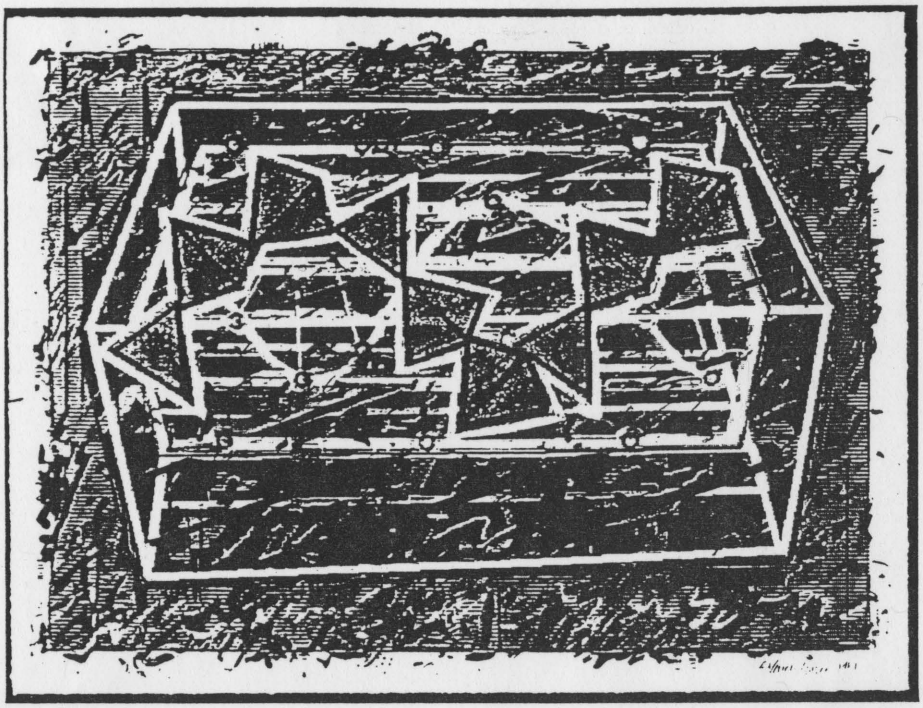
Combining Electronic Media with Printmaking

Excerpts from a paper by artist member ***Karen Guzak*** *to be delivered at The National Computer Graphics Association Conference, Chicago, April 22-28*



Karen Guzak
Jewel Box
lithograph

It is only in the last few years that a few adventurous artists, surrounded by the smell of linseed oil and the dirty smudges of charcoal, have overcome their resistance to electronic media and have taken on the computer as an artmaking tool. Artists have been resistant to new tools before--for example, the printing press and the camera--as *machines* not fit to the expresssive necessities of the human heart and human hand. There is still some belief out there that if it's made by a machine then "It ain't ART." However, there are some artists who welcome the vast varieties of line, shape, texture, space, value, and color available through computers. And, there are some of us who combine the ancient and honorable picture making traditions with the new and powerful electronic technologies. For me, the computer has facilitated integration of the old with the new and has allowed me to experiment, to explore, to play, and to speak my visual language in terms consistent with this time in history and with this place in the world.

In 1982 I had my first opportunity to draw on the computer. The underlying grid system made it seem very familiar, and I loved the hot electronic colors. It was a new toy with all kinds of surprises that I discovered as I bumbled around in this new medium. The problem to me was the difficulty in transforming the monitor image into something that I could use in the context of the studio, gallery and art museum. I didn't seriously pursue the computer as an artmaking tool until 1986 when the system I first drew on was generously loaned to me and a group of seven other Seattle artists for our unrestricted use as an artistic research tool. Our art patrons were Ellie Matthews and Carl Youngmann, developers of a graphic package and program they called IBIS. We used a FCG computer with 896 Kb of memory, a 640x480 CRT and a Tektronix 4695 color ink jet printer. We drew on a digitizing tablet with an electronic stylus and made menu choices from a map on the tablet including 256 colors. At the time, it was a sophisticated package, and we were thrilled at all the choices of color, line and shape available.

I welcomed the computer as a powerful drawing tool that enabled a rapid exploration of a number of possible solutions to a problem and worked dozens of themes with variations. In 1986 and 1987, I produced hundreds of drawings on the computer, energized by the environment of group experimentation and the "hard copy" opportunities of the ink jet printer. Also, I was extremely interested in the way the ink jet printer made color by overlaying various dot densities of the f our basic process colors of yellow, magenta, cyan, and black. Under magnification, the prints looked like beautiful little tapestries that seemed a cross between commercial color separation printing techniques and the pointillist color systems used by the French impressionist painters around the turn of the century. In the pointillist manner, a shimmering and visually active surface would be created; for example, a green would be created in the eye of the viewer by placing a dot of yellow oil paint next to a dot of blue. In modern commercial printing, very fine screens of dots are used to create four color (yellow, magenta, cyan and black) photographic separations that are printed in overlays to create a full color image. I wanted to capture the vitality of the ink jet color dots on a larger scale and in more permanent materials.

