a drawing process, whether the pen is moved by an artist's hand or by a computer-driven device. Questions of starting points and the "character" of the line that develops from them are determined by the program. Of special interest are two sets of algorithms: one generates drawings in a "one-shot" process and the other in a "composite" process.



Hans Dehlinger
Untitled, 1997
Plotter drawing,
Graphite on paper,
6x5 inches

Hans Dehlinger

Born in Stetten im Remstal, Southern Germany, 1939.

University of Stuttgart, 1961-68; University of California Berkeley, M.A.; U.C. Berkeley, teaching associate, College of Environmental Design, 1970-73; University of Stuttgart, Oberassistent fuer Grundlagen der Planung, 1973-88

University of Kassel, Institute for Computer Suppported Design and Visualization, since 1991

Internationally recognized, participates in numerous exhibitions in Europe, and the U.S.

Jean-Pierre Hébert

Born in Calais, France, 1939. Lives in Santa Barbara, from 1985.

Ecole Nationale des Arts et Metiers, Lille-Paris, 1957-61; Faculte de Droit et Faculte des Sciences, Paris, 1961-63.

Artist in Residence, Kavli Institute for Theoretical Physics, from 2003.

Internationally recognized. Exhibits and lectures frequently in the U.S and Europe.

Jean-Pierre Hébert

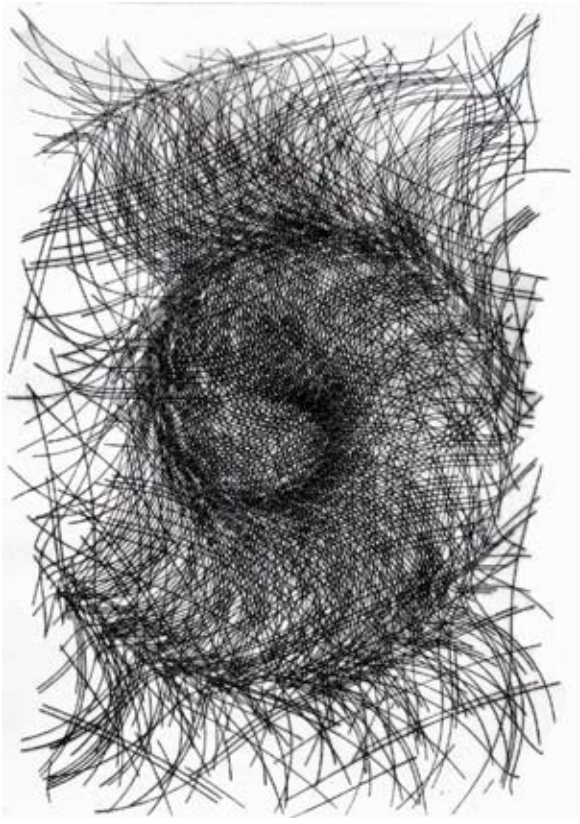
I love to draw and always had a passion for drawings. Since the late 1970s, I have been working with the conviction that to gain power and beauty, drawing should become a pure mental activity, rather than a mere gestural skill. I have endeavored to make it so by banning the physical side of drawing. I create drawings by composing and writing down an original, defining code for each piece.

This code will guide the device precisely, actually producing on paper the physical proof of the concept with pens, leads, or brushes. The self-emergence of the drawing on paper resulting from the mental vision is always a magically rewarding and fascinating performance, when one can be both witness and creator, or Henri-Georges Clouzot and Pablo Picasso at the same time.

My process is thus very much akin to composing or choreographing or … thinking.

–J-P.H.

Anne Spalter of Brown University wrote in 2003 of Hébert's work: "The relationship of time in the pieces is paramount. They are slow. The viewer cannot take in the full effect at a glance--it emerges upon reflection, just as the intricate designs of mandalas help focus the mind and free it from external distractions. But the visual sophistication is unique to the mind of and tools used by the creator--the density and complexity mirror the density and complexity of modern life."



Jean-Pierre Hébert
Untitled, 2006
Etching from
digitally engraved
copper plate,
15x12 inches

