A modern Merlin shows useful evolutio

By Gary Wisby

Remember the scene in "Star Wars" where R2D2, that cute sawed-off robot, projects a moving foot-high three-dimensional image of the Princess Leia? And the scene where miniature dinosaurs, apes and other creatures, also projected, do battle as pieces on a chessboard?

After a visit with Tung Jeong at his Lake Forest College holography laboratory, these marvels don't seem so far in the future. Because they are basically holograms, or three-dimensional simulations.

Jeong, one of the country's top dozen experts on holography, is not really a 42-year-old college professor but Merlin the magician. There is no other acceptable explanation when you look at the movie he made of his three children.

The 3-D image is on, or in, a foot-high cylinder of film that looks something like a clear plastic lampshade. Jeong sets it on a base containing a light bulb and flips a switch, the cylinder slowly revolves and we see Allan, Alec and Alicia Jeong acting out a variation on the hear-no-evil, see-no-evil, speak-no-evil theme. If they were in color, you'd start talking to them.

Jeong said this magic lantern show is made up of 1,080 holograms, each one a frame of the movie, which lasts less than half a minute.

Holograms are available in trinket form. Jeong handed over several pendants that are thin disks, two inches across, "containing" various objects. One shows a pyramid: tip it forward and you can see the structure's back wall. These gelatin-filled jewels sell for $15. "You can buy them in a dime store," Jeong noted. "That's how you can tell when a subject has arrived."

On a somewhat higher artistic plane are the three holograms Jeong was given by the Russians when he lectured in Leningrad last year. Contained in a velvet-lined case of wood and steel, the 14-inch-square plates represent solid gold treasures from the collection of Peter the Great. The originals lie in the Hermitage, and the professor said, "The only people in the world who see these outside of that museum will be seeing holograms."

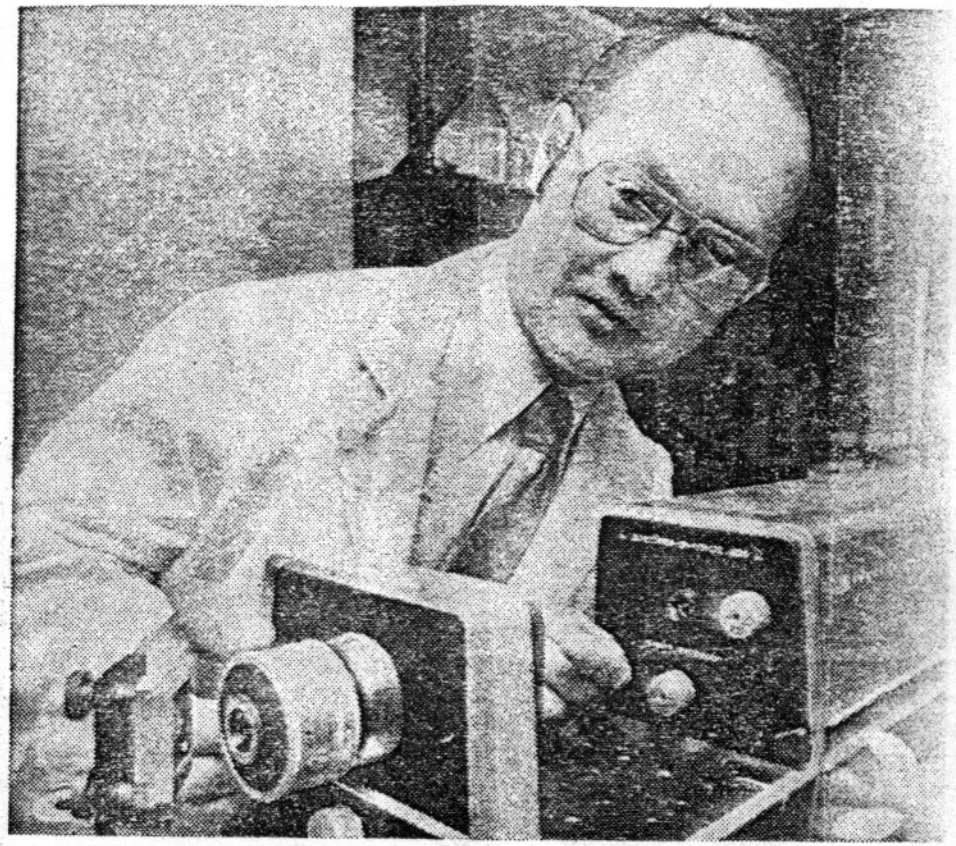
A fourth plate from the collection, depicting a gold lion's head, is on display at the recently opened Gallery 1134, at 1134 W. Washington, one of two holography museums in this country. Jeong said the lion's nose appears to stick 6 or 7 inches out from the frame, observing, "The Russians can do better depth."

He also displayed some older holograms with the comment, "I prefer the old-fashioned holograms to the newfangled ones." That's because if you break one of them into little pieces you can pick up one of the pieces and still see the whole picture in it.

Jeong demonstrated this by shining a thin laser beam through a point on a hologram and catching it on a plate that magnified the image. All of the image — a lunar lander — was visible, and as he moved the laser to different points on the hologram the craft changed perspective and moved up and down, forward and backward.

This quality of the earlier holograms had to be sacrificed in order to make the pictures visible under white, or ordinary, light. T older holograms could be seen only under ser light.

Holography's most important uses more prosaic, Jeong emphasized. It proved an invaluable testing tool — "We see weaknesses in structures that cannot seen any other way," he said.



IN HIS LABORATORY at Lake Forest College, Tung Jeong demonstrates the holographic camera he designed. (Sun-Times Photo by Jerry Tomaselli)