RUTH LEAVITT
COMPUTER DERIVATIVE

RCM GALERIE

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SEPT. 14 - OCT 14, 2022
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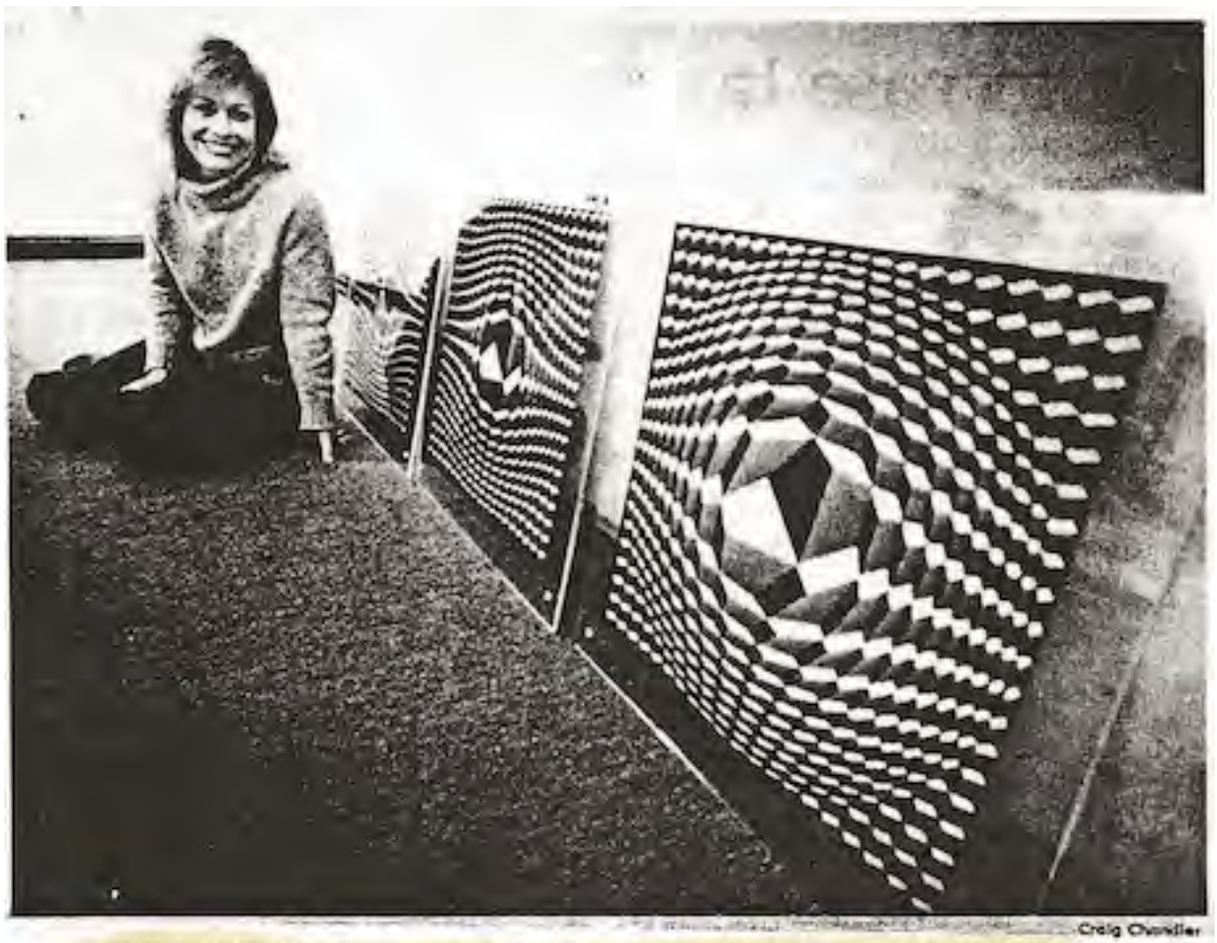


Craig Chandler

Ruth Leavitt sits near a series of stills from her animation, "From Blue to Yellow."

Q: Can you trace how you began to use the computer in your work?

Ruth Leavitt: I began working with computers to make art in 1968. I was an undergraduate studying art at the University of Minnesota at Minneapolis. My husband at that time, Jay A. Leavitt, a mathematician / computer scientist in the Computer Science Department at the University, and I decided to collaborate on developing a software program for artists. The results of our initial efforts were not very exciting, and I created some not very noteworthy art until I thought of the idea of using the computer to simulate a rubber sheet. Our first software attempt failed because it was a traditional approach to making art such as drawing and shading. A nontraditional approach was needed. What could a computer do that could not be done in real life? My idea was placing a linear design on a virtual rubber sheet that could be manipulated in many ways and at each stage recorded. Its surface, for example, could expand, contract, rotate, etc. and not snap back as it would in real life.

Q : Did you write the programs?