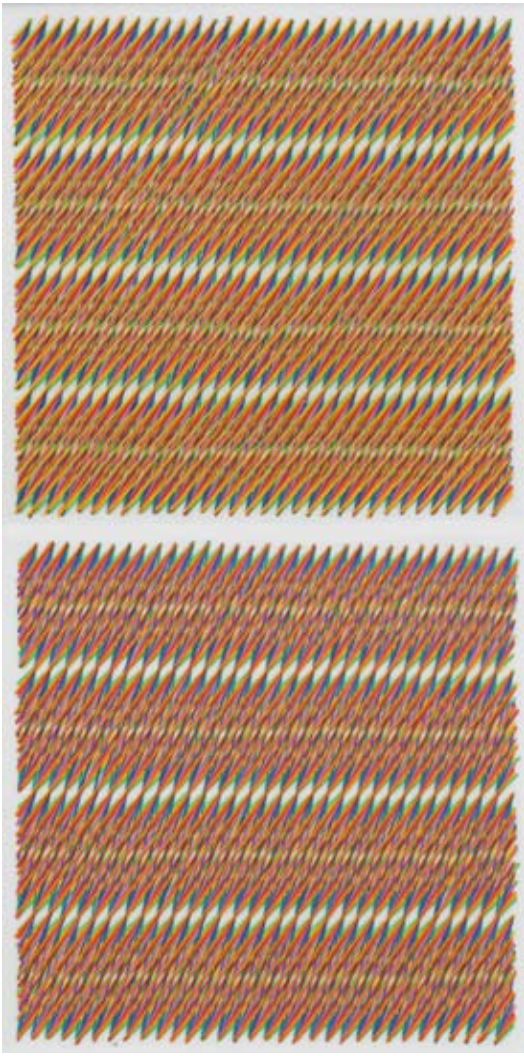
Channa Horwitz

I had a knowledge of classical visual compositions and could compose two-dimensional objects, as in painting and drawing. I could compose three-dimensional objects, as in sculpture, but I had no ability to conceive in the fourth dimension--time. I could not see how a choreographer or musical composer could compose time. Because of this lack of knowledge, I devised a system that would allow me to visually see time. I felt that I could use a graph as a basis for the visual description of time in what I call "Sonakinatography: Sound and Music Notations."

Algorithmist, I am told, is an accurate term for what we all are.

–C.H.

Order rules the ideas behind Horwitz' work. While a simple structure underlies all of her drawings, the finished image often displays a vast array of complex patterns and brilliant colors. Her working method "begins with curiousity, and the answers reveal themselves in time." Some of her work has been orchestrated as performance art, with incremental steps composed into their unique note pattern and tempo.



Channa Horwitz
8 Layers 2 and *8*, 2006
Hand drawing,
Ink on mylar,
each 4x4 inches

Channa Horwitz

Born in Los Angeles, 1932.
Lives in Santa Monica.

Art Center School of Design,
Los Angeles, 1950-52;
California State University Northridge, 1960-63;
California Institute of the Arts, B.F.A., 1972

A frequent exhibitor in California and elsewhere.

Roman Verostko

Born in Tarrs, Pennsylvania, 1929.

Art Institute of Pittsburgh, 1947-49; Pratt Institute, Brooklyn, M.F.A., 1961; Hayter's Atelier 17, Paris, 1962-63.

Minneapolis College of Art and Design, 1968-93, faculty, dean, department chairman.

Internationally recognized, exhibits, lectures, and publishes frequently in the U.S. and Europe.

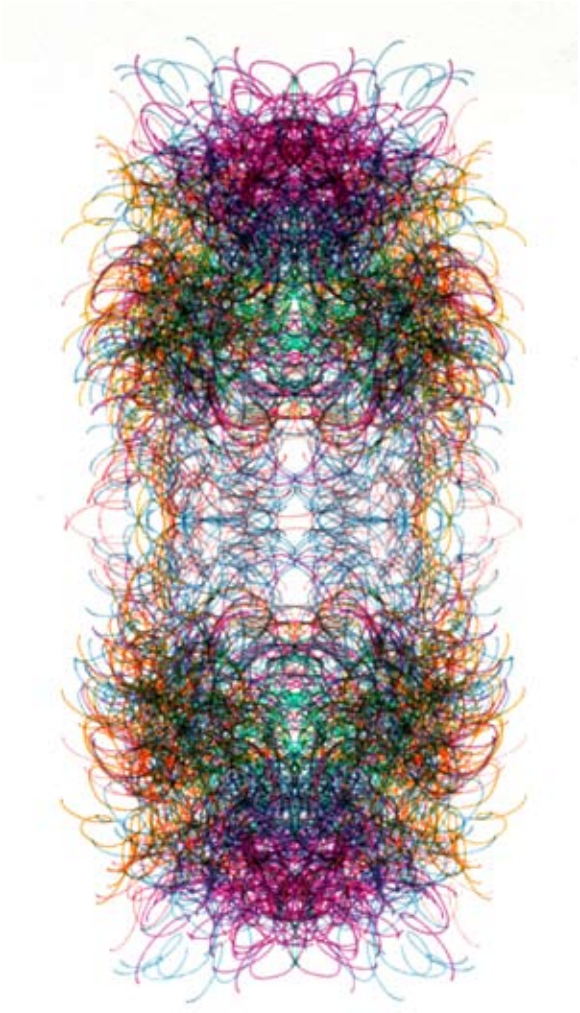
Roman Verostko

Since 1960, in all my work, I have sought to create original forms that are unique realities without reference to other objects or images.

