

# In a Virtual Sculpture Park, the Art Talks Back

By MILES UNGER

BOSTON

IT used to be that viewing works of art was an experience marked by a certain decorum. A hushed setting encouraged the serenity and detachment necessary to absorb truths revealed in works of timeless beauty. Whether or not you could rely on your fellow cultural pilgrims to behave in a civilized manner, one thing was certain: the art, at least, would mind its own business.

Imagine instead a world where artworks talk back, where they sense your presence and are, perhaps, not at all pleased to see you. Peace of mind disappears as once passive objects turn the tables, responding to you in unpredictable ways. This is no longer merely a theoretical notion; interactivity is the buzzword in art as well as in the electronic media. As increasing numbers of artists avail themselves of the latest computer technologies, artworks — like the latest toys — are becoming responsive, causing turbulence in the previously one-way flow of information. Sensors pick up our every gesture, provoking changes in the works themselves — sounds, movements or more disturbing effects. Embedded microchips allow participants to “play” sculptures like musical instruments.

Nowhere are these radical transformations more apparent than in the realm of virtual reality, a new frontier for artists who believe that the encounter between viewer and art object should be anything but passive. One of the most ambitious art projects involving this new technology is “Spirited Ruins,” an imaginary world created by HiPArT (High Performance Computing in the Arts), a team of computer-savvy artists and software developers from Boston University’s Scientific Computing and Visualization group who

**Don the goggles, grab the wand  
and enter a seemingly 3-D world  
where artworks mutter, dance  
and dissolve at your approach.**

have joined forces to explore the outer reaches of the virtual realm.

For the moment, to view “Spirited Ruins” one must go to the university’s Computer Graphics Laboratory, pick up a navigating wand and don a pair of 3-D goggles; one drawback of such advanced technology is that it won’t yet run on your home computer. Standing in front of an ImmersaDesk — the wide screen onto which a computer projects the interactive, three-dimensional scene — viewers (called pilots) can travel through an imaginary landscape where sculptures spring to life and the laws of physics are routinely violated. (Those wishing to take a test flight may make an appointment by calling 617-353-7800.)



Photographs courtesy of Boston University

In “Spirited Ruins” at Boston University, viewers can interact with Deborah and Richard Cornell’s “Linea Australis,” above

"Spirited Ruins" is not a unified work but a virtual sculpture park that reveals in equal part the handiwork of software engineers and artists. The pleasant, parklike setting was designed by Kathleen Curry, a graphics programmer at the computing and visualization group. The dozen or so works encompassed by "Spirited Ruins" are connected conceptually by an overarching narrative involving an ancient civilization that equated symmetry with vitality. But each piece offers a different view of the dance between artwork and spectator made possible in the virtual world. As we swoop and soar with the help of our wand across hills and hedges, one of the artworks we may run across is a nude male figure who resembles a bearded Tin Woodman. Instead of standing frozen for our inspection, this statue becomes agitated at our approach, muttering and gesticulating wildly. This is not your typically anonymous encounter in cyberspace but a disquieting confrontation that recalls the city street, where strangers may violate one another's space and physical contact is apt to make one cringe.

Jerry Hoyt, a kinetic sculptor who contributed this piece, called "What's Real," uses computer technology to counter the sterility and anonymity that can characterize human relationships in the age of the Internet. In

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this modern-day version of the Pygmalion myth, the statue-come-to-life is not the lovely and accommodating Galatea but an abrasive, paranoid character. "I wanted this piece to have a more bizarre, real-world feel," Mr. Hoyt explained, noting the erosion of personal boundaries in the digital age. "When you approach the figure he seems to be questioning your right to be there."

Not all the works that make up "Spirited Ruins" are as confrontational as Mr. Hoyt's, but each involves some kind of entanglement of object and viewer. As Glenn Bresnahan, director of the Scientific Computing and Visualization group and HiPart, said: "In the virtual environment you get to be in the three-dimensional space and can walk around the objects. There's the possibility that these objects won't behave the same way every time, that they'll exhibit different sorts of behavior depending on what other things are doing, what you're doing. As an artist, you're not just creating a fixed piece — you're creating the interactions that you want people to have with your work."