RL : The "stretching" program from which all the art in the exhibition was derived was my idea. When I was a child I had a rubber dollar bill and loved stretching George Washington's face in different ways. I thought that stretching patterns on a rubber sheet would be an innovative and effective use of the computer. Jay Leavitt constructed the stretching program, essentially how a rubber sheet moves, which he wrote in Fortran. That created the environment in which I could place a pattern on that virtual rubber sheet and begin to transform it. The program was made so that the whole surface moved. I could see the sheet with its pattern on the computer screen and I could exert the forces such as expansion, contraction, rotation, etc. by drawing with a light pen on the screen and immediately visualize its impact. I selected and plotted on graph paper the patterns I displayed on the rubber sheet, which formed the various series of computer output designs, the Herringbone Variations, the Prismatic Variations, and the Diamond Variations. Later, I did learn two different programming languages and taught them to my students.

Question: How did using the computer influence your approach to making art?

RL: I was still a student when I began using the computer to create art. My painting professor, who had been a student of Hans Hoffman, was teaching us to approach our work like Abstract Expressionists, using large paint brushes and sweeping gestures. However, my work on the machine was geometric and the exact opposite of what he wanted. So, by day I painted like an Abstract Expressionist and by night I chose to work in a more controlled manner with geometric shapes that I could transform with the computer. I became totally immersed in creating art with the computer and wanted to explore all its possibilities.

Question: What were you trying to achieve in your first works using the machine?

RL: I was trying to make innovative works of art of genuine artistic value.

Question: How was your work received at the time?

RL: At first, the reaction was very negative. The scientists felt it was a waste of valuable computing time, which is why I worked in the lab from 11pm to 3 am, and the artists didn't understand how a computer could possibly be used to create art. After about five years, the response was better. In 1972 I walked into the Martin Gallery in Minneapolis, and after looking at my work, the owner said, "This is just the kind of work we've been looking for." and he gave me a solo show.

Question: Your work employs a mix of digital output, mathematics, and hand craft. Can you talk about your commitment to painting?

RL: All of my work is initially designed on the computer. Some pieces like the photographic stills and the computer driven milled sculptural relief, although designed by me, were then entirely produced by machines. My prints and paintings and other sculptural reliefs are handcrafted. I have been committed to making art before I even entered grade school, andI shall always continue this pursuit. I found my passion at a very early age.

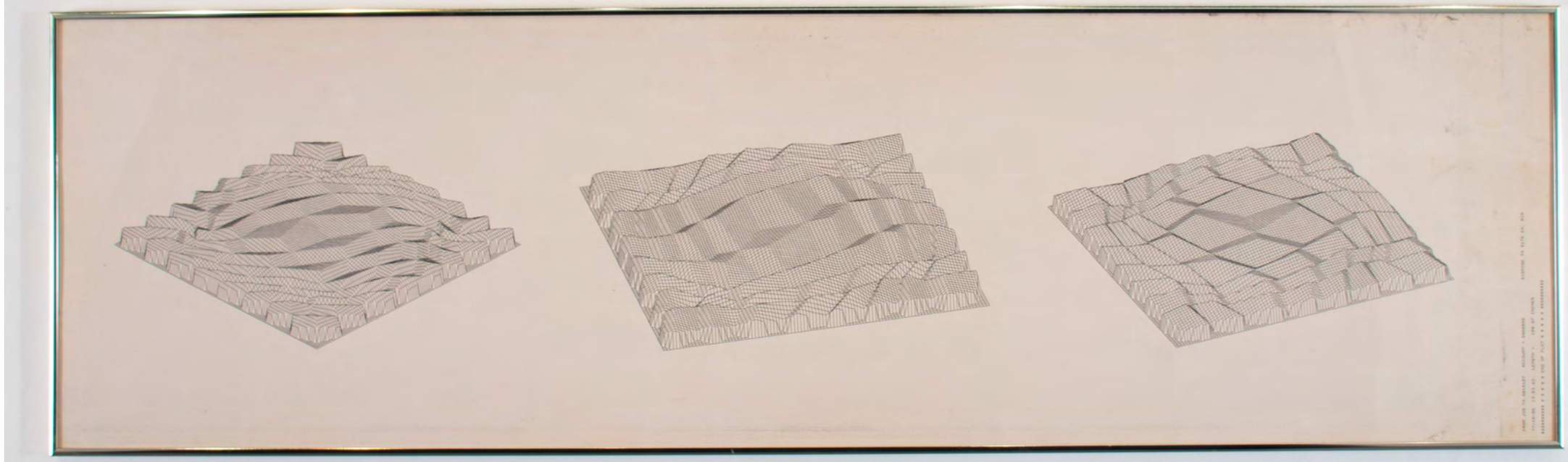
Question: You also edited a book, "Artist and Computer" that has become an important reference document about the first generation of computer artists. What prompted you to do this project?

