

ECHNE AND EROS: HUMAN SPACE AND THE MACHINE

In one of the workshops that I sat in on at the summer Media Institute, participants came from all over the United States and Brazil. With a variety of personal motivations packed into their traveling bags, these individuals came to study the nuts, bolts, and computer codes surrounding the creation of interactive spaces incorporating electronically manipulated images, sound, and movement. They came for the hardware, the software, and to be in the presence of the legendary interactive-media artists, Steina and Woody Vasulka; internationally known sound composers Mort Subotnick and David Dunn (he is also the director of the Media Institute); the diva of expanded-format vocalizations, Joan La Barbara; and Santa Fe Institute physicist Jim Crutchfield. Known in the interfacing circles of art and science as a threshold figure, Crutchfield is capable of braiding together ideas from complexity and

were all privileged to navigate through the crawl spaces of one huge brain.

Vasulka's desire for a new epistemic space, where theories of knowledge are set forth and debated, has an almost medieval ring to it. One thinks of the origins of the university system in the Middle Ages when individuals came together to rediscover the art of discourse and create "schools of thought." It's worth noting that the origin of the word school comes from the Greek word for leisure, and that which takes place in leisure time. During the first millennium, what transpired were philosophical debates based on a methodology of reason and logic. In Vasulka's vision, the discourse would be on the nature and future of electronic media.

Perhaps Vasulka doesn't have anything as programmatic as an actual school in mind so much as the creation of highly interactive spaces—shared

*And the Craft that createth a semblance,
To the symbolic tiger I have opposed
The real thing, with its warm blood,
That decimates the tribe of buffaloes
And today, the third of August '59,
Stretches on the grass a deliberate
Shadow, but already the fact of naming it
And conjecturing its circumstance
Makes it a figment of art and no creature
Living among those that walk the earth.*

—Jorge Luis Borges, *The Other Tiger*—



Real-time video manipulation from Tom Demeyer's software program "Imagine" featured in some of the Santa Fe Media Institute's Summer Workshops, 1999

chaos theory with those of the electronic avant-garde. Rounding out this group was Bruce Hamilton, the computer guru who had his fingers in every artist's virtual pie.

It was clear in Woody Vasulka's opening statements that the unfolding of information from mentor to participant would not only have its own internal logic of causes and effects, but that this unfolding would also serve as a model for a "new epistemic space" — a space of conceptual interdependencies, shared technologies, individual expertise, and collective passions knitting all of the artists and their machines into a resonant, coherent whole. This quasi-biological model was not always easy to perceive, however, due to the considerable array of hardware. It was, at times, like not being able to see the forest for the equipment: computers everywhere, patch boards, keyboards, projectors and screens, shelves of glistening gizmos, and cables running every which way that, in the end, would serve the monumental task of coordinating all systems into a mutable, and essentially organic, network. It was as if we

environments where viewer/participant/technician/theorist/artist/scientist can become interchangeable entities in a coordinated network of events that generate complex experiences and feedback loops. Plugging back into this specific series of workshops, one can envision their organization as a partial mirror of the co-evolution of human space and the machine. Yet for all the hardware and software involved, the effects created retained a lively, often unpredictably magical buzz. A case in point is the video software "Imagine" created for Steina Vasulka by Tom Demeyer, a colleague of hers from Amsterdam. What is unique about this program is that it is based in the real-time manipulation of information. Although, technically speaking, there is actually a short delay between input and manipulated output, essentially a person can "displace" video events as they occur and create astounding levels of foreground and background effects. "Imagine" can be understood as a program that interacts with a visual and/or aural point in real-time and lets you alter its description.

There are philosophical questions aplenty embedded within all the mentors' quests for maximum electroacoustical/human interactivity. It is as if they are, each in his or her own way, engaged in describing pieces of a great metaphysical puzzle: What is the nature of a deep ecology of the mind? How does it correspond to the mind of nature? Is there even such an entity? What universal patterns are generated by deeper orders of reality? How, or why, are mathematics and music part of a universal language within nature? And are we entering a more integrated phase in the employment of technology to usher us toward a more profound understanding of all these questions and their possible answers?

Subotnick expressed a vision where everyone would connect with everything else through their nervous systems. The composer views this mechanical sensorial enhancement as a tool of incredible empowerment

range of behaviors exhibited by the same basic circuit." This is a circuit that Dunn "perturbs" with the computer in large and small ways. What results is multidimensional complexity—a synthesis of theory, mathematics, and Dunn's intuitions about the role of music as a universal, interspecies language.

This series of extraordinary workshops can also be viewed as a model for the evolution of the Media Institute itself: self-organizing and self-nurturing, an open system of information exchange, dependent on feedback, and capable of generating patterns of complexity that are self-referential and directed toward the general flow of life. This system is open to mutations, unpredictable growth and change, and has infinite potential. Woody Vasulka admitted at the end of a discussion concerning the history of digital media, "What I like to envision is that these machines become a source for poetry—for a way to arrive at knowledge of the soul." Imagine that....

Technology — It's just a bigger paintbrush ...

—Bruce Hamilton, Systems Manager for the Summer Media Institute, third of August '99



Real-time video manipulation from Tom Demeyer's software program "Imagine" - 1999

leading to a kind of ideal Platonic point that is "beyond space and time." Perhaps this is indicative of the same path but a different trajectory on the part of Dunn, whose passion is to understand nature as computation and how this model of nature is a mirror for the evidence of mind within it. Dunn asserts that patterns discerned in nature and made visible, for example, through nonlinear feedback systems, are perhaps evidence of this mind. His latest electroacoustic work explores the application of chaos theory to musical composition, creating, as he said, "an infinite terrain of chaotic attractors...., a

To the symbolic tiger I would oppose another symbolic, simulated tiger, and another, and another, and another—mirrored, refracted, displaced, layered, looped back on themselves, chaotic or predictably cyclic, digitized and manipulated by "machines of loving grace," and then allowed to roam free in the algorithmically intimate immensity that is your mind.

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