Terry Calen says he has no background in art or computer technology. After obtaining a Bachelor of Science degree in biology and chemistry, he took up photography and ended up working in the photographic lab industry. “In the mid-1980s I attended a local computer fair, where I saw my first 3D renderings,” he explained. “I purchased an Amiga computer and began learning the process. In 1990, the photo lab where I worked purchased a ‘high-end’ digital imaging system, and I became completely immersed in computer graphics.” Today, Calen’s work runs the computer graphics gamut, from project visualization to animation and interactive media.

“I don’t really view digital technology as providing better tools for artists, only different ones,” he said. “Certain tasks within a digital workflow become faster or easier but that doesn’t necessarily make the tools easy to use or the creative process automatic. In fact, there are many operations in my workflow where picking up a pencil and drawing would be much faster and easier. Working with computers has a lot in common with photography. The process can be rather circuitous, but there can be significant payoffs.”

**Texture mapping and generative creation**

The cover image, titled 0514, is one of several of Calen’s images highlighted by undulating, ribbon-like forms created by an atypical form of UV mapping (that is, a way of mapping u, v texture coordinates). “The UV coordinates of a 3D computer model are the y- and x-coordinates of the mesh conforming to its shape,” he explained. “When I apply textures using this system, they also conform to the mesh’s shape. In these images, I have projected the UV coordinates along the shapes’ length rather than to their broader surfaces. This has the effect of stretching the texture into continuous stripes along the model’s length. I create the texture itself using multiple layers of procedural shaders, basically two color noise functions with an alpha value (transparency) applied to one of the channels. In this way, many different noise functions can be combined to create a complex texture.”

Calen said there was no single source of inspiration for the cover image, but that the nature and form of organic life drives a lot of his work. He finds himself constantly returning to these twisting, turning, spiraling reflections. “While I wanted this image to suggest nature, I chose a color scheme that would contradict that suggestion,” he said. “I love a sense of contradiction and inconsistency that helps to create the subtle visual tension and mystery.”

In image 0506 (see Figure 1), Calen explored what he calls “generative creation,” where when building a 3D model, he crafts new geometry from existing geometry: “Using NURBS-based modeling, wires can be projected onto surfaces, which can then be divided into individual shapes, extruded, or transformed in other ways, and used to generate other shapes.” For this image, Calen used the polygons from the underlying surface to generate the tube-like shapes that hover above. “I also enjoy the evolutionary process of generative modeling,” he explained. “Process is very important to me. It is a critical part of a broader exploration that, in the
end, often produces the byproduct of an image. My real motivation is to explore the potential of imagination. The images serve as documentation along the way.”

Image 0516 (see Figure 2) is part of a series of block constructions made during 2005, but Calen said it draws on much earlier inspirations having to do with depth in nature. “During the course of my work, I remain conscious of several characteristics that seem to significantly enhance believability,” he said. “While I am not trying to represent real or recognizable objects, I would like my scenes to appear believable. I try to provide realistic visual cues that suggest a photographic quality. One of the most important of these cues is a sense of depth. 0516 focuses strongly on that end.”

The untitled evolution

Calen titles his images to reflect the year in which he created them, like 2003_01 (see Figure 3), for example. On his Web site, he arranges the images chronologically, an approach he began as a way to catalog a growing body of work from an evolutionary perspective. “The numbering system I use includes a reference to the year in which I made an image. I have never been comfortable naming my artwork. When I was a photographer, I did occasionally use names, but more often they were Untitled. When I began this work, I decided naming would be a disservice to viewers. It would provide a frame of reference that might limit how someone else would interpret the work. I want viewers to use their own imaginations and be able to explore for themselves.”

And the viewer can see this evolution if he or she just studies the images. “The evolution of my work has been subtle, but has passed through several periods of significant change, at least internally,” Calen said. “Every year or so I seem to experience some creative revelation that changes my perception and direction. These might not be realized by a casual viewer, but if you study the body of work, you will see definite points of change. Still, I think my style has remained fairly constant.”

And when it comes to getting digital art accepted as a viable form—something every artist working with computer-generated images must deal with—Calen says that the artist bears the responsibility for proving the art’s value. “I have shown this work in a variety of venues and the response has always been very positive,” he said, “I think digital art is seen as photography was a few years ago. Photographic art is more accepted now because photographic artists proved its value.”

When it comes to the future, Calen says that the nature of his work precludes too much planning but he definitely has some endeavors in mind that he wishes to undertake. “One of them is becoming more involved in promoting digital art, although I’m not yet sure what form that promotion will take,” he pondered. “I have also found new territory I’d like to explore; perhaps the largest evolutionary step yet in my work. I’ve been thinking about large installations, sculptures, animated scenes, and virtual environments.” He admits that “this is a relatively new concept for me but I think it will play an important role in the future of my artistic work and ethic. I believe in artwork as part of a living environment. Pictures, sculptures, artifacts of any kind, all provide ambience to our homes and public places. But even more importantly, having interesting and creative artwork in our environments can be a source of constant stimulation, inspiration, and even enlightenment.”

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