RL: David Ahl, the editor of Creative Computing Magazine invited me to do the book. At first I was reluctant to accept his offer, I thought, "I don't do books, I make art." But I was encouraged by the chairman of the English department who was a friend, and by my then husband, who both thought it was a splendid idea. Also, I thought it would be good for the community of computer artists. I knew and was known within the community, so soliciting articles and photographs of their work would be something I could do. I also put out notices inviting participation in all the computer art society bulletins, journals, etc.

untitled, 1975
acrylic on card
75 x 75 cm/ 29.5 x 29.5 in
unique

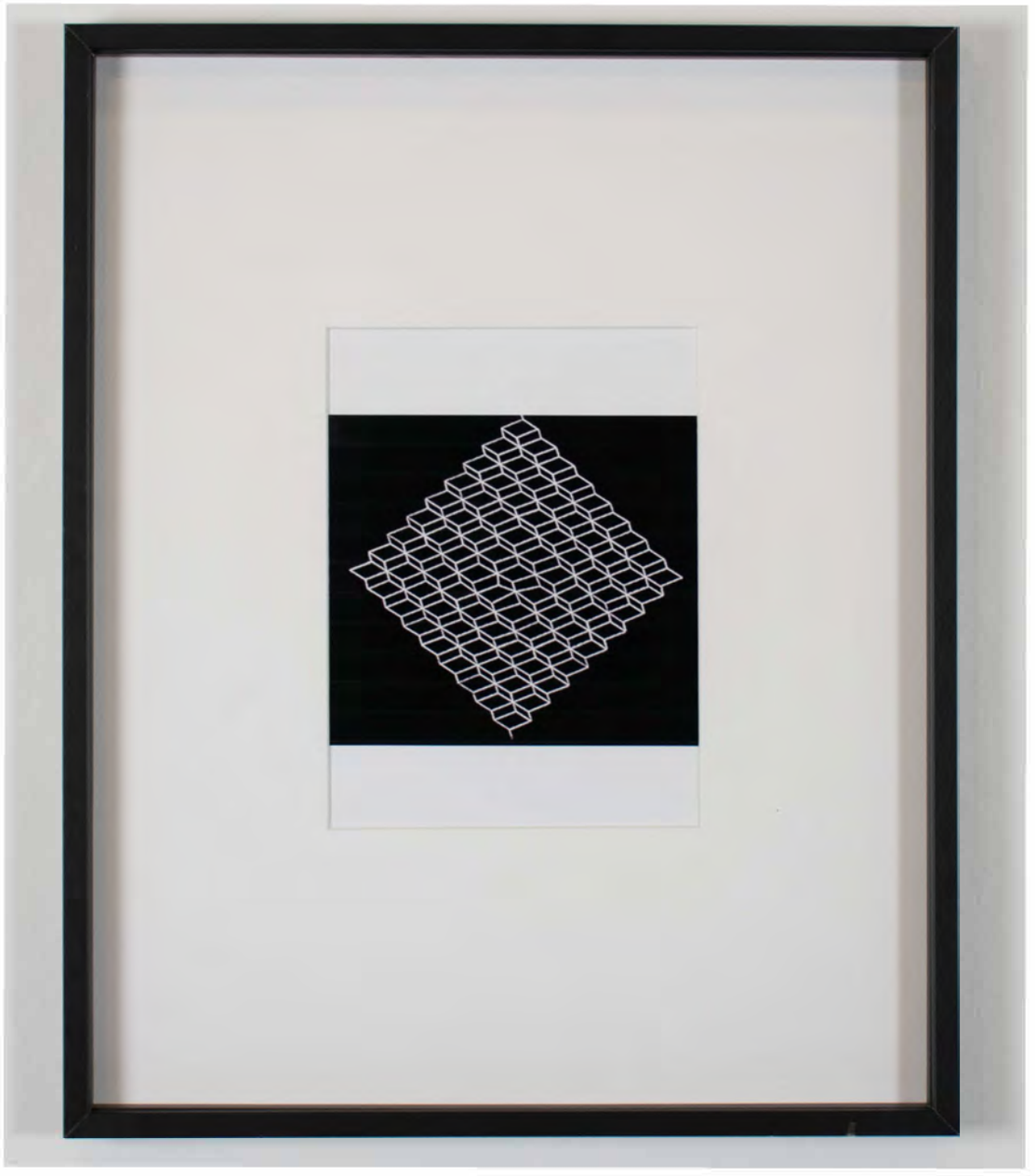
untitled, 1975
acrylic on card
75 x 75 cm/ 29.5 x 29.5 in
unique

Sotto Piano, 1977
Acrylic on canvas
145 x 145 cm / 57 x 57 in
unique



Plotter output of Topological 3D Mappings, 1977
Three views drawn by a Calcomp plotter onto paper
38 x 132 cm/ 15 x 52 in
unique

