



Holograms: Three-Dimensional Works in Light

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Curated by:

Susan Dallas-Swann

Holograms: Three-Dimensional Works in Light

After almost 20 years, the medium of holography has matured and continues to evolve as new color, movement, size, and installations are explored along with developments in light sources. With its interconnections of disciplines, holography is a medium characteristic of our time.

Pieces for this exhibition were chosen for their unique qualities as well as for their diversity as holographic works which in turn increases our visual and cultural literacy of the medium. As observers and image makers, we are still relatively unaccustomed to the expressive language of holography's depth, color, and movement.

The illusionistic potential of the medium and its dichotomy of being both two-dimensional and three-dimensional, places holography in the field of concerns shared by contemporary painting and sculpture.¹ The space of the holograph is not explainable in the sense of classical Euclidean geometry. Holographic space, unlike perspectival space, is not a purely functional mathematical construction. "Devices like foreshortening or reflected light to help visualize depth and volume" are not needed.² In effect, a viewer can look around the corner of an object in a holograph, and the virtual image in front of the holograph is free standing in air.³ Holographs require changes in customary viewing habits. Viewers move both side to side and forward and backward, seeing the images.⁴

Early holographs required a laser in a darkened area for viewing, but recent breakthroughs allow the use of ordinary illumination. The price of a small scale individual holography lab is now within range of many, thereby making the medium more accessible. Holographs are created as art works, for medical and scientific study, records, and for commercial purposes. Computer generated images offer the opportunity to create situations that don't exist in the physical world.⁴

Holography is presently being studied as a model for the universe.

As holography broke into the world of mainstream art, artists recognized the importance of holography in arenas such as outdoor and indoor sculpture, performance, installations, and environments. A holography network of art journals, exhibition spaces, collectors, and advocates has grown up with the medium. January, 1991 was the 15th anniversary of the founding of the Museum of Holography in New York City.

Artists invited to participate in this exhibition communicate through unique artistic vocabularies developed by the exploration of their ideas in three or four dimensions. Scientists and corporations were invited because their unique approaches have provided research and enhancement within the medium. The video presented, "Memories in Light," is highly informative for anyone interested in the medium.

The Exhibition

Eduardo Kac

Kac creates computer holographs from three-dimensional animations on a computer screen that are recorded as a sequence of images on 16mm film. He then produces holographic exposures containing different views of the images. Computer holographs can record motion, as well as abstract shapes and images; and computer holographs can be viewed in normal light.⁵

Kac is internationally known having had one person exhibitions at the Museum of Modern Art in Rio de Janeiro, The Museum of Holography in New York, and exhibited at the Bronx Museum of the Arts, New York, and at “Siggraph Art Show,” Las Vegas. Kac is currently an instructor at the School of the Art Institute, and Columbia College, Chicago.

SOUVENIR D’ANDROMEDA is described by Kac as a single word which is also perceived as a set of abstract shapes depending on the observer’s viewpoint. If the viewer reads the word LIMBO at first, as the viewer moves, the word rotates (crossing from virtual space to real space and vice-versa), and comes apart (as if it were exploding). As this happens, the fragments of the word, which are no longer legible, are now perceived as pure forms. The process is reversible.⁵

ADHUC employs six separate computer animations visible from discrete viewpoints.

Ana Maria Nicholson

Her portraits are as exciting for our times as the Flemish portraits must have been during their time. She experiments with multiple views sometimes with a Cubist approach. The

portraits memory haunts us. They will remain an accurate to the hair recording of an instant in life. Beginning a series of nudes, Nicholson's next pieces are large format and sometimes multiple holographs completing one nude.

Nicholson describes the "allure of that space, where objects and people shared their dense materiality and become a shell of light."⁶ This view allows us into a parallel world with its own space, and its own optical laws. Nicholson was one of the developers of the first pulse laser facility for art. A pulse laser freezes motion, does not require an isolation table, and produces great visual depth.⁶ Reflection transfers of pulse transmission masters are viewable in a fully lit room.

