bitforms gallery

Manfred Mohr: A Formal Language
Celebrating 50 Years of Artwork and Algorithms
September 7 – November 3, 2019

Opening Reception: Saturday, September 7, 6 – 8 PM
Closing Reception: Sunday, November 3, 4:30 – 6 PM
Gallery Hours: Wednesday – Saturday, 11 AM – 6 PM & Sunday 12 – 6 PM

bitforms gallery is pleased to celebrate the 50th anniversary (1969 – 2019) of Manfred Mohr writing and creating artwork with algorithms. This exhibition showcases poignant moments throughout the artist's career, presenting pre-computer artworks from the early 1960s alongside programmed film, wall reliefs, real-time screen-based works, computer-generated works on paper and canvas, and ephemeral objects. Mohr utilizes algorithms to engage rational aesthetics, inviting logic to produce visual outcomes. *A Formal Language* (named after his 1970 computer drawing) follows the evolution of the artist's programmed systems, including the first computer-generated drawings to the implementation of the hypercube. While Mohr's career spans over sixty years, this exhibition distinguishes his pioneering use of algorithms decades before it became a tool of contemporary art.

In the early 1960s, action painting, atonal music, and geometry were of great interest to Mohr. His early works indicate a confluence of interests in jazz and Abstract Expressionism through weighted strokes and graphic composition. Mohr was connected to instrumentation as a musician himself, playing tenor saxophone and oboe in jazz clubs across Europe. As his practice continued to progress, Max Bense's theories about rational aesthetics greatly impacted Mohr, ushering in binary, black and white palettes of logical, geometric connections that would soon become his signature.

Mohr wrote his first algorithm using the programming language Fortran IV in 1969. He plotted the resulting computer-generated data by hand, an exhausting and unsustainable process of intricate drafting. Systems capable of drawing the results of algorithms were not easily accessible at this time. However, in the autumn of 1969 Estarose Wolfson, the artist's future wife and a mathematician, connected Mohr to a lab in New York. *P-018* (1969) is a series of artworks drawn with light beams directly onto photo paper, allowing the artist to view multiple results generated from the same algorithm for the first time. In early 1970, the artist was granted one-time permission to use a flatbed Zuse pen plotter at the University of Darmstadt in Germany. In 1970, Mohr gained unique access to the computer center at the Météorologie Nationale in Paris where he used a high-resolution vector flatbed pen Benson plotter and CDC 6400 computer. There he realized all his programs and plotter drawings until he moved full time to New York in 1983, where he established his own computer center, including a high-resolution vector pen plotter. The resultant diversity of artwork confirmed the urgency and aesthetic significance of his algorithms. Thus, Mohr continued to exclusively produce artworks using self-authored computer programs.

In 1971 ARC, Musée d'Art Moderne de la Ville de Paris, presented the first solo exhibition of computer-generated digital art, *Manfred Mohr: Une Esthétique Programmée*. Within the exhibition, Mohr showed over 20 plotter drawings, demonstrated his practice on a flatbed plotter, and designed a wall panel that prompted visitors with the question, "What do you think of aesthetic research that is assisted by a computer?" The responses serve as an exceptional survey of opinions at that time. Fifty years later, the connections Mohr establishes between aesthetics and instruction continue to stimulate dialogue within the contemporary art world.

Mohr experienced unparalleled success creating algorithmic artwork. Through the application of his musical knowledge, he defined the fixed structure of the hypercube as his Visual Instrument. Mohr explains, "The cube and hypercube are structures having fixed relationships between vertices, edges, and planes. In all algorithmic systems, I find and create new and different relationships that are inherent in the structure. This becomes my Visual Instrument." Mohr uses the cube as a generator of artworks, demonstrated by the film *Cubic Limit* (1973 – 1974). Exhibited at the gallery in the original 16mm format, this work is an early example of the cube appearing in Mohr's oeuvre.

The intricacy of Mohr's work with algorithms, the cube (since 1973), and the hypercube (since 1977) has only increased over the decades. The series *space.color* (1999) inaugurated the artist's use of color as a result of new parameters of spatial differentiation and complexity of an inconceivable structure. In 2002, Mohr started to build his own computers for which he implemented *space.color*, resulting in his first non-repeating, real-time, screen-based animation, *space.color.motion* (2002). Within this series, paths through the network of the hypercube structure are rotated and projected into two-dimensional space, forming entirely unique configurations.