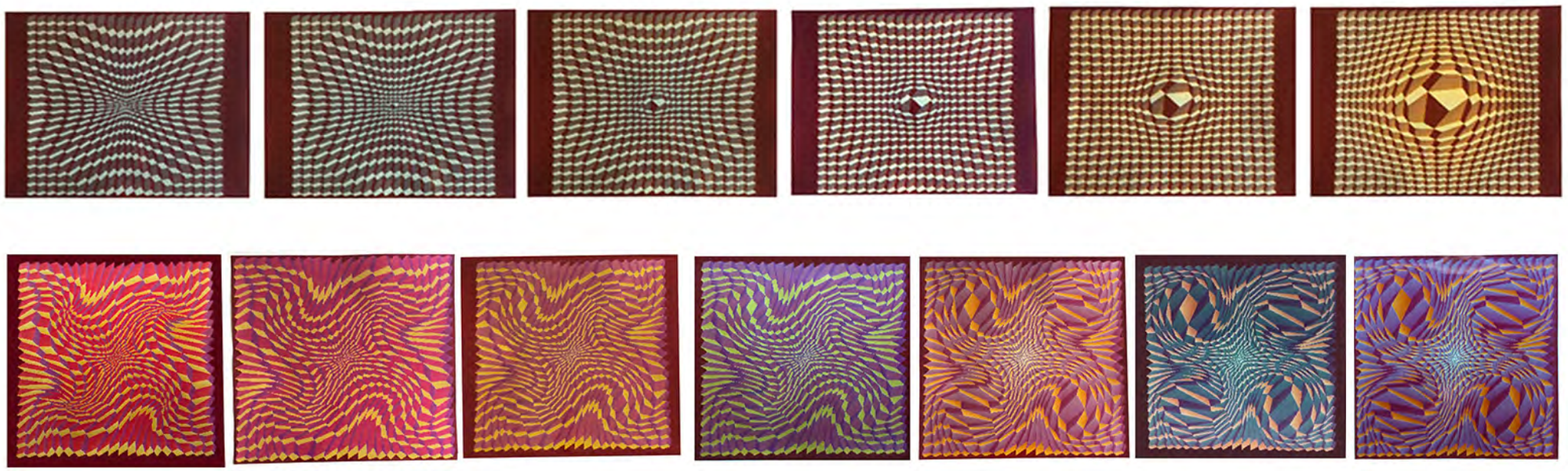
Computer animation printed on photographic paper
1977
unique
21.5 x 28 cm
8.5 x 11 cm



Computer animation printed on photographic paper
1977
unique
21.5 x 28 cm
8.5 x 11 cm

untitled, 1977
acrylic on canvas
137 x 137 cm/ 54 x 54 in
unique

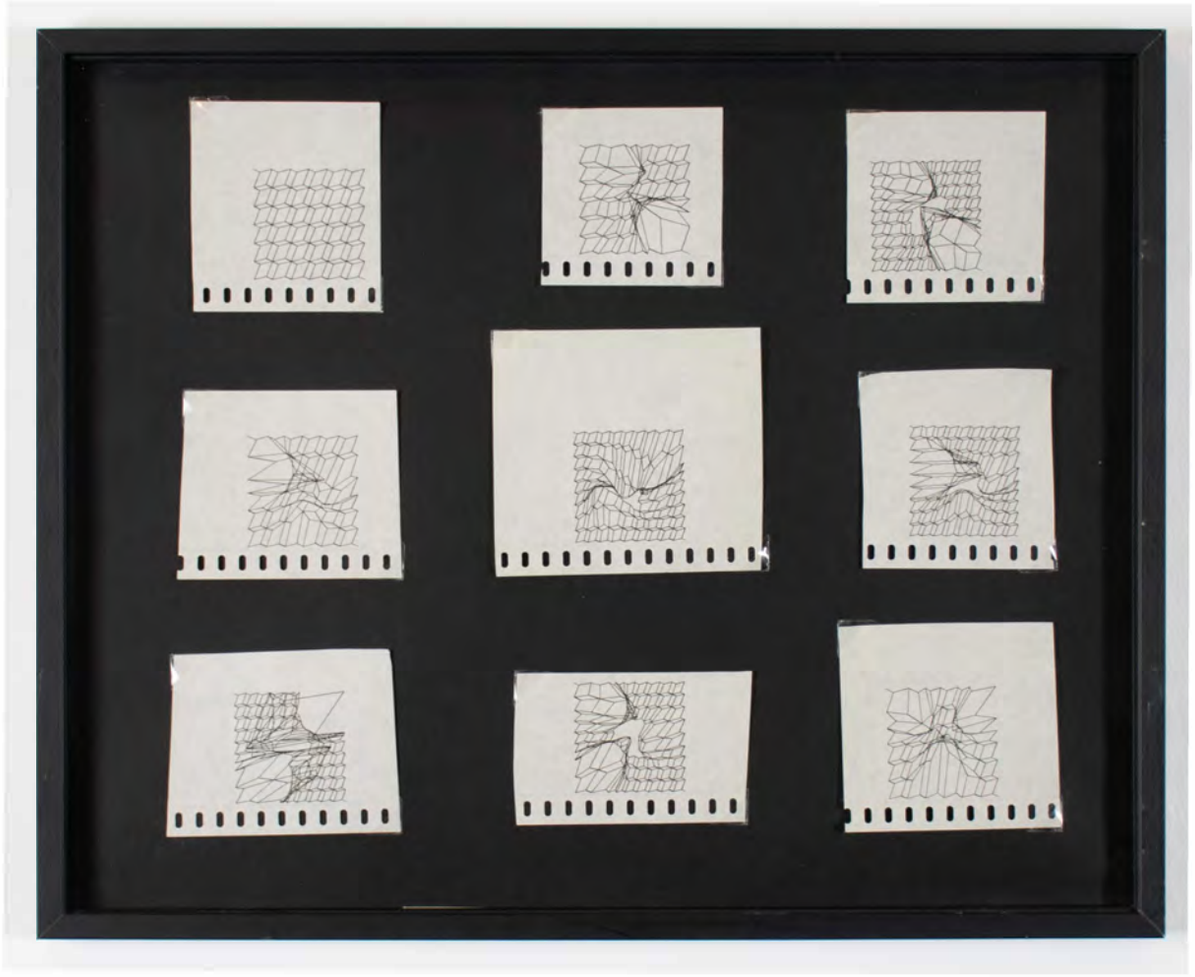
Sopra Piano, 1977
Acrylic on canvas
145 x 145 cm/ 57 x 57 in
unique