Nicholson has been a visiting researcher at the Smithsonian Holography Program of the Cooper-Hewitt Museum. She was also Assistant director of the Center for Experimental Holography at the University of Hawaii. KEITH HARING is a very aggressive portrait that captures the "pranksterness" of the artist who received recognition by clandestinely placing his work in the subways and streets of New York. This piece is part of a series of New Yorkers Who Make a Difference. A partial list of the series includes Philip Johnson, Arthur Schlesinger, David Byrne, Philippe de Montebello, Walter Cronkite, and Gloria Steinem. RUDIE is a multiple view portrait of well known holographer Rudie Burkhout.

Doris Vila

Vila's most recent pieces are large scale environmental works using elements such as sound, film loop, light projections, motors, air, and large scale holographs. The large scale places the viewer in the pieces as an active participant. The holographs employ serial imaging which "strings a narrative out in space rather than in time."⁷ Vila's unique approach frees the medium from the restraints of still life and brings the

work decidedly into an installation, environment, performance arena.

Working with one-step white-light transmission techniques, Vila makes holographs of ideas. Receiving one of the first United States permanent holographic artwork installations at the University of Wisconsin, funded through the Wisconsin Percent for Art program, Vila's piece is reconstructed by sunlight during the day, and by white light at night.

Vila has exhibited in Germany, Canada, Mexico, France, Japan, Switzerland, and Great Britain. She has been an instructor at the School of the Art Institute of Chicago, received three MacDowell Colony for the Arts Fellowships, and a grant from the New York State Council on the Arts.

Kendall Davis

A constructivist artist currently an undergraduate student at The Ohio State University.

Jerry Horn

Represented by Robert Morrison Gallery, New York, NY and Roberta Kuhn Gallery, Columbus.

Mark Merline

Exhibits with O.K. Harris Gallery, Michigan and with Henri Gallery, Washington, DC.

Richard Bruck

In his Chicago holography lab he pursues holography relating to sculpture and perception.

Matt Deschner

His pieces focus on holography, photography, sculpture, and design.

Dean Randazzo

Has exhibited at the Museum of Modern Art, Rio de Janeiro, Brazil, "Siggraph Art Show," '91, Museum of Holography, New York, and Atlanta Gallery of Holography, Atlanta, Georgia.

Marvin Sigal

A biologist with a PhD in Entomology and a professor at Otterbein College, Westerville, Ohio, Sigal has worked seven years in white light reflective holography on film. He has worked primarily in a lab in his basement. HOLOGRAPHIC LAB BOOK OF CAT SKELETON, 15 plates, was created for biological physical science as a teaching aid for Columbus State Teachers College.

Debi Yee

The computer holograph exhibited uses Macintosh animation programs and the transferring of 87 frames of moving leaf/flower shapes that are bisected by a ball that rolls diagonally through the leaves and back.

"Memories in Light", videotape produced by Global Images, 20 minutes.

Commercial holography is widely recognized on charge cards, compact disks, videocassette covers, point of purchase, etc. These holographs are usually created by a designer or an artist and produced by holographers in a commercial context.

Polaroid Corporation

Two and a half decades of research and development at the Holography Business Group of the Polaroid Corporation produced the Polaroid Mirage holographs. Polaroid Mirage holographs are noted for their quality; and in 1991 a Polaroid Mirage holograph received the Grammy award for best art direction and design. BRAIN AND SKULL are profiled models which provided an excellent image for a holograph of the human brain and skull. This is a two-channel holograph. In BEACON, the dramatic beam of light in the holograph of the TransAmerica building in San Francisco actually projects two inches from the surface of the holograph. Other Polaroid pieces include MIRROR MONSTER, MOTOROLA, and PEGASUS₈.

Spectratec

A manufacturer of holographic spectral films and 2-D and 3-D holographs. Included are examples of both. The holographic diffraction embossing technique produces reflective films and transparent sheets as well as three dimensional color images.

