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Holography at UICC creates no illusions

by Joe Zozzaro

Imagine this. You go to a theater to see the most talked about play in town. As you enter the room, the jungle setting is so realistic, you begin to feel lost. A snake slithers by within inches of your feet. You find yourself confronted by a lion, who seems to be eyeing you for supper. There are birds and monkeys in the trees above you.

There is really nothing to fear, though. These animals do not exist. They are holograms—laser produced photographic images carried out with a fantastic three-dimensional effect.

Holography goes back to 1947, where it was first conceived by Dr. Dennis Gabor, a research engineer in Scotland. A complete three-dimensional image of an object can be recorded on photographic film or on a plate.

The process involves the intertwining and encoding of beams from a laser source. The beam is deflected off a mirror and through a holographic plate or film. As these two beams interfere and bump into each other, they become encoded on the holographic plate or film. They must be in phase (when the crests and troughts of the beams match up) for the encoding to take place.

When light is passed through the holographic plate or film, the observer sees the original object, complete in every detail. No matter how realistic it looks though, you could pass your hand right through it.

"Eventually they'll be able to create a life size scene and looking at you I wouldn't know if you were real or not," explained Loren Billings founder and director of Gallery 1134.

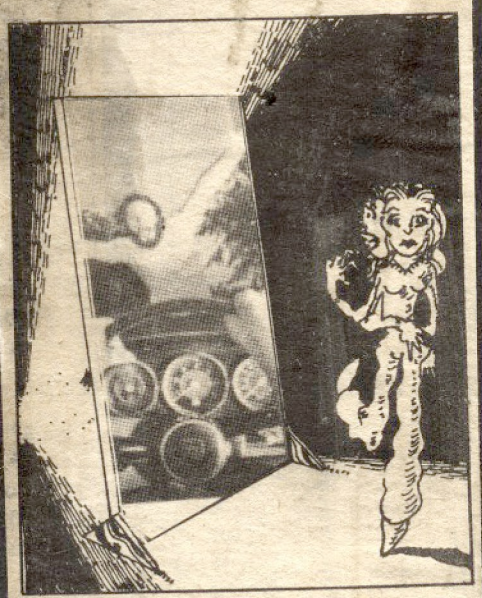
Gallery 1134 is a fine arts research and holographic center, located at 1134 W. Washington. A holographic exhibition and lecture will be held by Gallery 1134 on Monday, February 27 from 9 am to 5 pm in the Montgomery Ward Lounge Art Gallery.

Billings became involved with holography about five or six years ago while attending the Art Institute of Chicago, where she studied painting and sculpture. She has also studied and worked with some of the outstanding ceramists in the country.

According to Ms. Billings it took her about six months to produce her first hologram, but the students at Gallery 1134 produce their first hologram in the first session.

Associated with the Gallery is Dr. T. H. Jeong, a professor of physics at Lake Forest College. Dr. Jeong, a pioneer in the development of holography, certifies all workshop instructors.

As you walk through Gallery 1134, you



are amazed at the various holograms which are on display. Viewing them from side to side, the holograms seem as though they are real, as they wink, wave, smile and blow kisses at you. UICC students can also experience this at the exhibit in the Montgomery Ward Lounge Art Gallery.

There are many practical uses for holography in the fields of engineering, architecture, medicine and art.

Engineers can use a technique referred to as interferogram, to locate the various stress points in a structure. First a hologram is taken of an object. After doing this another hologram is made of the same object under about one micron of stress. The resulting picture shows the locations of all stress points.

Instead of constructing a model of a building he has in mind, an architect can feed specific data pertaining to the structure into a computer. Without building a thing, the architect can create a picture of the building.

Doctors can attain clearer pictures in a three-dimensional form of tumors and bone fractures. This seems to be much more useful in locating the exact location of the problem.

For those of you who would like to see and learn more about holography, visit Gallery 1134 at 1134 W. Washington. For a one dollar donation the world of the future will be at your disposal.

The Gallery 1134 also teaches courses in holography. UICC students interested in holography will be happy to learn that UICC recognizes these holography courses. Students can earn credit by taking courses.