From Blue to Yellow, 1977
Stills on photographic paper of computer animation
signed and titled on verso
18 prints on Kodak paper.
Top two rows: 24" wide by 20" long.
Second row: 20 x 20 in.
Edition of 2

Computer milled sculpture, 1977
cast aluminium
14.6 x 14.6 cm
5.75 x 5.75 in
unique

detail

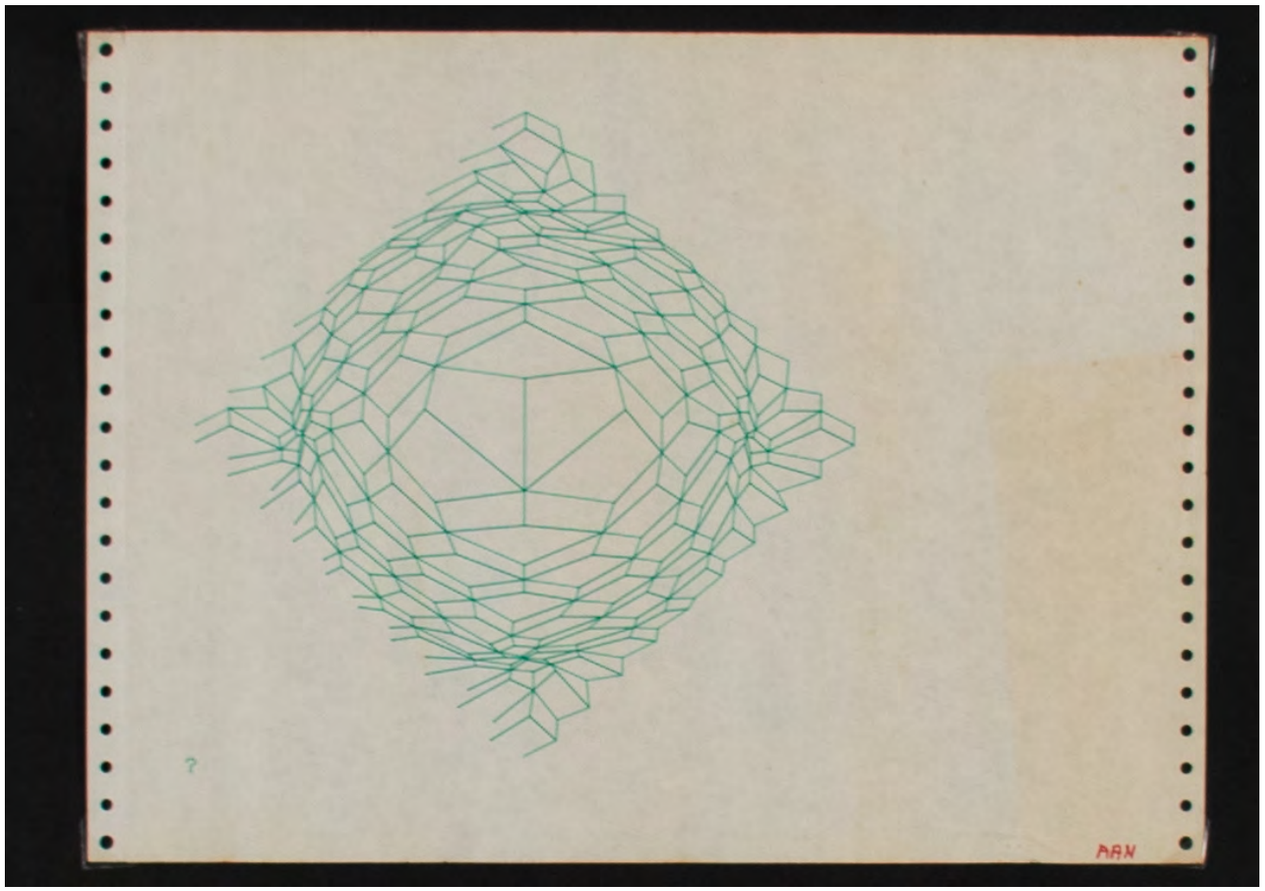


Computer plotter studies, 1975
Each approx 10 x 10.5 cm/ 4 x 4.5 in
unique

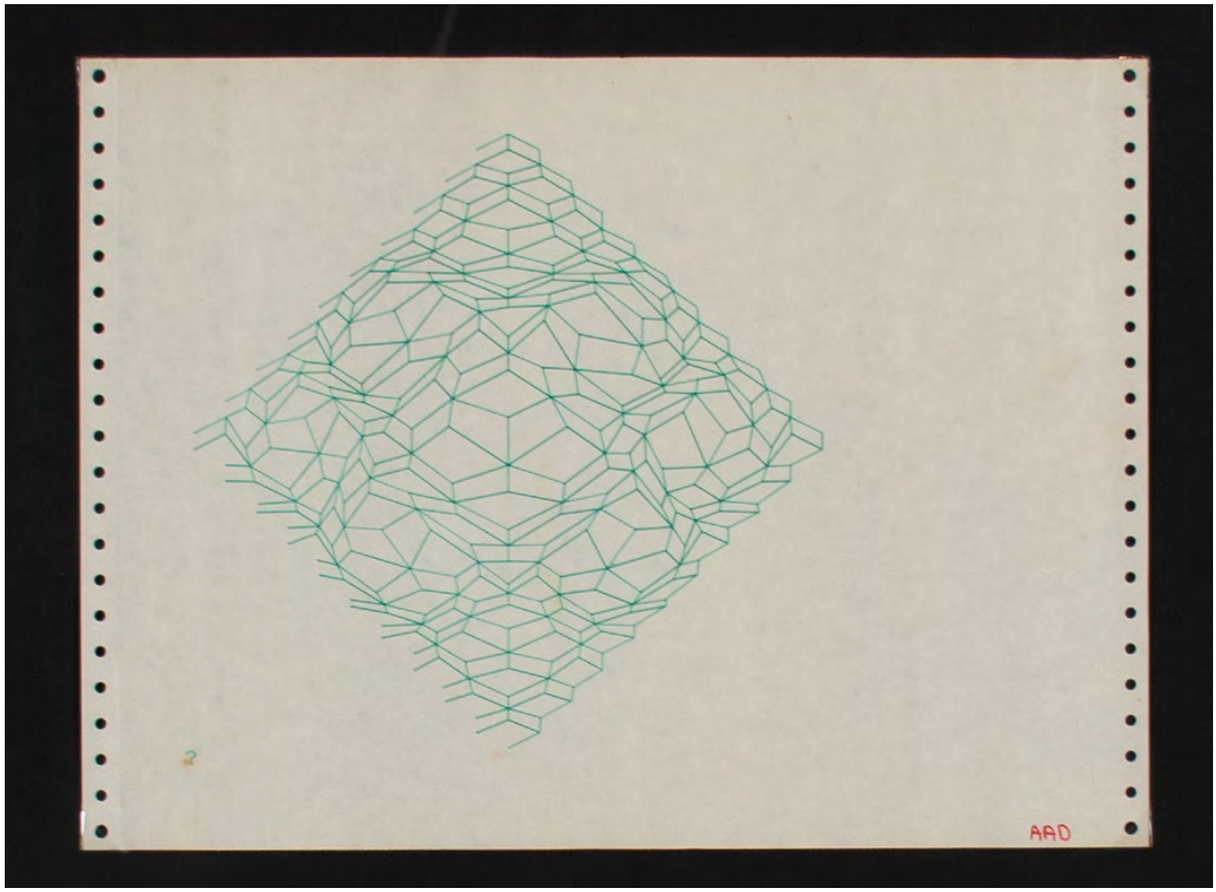
Linear design computer output on Kodalith Film, 1975
Inked areas added by hand
51 x 40.5 in/ 20 x 16 in
unique

Inner City Variation I
Limited edition of 60 copies
silkscreen print
on Strathmore 100% rag paper
58 x 73 cm/ 23 x 29 in

Diamond Variation II
Limited edition of 18 copies
silkscreen print
on Strathmore 100% rag paper
58 x 58 cm/ 23 X 23 in



Diamond 2D Design, 1975
Plotter output on paper
28 X 35 cm/ 11 x 14.75 in
unique



Diamond 2D Design, 1975
Plotter output on paper
28 X 35 cm/ 11 x 14.75 in
unique

exposition view

Ruth Leavitt

Solo Exhibitions

1969 "Drawings," Coffman Gallery. University of Minnesota. Minneapolis, Minnesota.
1972 "Computer Graphics," Martin Gallery. Minneapolis, Minnesota.
1974 "Prints," Art Gallery. College of St. Catherine. St. Paul, Minnesota.
1975 "Computer Prints," Southern Missionary College Art Gallery. Collegedale, Tennessee.
1977 "Diamond Transformations," Cecil Davis Gallery. Marion, Massachusetts. "Recent Work," Clarke College Art Center. Dubuque, Iowa.
1984 "Transformations of Space and Design," Burchfield Art Center. Buffalo, New York
198 7 "Computer-Aided Constructions," Shippensburg University Art Gallery. Shippensburg, Pennsylvania.
"Computer-Aided Sculpture," Master of Fine Arts Thesis Exhibition, Wilcox Mansion. Buffalo, New York.