The last 50 years of Mohr's work is divided into work phases of two– to three–year cycles. His most recent work phase, *Algorithmic Modulations* (2019), augments this graphic construct within the diagonal paths of a 12-D hypercube. The trajectory of this shape is marked in transparent color bands. Thick, horizontal lines reflect the vertex points, adding a contrastive weight to the diaphanous structures. Mohr's artworks move beyond imagination, functioning as a representation between points, lines, squares, and cubes after they have been divided and reconstructed in different dimensions.

b.1938 in Pforzheim, Germany
Lived in Paris 1963 – 1983
Lives and works in New York since 1983

Manfred Mohr is a leader within the field of software-based art. Co-founder of the "Art et Informatique" seminar in 1969 University of Paris in Vincennes, he discovered Professor Max Bense's writing on information aesthetics in the early 1960s. These texts radically changed Mohr's artistic thinking, and within a few years, his art transformed from abstract expressionism to computer-generated algorithmic geometry. Encouraged by the computer music composer Pierre Barbaud, whom he met in 1967, Mohr programmed his first computer drawings in 1969. His first major museum exhibition, Une esthétique programmée, took place in 1971 at ARC, Musée d'Art Moderne de la Ville de Paris. It has since become known as the first solo show in a museum of works entirely calculated and drawn by a digital computer. During the exhibition, Mohr demonstrated his process of drawing his computer-generated imagery using a Benson flatbed plotter for the first time in public. Mohr's pieces have been exclusively based on the logical structure of cubes (1973) and hypercubes (1977) including the lines, planes, and relationships among them.

Mohr's work is in the collections of the Centre Pompidou, Paris; ZKM, Karlsruhe; Thoma Foundation, Chicago / Santa Fe; Borusan Contemporary, Istanbul; Joseph Albers Museum, Bottrop; Ludwig Museum, Cologne; Victoria and Albert Museum, London; Mary and Leigh Block Museum of Art; Wilhelm-Hack-Museum, Ludwigshafen; Kunstmuseum Stuttgart; Stedelijk Museum, Amsterdam; Museum Kulturspeicher, Würzburg; Kunsthalle Bremen; Musée d'Art Moderne et Contemporain, Strasbourg; Daimler Art Collection, Berlin / Stuttgart; Musée d'Art Contemporain, Montreal; McCrory Collection, New York; and Esther Grether Collection, Basel.
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Solo exhibitions and retrospectives of his work include ARC – Musée d'Art Moderne de la Ville de Paris; ZKM, Karlsruhe; Art Basel, Switzerland; Joseph Albers Museum, Bottrop; Wilhelm-Hack-Museum, Ludwigshafen; Museum for Concrete Art, Ingolstadt; Kunsthalle Bremen; Museum im Kulturspeicher, Würzburg; and Grazyna Kulczyk Foundation, Poznan; Center for the Arts at Virginia Tech, Blacksburg, Virginia; and Simons Center Gallery, Stony Brook, New York.

Mohr's work has also been exhibited at Fundacion Banco Santander, Madrid; ZKM, Karlsruhe; MoMA, New York; Centre Pompidou, Paris; Museum Ritter, Waldenbuch; Centro Culturale de la Villa de Madrid; MoCA, Los Angeles; National Museum of Modern Art, Tokyo; SFMOMA, San Francisco; Musée d'Art Contemporain de Montréal, Montréal; Muzeum Sztuki Lodz, Poland; Neue Nationalgalerie, Berlin; MoMA PS1, New York; Leo Castelli Gallery, New York; and Galerie Paul Facchetti, both in Paris and Zürich; and Whitechapel Gallery, London. Mohr is the recipient of an ACM SIGGRAPH Distinguished Artist Award for Lifetime Achievement in Digital Art; Golden Nica from Ars Electronica; the Camille Graesser-Preis, Zurich; D.velop Digital Art Award and a New York Foundation for the Arts Fellowship.