Laura Giannitrapani makes this point whimsically. As our movements through virtual space take us near her sculpture, a stained glass window in the style of Frank Lloyd Wright set in a rusticated stone arch, dancing couples assembled from geometric panes of colored glass strut out in front of us and perform to a pulsing tango beat. Tom Coffin's abstract colored forms fly apart and reform as we pass by, while a close encounter with Carlton Newton's stone monolith causes a wooden dowel to clatter noisily down a serpentine

groove.

Because virtual reality encompasses both the space we inhabit and the objects within that space, artists can conjure almost limitless expanses and enormous shifts in scale impossible in a world of matter. The most completely elaborated environment in "Spirited Ruins" is "Linea Australis," a collaborative piece by the visual artist Deborah Cornell and her husband, the composer Richard Cornell. Entering this world through a cavelike opening in a verdant hillside, we find ourselves floating above a night-dark landscape that seems to stretch out for miles, its surface ribbed by undulating lines like the

ocean floor. Stylized figures and boatlike shapes, derived from aboriginal cave paintings, float in the far distance. The space is alive with natural sounds that ebb and flow in response to our movements. "Here," Mr. Cornell said, "the sequence of sounds and images depends on the trajectory taken through space, and that depends on the viewer."

"Linea Australis" was born when Mr. Cornell was asked to help develop the sound environment of "Spirited Ruins" and scanned a slide of one of his wife's relief paintings for inspiration. "The slide was just sitting there in space," Mr. Cornell recalled. "We had to make it a lot more three-dimensional." For Ms. Cornell, the virtual world opened untapped potentials within her own work. "I've always been interested in creating a field, a space for things to happen," she said. "So when I saw what the technology could do, I was hooked."

Ms. Cornell points out that despite the increasing role of the viewer in completing the loop of meaning, working in virtual reality does not mean that the artist must abdicate all responsibility in determining how the art is experienced. "I love it when people use the technology in new ways, but I'm not of the opinion that

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the artist should give up all control," she said. Laughing, she continued: "I've been accused of being a control freak. I don't know if that's true. I think of it as being a responsibility freak."

The notion of creating a field where things can happen has implications far beyond the realm of the fine arts. In the computer gaming world this open field becomes the setting for realistic action, a battleground for far-flung contestants. Virtual space may soon provide the setting for new communities of interest. For the moment, the equipment on which "Spirited Ruins" runs remains too specialized and Internet connections remain too slow to exploit the full interactive potential of the medium. But, as Mr. Bresnahan said, the hope is ultimately to make such richly textured virtual spaces available to anyone with a personal computer. One can imagine a not-too-distant time when, in visible bodies — represented by animated icons known as avatars — we will mingle in virtual spaces like this and engage in conversations or perhaps more intimate forms of contact.

For scientists, the virtual realm is a powerful experimental tool. In fact, the hardware and software used to create "Spirited Ruins" is used mostly by scientists who wish to model their experiments in a three-dimensional, interactive environment. The power of the technology was demonstrated by Zhiping Weng, an assistant professor of biomedical engineering at Boston University,

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**For the scientist,  
virtual reality is a  
way to gain control;  
for the artist, it's a  
way to share it.**

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shapes of organic molecules. On the ImmersaDesk screen, the docking of a viral peptide and cell receptor looks strangely beautiful, like a cumulus cloud devouring a gummy worm. Navigating around the forms with her wand, Ms. Weng can manipulate the microscopic elements like pieces of a three-dimensional puzzle. Because virtual reality allows scientists to explore complex systems as if they were objects in the real world, Ms. Weng explained, it can unleash the mind's intuitive problem-solving capacity to discover solutions that lie hidden in experimental data.

For the scientist, the virtual world permits a greater degree of control as complex three-dimensional models can be probed and manipulated in real time. For the artist the reverse is true. Permitting the viewer a greater role and responsibility in how the work is experienced inevitably entails a certain loss of control, but this loss is offset by the more varied palette from which the artist may draw. Works of art no longer simply appear — they act. They acquire lives of their own. Like unruly children, they are both seen and heard. And for the artist,