Group Exhibitions

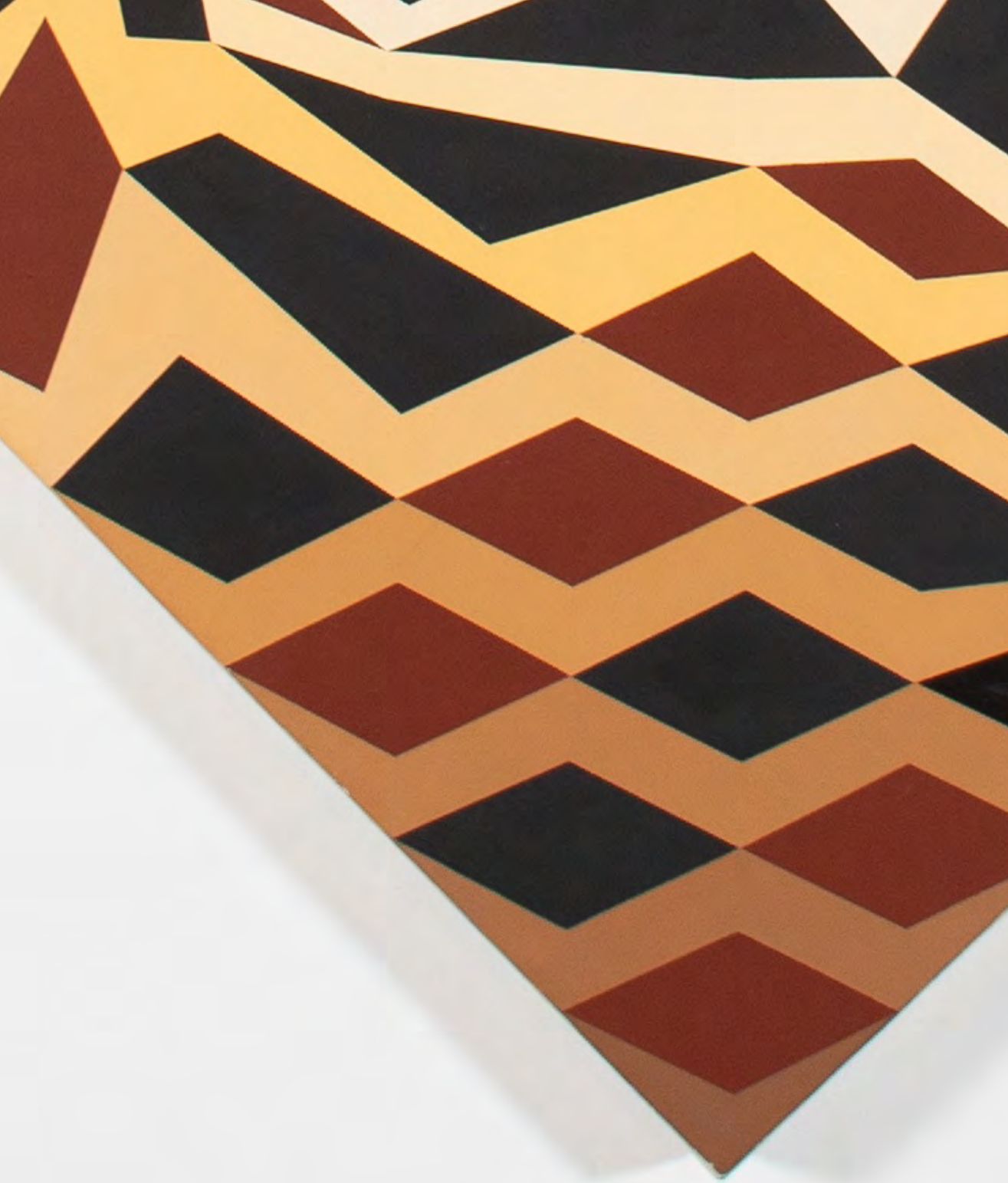
1973 "Circuit," Bloomfield Art Association. Birmingham, Michigan.
"National Computer Art Show," New York Coliseum. New York, New York.
"Ordinateur et Creation Artistique," L'Espace Cardin. Paris, France.
"Cybernetic Artrip," Tokyo, Japan.
1974 "International Exhibition of Computer Art," Montreal Museum of Contemporary Art. Montreal, Canada.
"Computer Art," Bohun Gallery. Oxon, England.
"Computer Art International," Tokyo, Japan.
"Color," Minnesota Museum of Art. St. Paul, Minnesota.
"Women In Focus," Minneapolis College of Art and Design Gallery. Minneapolis, Minnesota.
"Minnesota 19 74," Rochester Art Center. Rochester, Minnesota.
"ICCH/ 1, " University of Minnesota West Bank Gallery. Minneapolis, Minnesota.
1975 "Clay and Paper Regional," Octagon Art Center. Ames, Iowa.
"Printout," Watson Gallery. Wheaton College. Norton, Massachusetts.
"Ninth National Biennial," Second Crossing Gallery. The North Dakota. State Arts and Humanities Council. Valley City, North Dakota
"Women Art," Normandale Community College Gallery. Bloomington, Minnesota.
"Group Show," Friends Gallery. Minneapolis Institute of Arts. Minneapolis, Minnesota.
"ICCH/2," University of Southern California Gallery. Los Angeles, California.
"Art and the Skill of People Using Computers," Art Center of New Jersey. Tenafly, New Jersey.
"Gallery Artists," Kingpitcher Gallery of Contemporary Arts. Pittsburg, Pennsylvania.
1976 "Third International Computer Arts Festival," C.U.N.Y. Gallery. New York.
"Computer Art," Tokyo, Japan.
"Prints," C.R. Gallery. Williston, North Dakota.
"Gallery Artists," Main Street Gallery. Nantucket, Massachusetts.
1977 "Computer Genesis : A Vision of the 1 970s," Lowe Art Gallery. Syracuse University. Syracuse, New York.
"International Computer Arts Festival," Kyushu, Japan
1978 "Art and the Computer," Worcester Art Museum. Worcester, Massachusetts.
"ICC
1979 "Artist : Computer," West Lake Gallery. White Plains, New York.H/ 3," University of Waterloo Gallery. Waterloo. Ontario, Canada.
1980 "International Exhibition of Computer Art," Ukrainian Museum of Modern Art. Chicago, Illinois.
198 1 "Waves in Space I New Art and Technology," Downey Museum of Art. Downey, California.
"Computer Culture Show '8 1," Gallery 76. Ontario College of Arts. Toronto, Canada.
"International Exhibition of Computer Art," The Palais des Beaux Arts. Brussels, Belgium.
"Art and Technology," Salina Arts Center. Salina, Kansas.
1982 "Computer Art," Hanson Gallery of Art. SOHO. New York, New York.
"Computer Art," Lehigh University Art Galleries. Bethlehem, Pennsylvania.