Exhibition Checklist

Dimensions are in inches: height x width x depth.

All works are on loan courtesy of the artist, scientist, or corporation. Works marked * are exhibited at Hopkins Hall Gallery, The Ohio State University, and works marked + are exhibited at Acme Art Co. Gallery.

Kendall Davis

- * UNTITLED, 4 x 5 x 1, Laser transmission holograph, in wood construction, 1992.

Richard Bruck

- + BLUES GRASP, 13 x 5 x 3.5, White light transmission holograph, 1990.
- + TIC-TAC, 2.5 x 2.5, White light transmission holograph, 1990.
- + FREEDOM BOUND, 18 x 18, White light transmission holograph, 1991.

Matt Deschner

- + #4, 8 x 10, White light transmission holograph 1990.

Jerry Horn

- * STEEL PAINTING, 4 x 5, Laser transmission holograph, 1991.

Eduardo Kac

- * AD HOC, 12 x 16, White light transmission computer holograph, 1991.
- + ADRIFT, 12 x 16, White light transmission computer holograph, 1991.
- * SOUVENIR D'ANDROMEDA, 12 x 16, White light transmission computer holopoem, 1990
- * ZERO, 12 x 16, White light transmission computer holograph, 1991.

Mark Merline

- * CLEAN ROOM, 4 x 5, Laser transmission holograph, 1992.
- * STILL LIFE, 4 x 5, Laser transmission holograph, 1990.
- * TRAP, 4 x 5, Laser transmission holograph, 1990.
- * RED LIGHT, 4 x 5, Laser transmission holograph, 1990.

Margot Kagan

- * NEW KITCHEN, 4 x 5, Laser transmission holograph, 1991.

Ana Maria Nicholson

- * KEITH HARING, 16 x 12, Framed holograph, reflection mode, 1987.
- * RUDIE, 17 x 13, Framed holograph, reflection mode, 1990.

Dean Randazzo

- + TRACE, 5 x 7, Two sided single panel, white light transmission, pedestal, 1990.
- * GOWN, 5 x 6 x 5, Two sided double panel, white light transmission, 1990.

Marvin Sigal

- + HOLOGRAPHIC LAB BOOK of CAT SKELETON, 15 plates, 4 x 5, In book format, white light reflection, 1985.

Doris Vila

- * DESCRIPTIVE MORPHOLOGY OF A THEORETICAL ROMANCE, 17 x 39, Suspended framed white light transmission, multi-exposure holograph, 1987.

Debi Yee

- * UNTITLED, 12 x 16, White laser transmission Framed computer holograph, 1992.

Polaroid Corporation

- * BEACON, 18 x 20, Reflection hologram, 1989.
- * BRAIN AND SKULL, 18 x 20, Reflection hologram, 1989.
- * MIRROR MONSTER, 18 x 20, Reflection hologram, 1990.
- * MOTOROLA, 18 x 20, Reflection hologram, 1990.
- * PEGASUS, 18 x 20, Reflection hologram, 1989.

Spectratec

- + Holograph with diffraction film



AD HOC, Eduardo Kac, 12 x 16, White light transmission computer hologram, 1991.

Notes

I would like to acknowledge the assistance of Sidney Dinsmore, Curator, Museum of Holography, New York.

1 H. Casdin-Silver, "Holographic Installations: Sculpting with Light," Sculpture, p. 50, May 1991.

2 Rene Paul Barilleaux, New Directions in Holography, Whitney Museum of American Art, 1991.

3 "Three-Dimensional Imaging Laboratory Proposal," The Ohio State University, Harris Kagan, Susan Dallas-Swann, 1991.

4 Charles Hagan, "The Case for Holographs," New York Times, November 29, 1991.

5 Eduardo Kac, "Recent Experiments in Holopoetry and Computer Holopoetry," Proceedings of "IV International Symposium on Display Holography," Wake Forest College, Lake Forest, IL, 1991.

