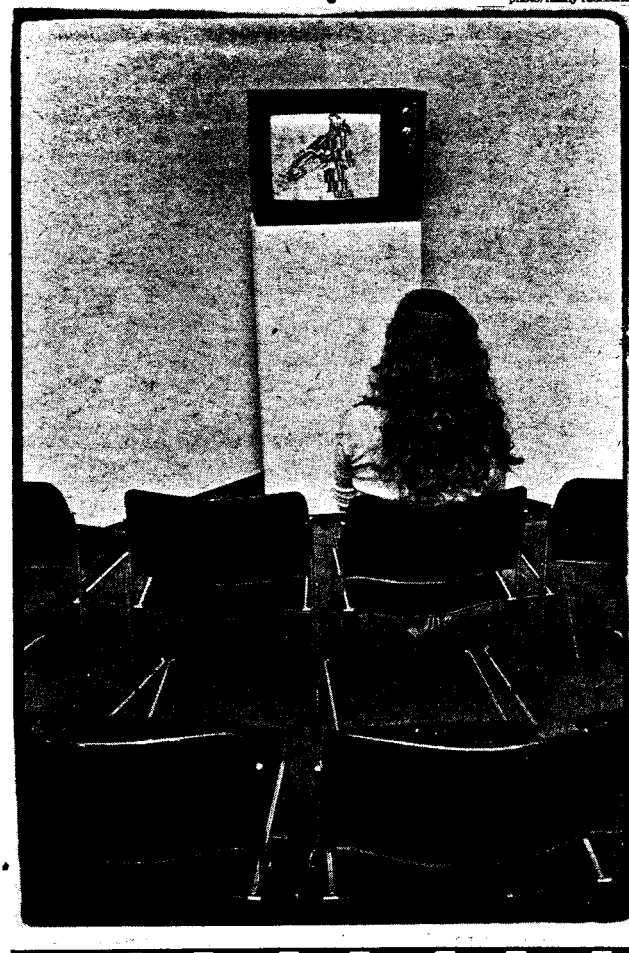
Art Facts: drawing with computers

photo/Kathy Richland



In an out-of-the-way gallery in the Museum of Contemporary Art, past the double-exposed photo collage, up the stairway with the noisy sound sculpture, around the corner past the videotape of twin sisters selling instant something to the sound of a new wave record, you will (if you get there before October 12) encounter a very pleasant machine.

"Machine" may not be quite the word; at the museum, it's known as "the video installation," or, occasionally, as "a specially configured micro-computer system for use by museum visitors." It was installed and configured by Copper Giloth and Tom DeFanti, and it looks at first glance rather like a home-brew Space Invaders machine, with TV screen, joystick, and push buttons.

"Symmetrical patterns," the screen flashes. "Push 'reset' to draw."

I watched over a woman's shoulder as she worked the gadget. (There was a lot of looking over shoulders in the gallery – a videotape of computerized animations ran unwatched in the corner, while at least two-thirds of the room's occupants leaned over the current operator.) She wobbled the joystick around and poked one of the buttons, and dozens of yellow rectangles appeared on the screen in haphazard strings and lines and blotches.

She frowned. Probably didn't like the drawing. Punched the other button to make it go away.

"Hold on," said the computer. "The computer is saving your drawing." The thought didn't appeal to her, and she got up and walked away. I sat down to try my hand at drawing.

Well, it didn't let me. Instead, the machine started printing **her** drawing, over and over, backwards and sideways and upside-down. "Choose one," it said. I chose one. "Do it six more times, five..."

I didn't like my predecessor's drawing any more than she did, but there was no turning back. I waggled that joystick and pushed the buttons, and suddenly the machine began printing the every-which-way drawings in a grid – in the symmetrical pattern promised way back in step one.

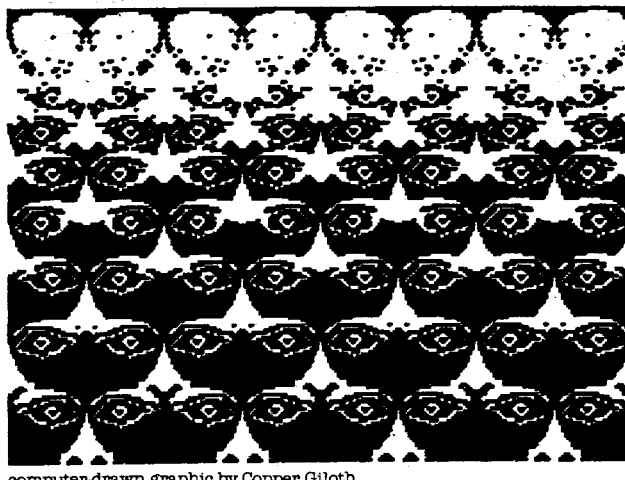
It was gorgeous, I thought, subtle and oriental-looking. I waggled the joystick again. It changed colors. Another waggle, more colors. This, I thought, is an extremely pleasant machine.

To find Copper Giloth, the young video and computer artist who programmed the pattern-making machine, you have to pick your way through a maze called the Science and Engineering Laboratory building at the University of Illinois Circle Campus. She inhabits unlikely turf for an artist, and were it not for the computer-printed drawings and patterns that hang over the rows of TVs, videotape recorders, and computer terminals (and a sign, "Electronic exhibits under art surveillance"), her digs could easily pass for just another outpost of scientific progress.

In fact, though, this is the headquarters of the university's Department of Electronic Visualization, an unusual graduate program that combines art with hard engineering and computer science, attracting students whose primary interests range from programming to animation and design. Giloth is the first graduate.

"I started out in sculpture," she said. "Then I came and did computer, and then went into the program. I see myself as someone using the computer as an art form."

Someone who uses the computer as an art form has plenty of options these days. Giloth, for example, has used graphics projects as a tool to teach programming; she's designed typefaces and graphic elements for computer systems; she's made her own computer-generated prints and animations; and she's helped stage live video events at such places as the Sears Tower lobby, where Circle students installed a bank of TV sets that displayed electronically manipulated images of the Calder sculpture.



computer-drawn graphic by Copper Giloth

Circle, it seems, is the place to be for a computer artist; it's the home of Zgrass, a computer language for creating visual images. Zgrass is a sort of second-generation language. The parent language, GRASS (for Graphics Symbiosis System), was developed to work with a $150,000 main-frame computer system – it was used to create the Death Star computer graphics in **Star Wars**. Zgrass is a simpler (though less powerful) system designed for a home computer. It's just available, for about $3,000, from Dave Nutting Associates in Arlington Heights, a Bally subsidiary. That's not cheap – but considering that the system will also balance your checkbook or whatever, it could be worse.

Copper Giloth demonstrated it. She typed "box" and a string of numbers on a terminal. A box appeared on her TV screen. "The first numbers are the X and Y coordinates of the center of the box," she explained. "The next two are the size. The last one is color." She typed in a color-change code and the number 78. The box turned shocking pink.

Another one-line command started a random series of ellipses appearing on the screen, one inside another. Another command froze the sequence. Still another "snapped" a rectangle from the frozen picture and reproduced it at random around the screen.

"Most computer languages are terrible for graphics," said Giloth. "This one is simple."

Then (sorry, you've got to watch these machines), she was off to check on a drawing that another machine was making for her elsewhere in the maze of labs, leaving me to watch one of her animations. Computer-drawn caricatures of old-fashioned nudes appeared and disappeared on the screen, overlapping, forming patterns that shifted and faded. Giloth's voice narrated: "I used to think that to be an artist you had to draw pictures of naked women."

Times change.

–Pat Clinton