ABOUT THE COVER

New Vision

Patricia A. Moore, Cranston/Csuri Productions

*New Vision* was created as a visual statement about computer graphics and design. It was designed and produced by Steve Martino of Cranston/Csuri Productions, Columbus, Ohio. Cranston/Csuri produces three-dimensional, computer-generated animation used by all major networks, television stations, major advertising agencies, and production houses worldwide.

In describing *New Vision*, Martino said he “wanted to take the image beyond the glitz provided by computer image rendering capabilities. After all, any special effect that a computer offers is ineffective without proper composition, creativity, and thought.”

**The elements**

Each element in the composition is representative of personal vision, design techniques, computer graphics programs and processes. Each design element also has its own meaning, while contributing to the whole image. All elements interact to project the message of a new technology and a new art form.

The glasses, an element used to represent vision, have been constructed with mirror surfaces, reflecting out at the viewer while...
Major elements in final position prior to adding glasses.

A tile field was chosen to add texture and to accentuate the strong play of angles. Additionally, manipulating true perspective, a technique evident here, propels the viewer into an optical illusionary world. The use of such altered perspective causes continual movement of the viewer's eye, an indication that the design certainly succeeds in holding attention.

The use of intense colors is indicative of current trends in art and design, while the combination of the typefaces represents contemporary and classic styles—two joining to offer variety, strength, and interest. The overall result is a successful combination of textures angles, colors, reflections, and elements both pleasing and provoking.

Martino has an interest in still art applications as well as animation. He feels the computer "is a powerful tool to create art that cannot be achieved through traditional means. It can take our vision beyond reality. But strong composition is still crucial. The basics of design logic are essential despite the capabilities of any new tool."

The hardware and software

To create New Vision, Martino used the extensive Cranston/Csuri software and hardware systems fully. Beginning with a Megatek 7210, outfitted with custom Cranston/Csuri software, he digitized all of the data for each element, using a photographic enlargement of his own eye, a photocopy of his sunglasses, and set type. To call the entered data together, the Cranston/Csuri "Twixt" program, developed by Julian Gomez, was used to assemble the image in wireframe on an Evans and Sutherland PS300, a real-time vector system. With Twixt a script was set up element by element on the PS300 to orient the objects correctly, one by one. Each was then translated, rotated, and scaled until the final location was achieved. All of the transformations were auto-
matically recorded to form the final script. Colors, as well as transmittance (transparency), shininess, and lighting effects, were then assigned. The resulting script was called up on the Cranston/Csuri Marc III frame buffer to check for further refinements. The image was then rendered on the frame buffer to final form.

Once an image is finalized, two procedures are necessary to save it: a routine procedure for saving the buffer image and another specifically for saving data for transferring to film. To produce the image on film, the data is transferred to a VAX 11/750, which controls the CELCO optical film recorder. A gamma table is provided to specify contrast, color, and balance, which are calculated to a specified film stock. The CELCO then transfers the image to film, one scan line at a time. According to Jeff Light, film technician, "The CELCO gives us film capabilities in all formats. Our custom-designed CELCO software programs make the entire picture-making process faster, saving time and saving space."

Magazine format

Further steps to complete the New Vision image included a high-resolution rendering procedure to provide a sharper image when enlarged. Ordinarily, Cranston/Csuri calculates at NTSC resolution for broadcasting. Because the image was to be enlarged for the CG&A cover, it was calculated at 2000 lines of resolution. In addition to the high-resolution process, the image was reworked to a vertical orientation to accommodate the magazine format and allow space for the masthead.

How a production house works

While each Cranston/Csuri animator has his or her own style, it is the available software that offers that singular quality that sets the work apart from other producers. Cranston/Csuri software programs are developed in anticipation of animation needs as well as on demand. By consulting with animators during a specific project or in the evaluation of the project after its completion, programs are reviewed and rated as useful,
Human cell shows texture mapping used for nucleus.

NBC Breeders Cup, using Cranston/ Csuri's metallic surfaces and texture-mapping programs.

Texture mapping for WCBS-TV, New York.


effective, inadequate, or too difficult. "In addition to developing new programs, our software teams continually refine existing programs," according to Scott Dyer, software specialist. "By offering greater ease in generating data, developing surface textures, lighting models, and dynamic motion, programmers lift the technical constraints from the highly creative animation process."

Cranston/ Csuri currently has several hundred software programs available. According to Wayne Carlson, director of production, "We have most recently been acknowledged in the industry for our use of realistic glass and crystal images, reflective metal surfaces, and special textures, adding significantly to the visual detail of the objects within a scene." Many of these effects were made possible by the software contributions of Shaun Ho, a member of Cranston/ Csuri's research and development staff. Cranston/ Csuri's motion programs, which go beyond the predictable techniques in computer graphics, have been developed by Tom Longtin, Bob Marshall, Mark Steeves, and other members of its software research team. Three-dimensional computer-generated animation is indeed a dynamic and new design tool. Learning to think in three dimensions is a true challenge and experience in itself. The animator must become totally familiar with that extra dimension and understand how an object or a person moves through space, always remaining aware of the infinite number of eyepoints to describe a scene. According to Steve Martino, "Remembering that the depth is there and diving into it will make the ultimate difference."