For me these forms are visual celebrations of information processing procedures embedded in today's culture. The works are visual analogues of the coded algorithms by which they grew. They invite us to ponder how the stark logic of a coded paradigm yields such surprising grace and beauty. By doing so they serve as icons illuminating the mysterious nature of code, the procedures underlying the shape of our evolving selves.

\- –R.V.

Verostko sees his art as a spiritual journey. After study at the Art Institute of Pittsburgh, 1947-1949, he became a Benedictine monk, from 1952-1968, at the St. Vincent Archabbey in Latrobe, Pennsylvania, and also continued his work as an artist. Initially a painter and illustrator, he began making algorithmic drawings with a pen plotter in the early 1980s. From that time he has concerned himself almost exclusively with generating his art via encoded instructions, or algorithms. Today his studio has a network of computers coupled to a pen plotter driven by his own original software. These procedures, he writes, have brought him to "a new frontier of visual forms," to "imaging the unseen."



Roman Verostko
Hortus conclusus G7, 1998
Plotter drawing,
Ink on paper,
12x6 inches

Hans Dehlinger

Boston 08.4, 2003
Plotter drawing, graphite on paper, 8x9"
Kneisen 3.2, 2003
Plotter drawing, graphite on paper, 8.75x4.75
D 0244, 2003
Plotter drawing, graphite on paper, 5x6.75
Zag-05, 2000
Plotter drawing, ink on paper, 6.75x6.75
B317 K-a4-plot1, 1993
Plotter drawing, graphite on paper, 4.5x4
Untitled, 1987
Plotter drawing, ink on paper, 6x6.25
b116, 1993
Plotter drawing, graphite on paper, 12.75x5
Untitled (b350 on reverse side), 1997
Plotter drawing, graphite on paper, 6x5
Stangen_12, 2006
Plotter drawing, gel pen on paper, 40x28 frame
Fellartig-5_FELL, 2006/1997
Plotter drawing, gel pen on paper, 40x28 frame

Jean-Pierre Hébert

Untitled, 2006
Etching, digitally engraved copper plate, 12.5x7.25"
Untitled 2006,
Etching, digitally engraved copper plate, 18.5x7.5
Untitled, 2006
Etching, digitally engraved copper plate, 15x12
Untitled, 2006
Etching, digitally engraved copper plate, 16x9
Untitled, 2006
Etching, inkjet print transferred to solarplate, 8x7.75
Untitled, 2006
Etching, inkjet print transferred to solarplate, 8.25x8.25
Untitled, 2006
Etching, inkjet print transferred to solarplate, 11.75x11.75
Untitled, 2006
Etching, inkjet print transferred to solarplate, 12x11.75
Untitled, 2006
Inkjet digital print, 23.25x17.25
Untitled, 2006
Inkjet digital print, 25x17

Channa Horwitz

Eight layers 2, 2006
Drawing, ink on mylar, 4x4"
Eight layers 3, 2006
Drawing, ink on mylar, 4x4
Eight layers 4, 2006
Drawing, ink on mylar, 4x4
Eight layers 5, 2006
Drawing, ink on mylar, 4x4
Eight layers 6, 2006
Drawing, ink on mylar, 4x4
Eight layers 7, 2006
Drawing, ink on mylar, 4x4
Eight layers 8, 2006
Drawing, ink on mylar, 4x4
Eight layers 1, 2006
Drawing, ink on mylar, 4x4
Eight layers 1-2-3-4-5-6-7-8, 2006
Drawing, ink on mylar, 16x16
Eight layers 2-3-4-5-6-7-8-1, 2006
Drawing, ink on mylar, 16x16

Roman Verostko

Hortus conclusus G7, 1999
Plotter drawing, ink on paper, 7.75x3.75"
Gaia Millenaria Tertia T5, 1999
Plotter drawing, ink on paper, 5x3.75
Gaia Millenaria Tertia T6, 1999
Plotter drawing, ink on paper 5x3.75
Gaia Millenaria Tertia M4, 1999
Plotter drawing, ink on paper, 10x7.5
Untitled, 1998
Plotter drawing, ink on paper, 9.5x4.5
Hildegarde V2, 1999
Plotter drawing, ink on paper, 4x2.75
Hildegarde V3, 1999
Plotter drawing, ink on paper, 4x2.75
Two Thousand Improvisations S9, 2000
Plotter drawing, ink on paper, 9x12.25
Illuminated Universal Turing Machine, 1999
Plotter drawing, ink on paper, 14.5x22.25
Pearl Park Scriptures, George Boole, 2005
Plotter drawing, ink on paper, 10x20