6 "Leonardo," vol.22, nos. 3 & 4, 1989, pp. 369-73.

7 Vila, Doris, "Holographic Narratives: In One Eye and Out the Other," Proceedings of "III International Symposium on Display Holography," Wake Forest College, Lake Forest, IL, 1991.

8 Martha Tomko, Holographs in the Real World, The Museum of Holography, 1991.

9 Dennis Gabor, Hungarian physicist who conceived and produced holography. For this he received the Nobel prize in Physics in 1971.

10 Lloyd Cross, a research scientist and laser pioneer founded the first United States school for holography, the San Francisco School of Holography in 1971.

Holography is currently offered at the following universities and centers:

Art and Technology Project, Music Department, Connecticut College, New London, CT 06320, USA

Art Department, University of Wisconsin, 1725 State St., La Crosse, WI 54601, USA.

Australian Center for Art and Technology, PO Box 804, Canberra, AUSTRALIA 2601.

Banff Center, Media Arts Program and Computer Media Laboratory, Banff Center School of Fine Arts, PO Box 1020, Banff, Alberta T0L 0C0, CANADA.

Center for Advanced Visual Studies, Building W11,40 Massachusetts Ave., Cambridge, MA 02139, and MIT Media Laboratory, Massachusetts Institute of Technology, 20 Ames St., Cambridge, MA 02139, USA.

The Center for Art and Technology, Carnegie-Mellon University, 111 Pittsburg, PA 15213, USA.

Center for Art and Technology, University of Massachusetts, Amherst, MA 01003, USA.

Center for Performing Arts and Technology, School of Music, University of Michigan, 1100 Baits Dr., Ann Arbor, MI 48109, USA

Center for Photonics Studies, Lake Forest College, 555
North Sheridan Rd., Lake Forest, IL 60045, USA

Center for Research in Arts and Technology, USF, Tampa,
FL 33620, USA.

The Copie-Art Center, 813 Ontario est. Montreal, Quebec
H21, 1P1, CANADA

Curtain University, Media Design Department, Hayman Rd.,
Bentley 6102, AUSTRALIA

Ecole Nationale Superieure des Arts Visuels, Abbaye de la
Cambre 21, 1050 Bruxelles, BELGIUM

Engineering Technology Institute, PO Box 8859, Waco, TX
76714, USA.

Fundacao Nacional de Arte/Funarte, INAP, 80 rua Aranjó
Porto Alegre, CEP 20030 Rio de Janeiro, BRAZIL.

Hochschule fur angewandte Kunst-Wien,
Oskar-Kokoschka-Platz 2, 1010 Wien, AUSTRALIA

Image Technology and Art , university of Paris VIII, 2, rue
da la Liberte 93526 Saint-Denis Cedex 02, Paris, FRANCE

Kunsthochschule fur Medien, Manfred Eisenbeis, Platz 2,
D-5000, Koln 1, GERMANY

Los Angeles School of Holograph, PO Box 851, Woodland
Hills, CA 91365, USA.

Lugano Academy of the Electronic Arts, Corso Elvezia 3,
CH 6900 Lugano, SWITZERLAND.

Media, Electronic Art and Visual Communications Program,
Virginia Commonwealth University, School of the Arts, 325
North Harrison St., Richmond, VA 23284, USA.

Science-Humanities Program, and also Conceptual Design
and Computer related Art, San Francisco State University,
1600 Holloway Ave., San Francisco, CA 94132, USA.

School of Electronic Media Studies, 97 Merivale St., South
Brisbane, Queensland 4101, AUSTRALIA.

Society for the Sciences, Art and Education, Applied
Biophysics Lab, h-111 Budapest, Krusper, Utca 2-4,
HUNGARY.

Sydney College of the Arts, 58 Allen St., Clebe NSW, 2037
Sidney, AUSTRALIA.

University of London Audio Visual Center, North Wing
Studios, Senate House, Malet St., London WC1E7JZ,
UNITED KINGDOM.

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