Art Holography, A Meeting of Minds

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DAYTON, Ohio, November 26, 1980 -- Lasers. The same rays of light used by the medical community to burn cancer cells are being applied in a project by University of Dayton research scientists and five Ohio artists to make art. By blending conventional photography with a photographic process using laser beams, the result is, as one of the foremost artists in the country working in the medium described, "unlimited multidimensional expression in light."

The technology is holography. It is a form of lenseless photography which uses laser light to produce a three-dimensional image. And humanizing the technology to produce art can only happen by mixing the analytic minds of physicists with the imaginations of artists. The same UD scientists who used holography in 1969 for pioneering studies of surface materials of airplanes for the U.S. Defense Department are now applying the technique to art. The project is being funded with a $5,000 grant from the Ohio Arts Council and matching monies from the University. With the help of UD art professor Gordon Richardson and art holographer Harriet Casdin-Silver, who is "probably one of the most outstanding artists in the field," five artists who represent a variety of media were selected from throughout the state to carry on the experiment.

From Cleveland Heights is Thomas Silver, an associate professor of art at Cleveland State. From the same university is Ken Nevadomi, a Lakewood resident who specializes in painting and drawing. Chosen from Dayton are Jud Yalkut of Contemporary Media Study fame, and technical photographer Arthur Chafee from Wright Patterson Air Force Base.

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UD Research Institute applied physics director Lloyd Huff called the project "one of the best opportunities we've had to bring together so widely disparate disciplines . . . a perfect marriage (of art and science)."

In explaining how a hologram is made, the UD physicists and electro-optics specialists said there are fundamental differences between holography and the photography familiar to most of us. Regular lense photography produces an image by recording on film the light and dark areas of a two-dimensional image of an object. In holography, the image is not recorded directly. Instead, the characteristics of the light waves coming from the object are captured on a fine detail photographic plate of glass, and the resulting image is reconstructed each time the plate is illuminated. Viewing the hologram is much like looking through a window at an object on the other side. Recapturing the image previously required a laser, which limited the science of holography to the laboratory. But with the growth of the young technology, the hologram can now be viewed with conventional light sources. And artists became fascinated with the visual effect they could get by manipulating the light configurations coming from objects.

All its research applications aside, holography, says the scientist Huff, is primarily a tool for communicating. And, he said, "If a picture is worth a thousand words, a hologram is worth a thousand pictures."

Holography adds depth information to a picture, and, going one step further, the image can be made to move. In the medium of motion pictures -- the area being explored by Casdin-Silver -- individual frames of film are holographed sequentially to produce a stereoscopic moving image.

Harriet Casdin-Silver has pioneered the technique for use in art in this country and abroad. She risks the hope that the medium will reach artistic proportions: "After all, it took nearly a century before photography was recognized as an art."

And to the question 'Can holography be art?' Casdin-Silver responds, "The truth is, no one knows what art is in any medium."
Casdin-Silver is a Massachusetts Institute of Technology fellow at the Center for Advanced Visual Studies. Her work has brought the hologram out of the laboratory and placed it before the public's eye with exhibitions in the Chicago Museum of Science and Industry, Franklin Institute, New York's Museum of Modern Art and Light Gallery, the Chicago Museum of Contemporary Art, the Smithsonian, and in shows throughout Europe. Her's was the first one-person show at the Museum of Holography in New York City. And her holographic self-portrait entitled "A Woman" was purchased for the collection of the ARTSCIENCE Gallery of the Chicago Museum of Science and Industry.

Casdin-Silver views the light science of holography as just one of the many tools available to the artist, like a painter's brush and dyes. "Impatiently, I wait for the time when fascination with the generative technique of this 3 dimensional imaging vanishes. We do not watch television and analyze the process by which it arrives in the living room. Eventually the spectator will forget the tools and technology of holography and allow the experience to happen. And there will be a wealth of experience. . . holographic environments . . . movies . . . theater . . . architecture. . . events . . .

Whatever the form holography takes, Casdin-Silver says it "is sculpture of light . . . enlightenment . . . immaterial energy. It is shaping imaginary spaces. It is fantasy, reality, politics, change."

The experimental "meeting of minds" of the UD researchers and five Ohio artists will transpire in a multiplex holography workshop in the UD Research Institute December 8-10. During those three days, the scientists will brief the artists on how holograms are made and displayed. The final product is scheduled for an April exhibition in the Rike Gallery.

On December 9, Casdin-Silver will present an overview of holography as art at an informal reception from 7-9 p.m. in the Rike Gallery. The public is invited.