Into the Work

HOLOGRAPHY-art or science? "...a revolution that shatters every concept and aspect of our traditional representational visual traditions"... is claimed by Gallery 1134, newly become a "Fine Arts and Holographic Research Center."

Loren Billings has a tiger by the tail, with some miniscule help from the Illinois Arts Council. But will artists share the ride? To see the wild eyed beast, on view at Gallery 1134 through July 3rd, visit her collection of what is called "Holographic Art."

But, before we get to art, what is "holography?"

The idea is implicit in the Michelson-Morley experiment in light propogation in the 1880's. The construction of the interfermoter in 1897 was its application to measuring gauges. The science of optics, and the diffraction grating X-ray spectrometer was its habitat until the 1940's.

In 1947 Dr. Dennis Gabor of Scotland, working on electron microscopes, conceived a technique for eliminating their interference light wave shadows. In 1948 the first transmission type in line hologram on film was created by Dr. Gabor, for which he received the Nobel prize in 1971. This was then a scientific curiosity from an art viewpoint.

Many of us saw simple objects, recreated by holog-

raphy on display exhibit in both scientific and art museums in the 1950's. (Bell Labs had one, of a ceramic dancer, turning in space.)

Now, back to the question of what is a hologram? It is encoded light messages. more like an X-ray film than a photo image. It made by having two light waves cross, either before or after one set of light waves has illuminated an object.

With the screen in front. or to one side of the object the sum of the light waves or the mathematical differ ence, is caught by a trans fucent film or screen tha records the light and shad ow. All that is necessary i to project light through the screen once more. That will recreate the original image

Holography leaped from the stage of scientific curi

John Forwalter

osity to art medium with the invention of the laser. The Nobel prize in physics was awarded in 1964 to inventors Charles H. Townes of the U.S., and A.M. Prokorov and N. Basov of the USSR for independently developing it. The first operational laser dates from 1960.

What did the laser do for holography? Somewhat like some sunglasses that polarize light, they produced undirectional light beams. This made sharper lights and shadows, better holograms.

Other ways of making holograms were developed rapidly, and developed in 1967, in Russia.

Only one more bit of science: the objects projected from a holographic screen can be made to seem in front of or behind the glass (or plastic) which is the viewer's point from which to view the object. That is Optics; the rest is art.

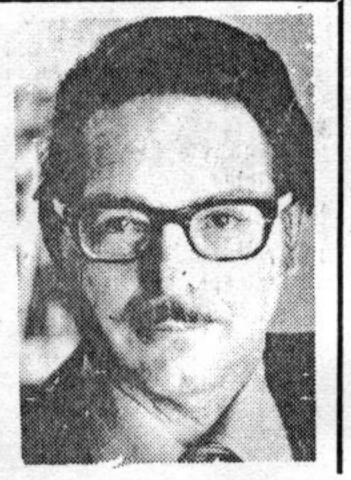
The first show of holography in an art context was held at the Cranbrook Academy in 1970. A Museum of Holography was created last year in New York city. The exhibition at Gallery 1134 (1134 W. Washington St.) is a state-of-the-art statement. In it are several "scientific curiosities" and a number of artistic beginnings, using the various holographic techniques of both making and projecting.

First, Deborah Gaventa's laser and sunlight installation (non-holographic) is one of the best art works in the show. As an environment, it shows a little of the effects of light, and makes changing light patterns the subject of its meaning. "Into One" by Loran Billings is another environment, and an art statement about the relation between straight light beams and reflecting tin foil room surfaces.

"Holo Dali: Crystallized" by Mark Diamond; and "Dr. Einstein's Chess-

Tung H. Jeong and David do art work. Wender create multiple The dichromate reflection of beauty.

Hart Perry's "Birth of romate plastic. ries of forms is to be seen ist in a messy skin.



in the mathematics exhibit at the Museum of Science & Industry.

Rudie Berkhout catches motion in "Milkshake" But this and most of the portraits in the show belong to the simple "scientific curiosity" level of images.

Without attempting to analyze each work of art exhaustively as art, one can but mention that twentyseven artists are trying the methods of making and showing holograms. It may well become the primary method of creating final art forms in the next century. Already hologram multiples have been created.

Holography as technique has proved its potential as an art form artistic mediboard" by Peter Cladius um, far beyond curiosity, are transformations of what both a new medium and a could be static two and new method of generating three dimensional images images, Its 3-D dimensional (Dali's face in flat multi- nature is an asset beyond ples, and a 3-D chessbord of easle painting, and a new multidimensional space.) set of conditions in which to

whiskey bottles in space holograms in plastic will from one original bottle. soon be a major sales pro-But their computer generat- motion gimmick. Yet Rich ed "Cathedral" is a real Rollinson's "Little Watches transformation and a thing and Watchparts" is an attempt at art. Both are dich-

Venus" is a colored mathe- While only artists can matical form in 3-D. Its line produce good art, good artpatterns change as it tum- ists can easily produce bad bles in space in a continu- art with a new technique. ous manner. But we see it Thus, holography is a junonly from one side, so it gle of new adventures, for seems an evolving thing. A exploration, and a tiger similar, non-holographic se- which may enclose the art-