Group Exhibitions Continued

1983 "Women and Computer Graphics - An Art For the Future,"
Organized by: T h e Roanoke College Art Gallery. Salem, Virginia.
Traveled to: The Massachusetts Institute of Technology. Boston, Massachusetts.
The University of Northern Illinois. De Kalb, Illinois.
1984 "Contemporary Art Acquisitions: 1980- 1983," The Equitable Gallery.
New York, New York.
1 98 5 "High Tech Art," U.C.C.S. Gallery of Contemporary Art.
Colorado Springs, Colorado.
"Kunstiliche Kunst," Siemens Museum. Munich, West Germany.
“Artists and the Computer,” Case Art Center. Skidmore College.
Saratoga Springs, New York.
1987 "The Second Emerging Expressions Biennial," The Bronx Museum of the
Arts. Bronx, New York.
"Digital Visions : Computer Art,"
Organized by: The Everson Museum. Syracuse, New York
Traveled to: The Cincinnati Contemporary Arts Center. Cincinnati, Ohio.
I.B.M. Gallery. New York, New York.
1988 "C.R.A.S.H.," Wright Museum of Art. Beloit, Wisconsin.
"W.Y.S.I. W.Y.G . : What You See is What You Get,"
Organized by: The Blair Art Museum. Hollidaysburg, Pennsylvania.
Traveled to: The Johnstown Art Museum. Johnstown, Pennsylvania.
1989 "Faculty Art Show," UMBC Gallery. Baltimore, Maryland.
1991 "Digitized and Manipulated : A National Exhibition of Computer Images,"
Hoag Gallery. Sangre De Cristo Arts Center. Pueblo, Colorado.
1992 "Faculty Art Show," UMBC Gallery. Baltimore, Maryland.
1993 "Legacy & Promise," A Baltimore Arts Exhibition.
Organized by: The Heritage Museum of Art. Baltimore, Maryland.
Exhibit site: The Maryland Institute C o l l e g e of Art. Baltimore, Maryland.
1998 "Art and Technology 3," Huber Art Center. Shippensburg University.
Shippensburg, Pennsylvania. (Five invited computer artists)

Art Work in Collections
The Albright Knox Gallery. Buffalo, New York; The Arts Council. Utrecht, Holland; The Siemens Museum. Munich, West Germany; The Burchfield Art Center. Buffalo, New York; The Minneapolis Institute of Art. Minneapolis, Minnesota; Editions Maffioti. Paris, France; The United States Federal Reserve Bank. Minneapolis, Minnesota; The Equitable Collection. Fresno, California; The Prudential Corporation, Minneapolis, Minnesota; 3M Corporation. Saint Paul, Minnesota; Hiross Corporation. Buffalo, New York; National Computer Corporation. Minneapolis, Minnesota; Knudson Corporation. Saint Paul, Minnesota; The American Automobile Association. Buffalo, New York; Rich Products Corporation. Buffalo, New York; Creative Computing Magazine. Morristown, New Jersey; Museum Galleries of the University of Minnesota. Minneapolis, Minnesota; The Computing Center of the State University of New York at Buffalo. Amherst, New York; Michigan Technological University. Houghton, Michigan; Computer Pathways Unlimited. Salem, Oregon; Hennepin County Library. Bloomfield, Minnesota; and private collections in: Belgium, Canada, England, France, Germany, Holland, Italy, Japan, Scotland, New Zealand and the United States.

Sculptural relief from computer program, 1981
Cast and polished bronze
unique
68 X 68 cm
27 x 27 in



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