Limitations of Ink Jet Prints

Even though I was fascinated with the possibilities of the computer, I still saw two problems with my computer output: 1. the ink jet materials were not archival, both ink and paper would not last over time, and 2. the ink jet prints were small in scale, limited by the 12 inch wide paper and printer platen. Sometimes I would simply translate a computer drawing by manually redrawing it on paper or canvas. Or, I would project a slide and trace the image. With some experimentation, I discovered I could produce a variation on a color separation on the ink jet printer by changing all but one of the colors in a drawing to white, then printing a black image with varying dot densities. This small black and white print would then be a matrix to represent the position and amount of any designated color, such as the yellow, red, blue or black portions of the full color drawing. I had these 5"x6.5" black and white prints photographically enlarged to 22"x29" to serve as a printing matrix for a suite of twelve lithographs that combine traditional hand drawn methods with computer images. These lithographs, and a number of etchings that I have also made using a similar technique, solve the two problems that I was facing: 1. they are made with archival inks and 100% rag papers, and 2. they are big enough to have some real visual impact on a wall. An added bonus with this method is the lively, transparent colors and complex images that are created with the enlarged ink jet dot pattern, as hand drawn images are printed in multiple overlays with the photgraphic images.

Artistic and Technical Solutions Used in a Suite of Lithographs

In 1987, I selected twelve of my more aesthetically successful full color ink jet prints and worked on the black and white ink jets that comprised a modified color separation process in preparation for doing a suite of twelve lithographs. For each of the twelve, I made four or five black and white prints, each measuring approximately 5"x6.5". I often modified these little prints by using "white-out" or by drawing with black ink or crayon. Four of these prints were used for four of the twelve color plates for the lithograph called "Jewel Box". Each one of these was photographically enlarged to a 22"x29" format and exposed to a light sensitive aluminum lithographic plate that was chemically processed then printed in the colors I designated.

Printing the Lithographs

I contracted with Chuck Matson and Sheila Coppola at a fine art print studio in Seattle called INK ON PAPER. They have a great deal of experience printing for artists and their shop offers several press configurations, including lithography, letterpress, etching and woodblock. Since I had printed with them several times before, we devised a strategy to make this suite of twelve prints as efficiently as possible. I knew that I would probably need at least ten colors for each print to reach the kind of color complexity and textural density I like. We decided to make the best use of press time by using one color of ink that would be used, as much as possible, as a pass on each of the twelve prints. The printing process calls for a plate to be used for each color with the option to put ink on each plate in a graduated color. I mixed up a blue-green and a blue-violet; we put these graduated colors in the press then ran the blue pass on each print. We repeated this process with the other colors, as color was built up on the paper with multiple plate images and multiple passes through the press. The hand drawn plates were layered over photo plates until I was satisfied with the final print.

As it turned out, I made a total of 134 color lithographic plates for the suite of twelve prints. About one third were photo enlargements of modified ink jet prints. The other two thirds were drawn by hand with the assistance of an artist helpmate, Judy Gilbert. We used a master drawing to register and to trace the image onto the ball grained aluminum plates. I used traditional lithographic drawing and painting materials--tusche, crayon, asphaltum, gum arabic, spray lacquer, etc. Most of these hand drawn plates were completed during the printing sessions so that I could make changes as we went along and respond appropriately to areas of each print that needed more image. I was working to create a surface that was dense and chaotic with texture and detail and that sparkled with pointillist color. I was also interested in creating a different effect at a three foot and at a thirty foot viewing distance. At thirty feet, all the details blend together to create more dramatic forms of dark and light and warm and cool. The geometric shapes that provide the structure can be discerned more clearly.

Since 1987, I have experimented with a number of ways to translate my computer-assisted drawings to other methods to accommodate other scales and other materials. I have tried thermal prints, color photographs and the bubble jet. Most currently, I am working on enlarging my computer drawings on a color laser printer, mounting these laser print to canvas and painting on top. In spite of some of these intriguing possibilities, the lithographs from 1987 remain my favorites. The integration of traditional hand methods, photographic methods, printing processes and the use of the computer as a drawing tool is especially satisfying and complete. I have used my hands and eyes in concert with these wonderful machines to make my art--to explore microscopic and macroscopic worlds, to integrate accident and order, to combine the old with the new, and to link science and art.