Aesthetics & Tools in the Virtual Environment

Chair
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Panelists
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Janine Cirincione, Cirincione + Ferraro
Perry Hoberman, Telepresence Research
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We hear the talk of endless technological revolutions. We are surrounded by high-tech gadgetry that does our bidding. Yet what does all of this magnificent machinery really offer us? Does progress in fact exist? And if so, what is it actually worth without substantial content?

This discussion panel is addressing the current state of aesthetics in the virtual environment by focusing on the roles that tools have played in artistic communities of the past and how virtual technologies will undoubtedly affect their future.

The beginning of history shows human beings using naturally-made pigments to draw images on cave walls, allowing them to represent their experiences to others. Through tomorrow's technology, we may find ourselves projecting our very thoughts into the space around us in order to do exactly the same. The purpose of the aesthetic action has and always will be to visualize ideas and to explore our environments using whatever devices are available.

Today we have increasingly powerful instruments, such as personal computer workstations, stereoscopic video displays and interactive software, to present artificially fabricated environments, popularly known as Virtual Reality. The technological elements are in place and we have begun our investigation into the latest and greatest form of artistic communication.

Virtual Reality promises artists the most exciting breakthrough for the creative process since the invention of motion pictures. Now at the dawn of an era of virtual arts, the first generations of tools wait patiently to tell us something that we don't already know.

But what message do they bring? Is there any passion here? High-end technology is not an end in itself. It merely represents the latest in a long list of tools that can be used for human expression. We have not come this far just to do cool computer tricks or sell vacant office space. There has been an unfortunate lack of artistic activity in cyberspace. We must focus on this cultural deficit and breathe life into the cold silicon void that we have created.

By considering the tools of Virtual Reality in a historical context of art and technology as they relate to the fabrication of simulated experience, this panel of active artists intends to provoke constructive thought amongst the virtual arts community, promote active exploration of experience as an art form and unlock doors to possible roads for our artistic travels throughout this age of cybernetics.

Patrice Caire

The type of work I am pursuing can be explained by example with a description of project called Cyberhead that I designed and managed. Caire's Cyberhead, a Virtual Reality installation, is a fully immersed interactive fly through a head reconstructed from Magnetic Resonance Imaging (MRI) data. This Virtual Reality journey runs on a Silicon Graphics Onyx Reality Engine2 in real time with texture maps using a Fakespace BOOM 2C as high-resolution stereoscopic viewing and navigating device. To build the world the Sense8 WorldToolKit software was used. 3D sound is generated in real-time by two Beachtrons from Crystal River.

Cyberhead was developed in the Virtual Reality Laboratory and the Artificial Intelligence Center of SRI International in collaboration with the Lucas MRS Center at Stanford University. Additional 3-D CAD models and animation were created at Colossal Pictures; Spectrum HoloByte; and by Cyberware. My principal collaborators included Harlyn Baker, Nat Bletter, Aron Bonar, Tamar Cohen, Gina Faber, Mark Ferneau, Paul Hemler, Lee Iverson, Andy Kopra, Lance Norskog, Tom Piantanida, Marc Scaparro, Pierre Vasseur.

My primary goals with Cyberhead were to create a rich, detailed virtual environment with convincing, high quality, real time, reality-based (MRI) visual images that were properly lit, smoothed, shaded, textured, and anti-aliased. Directional sound was an equally important part of this world and experience. The human interface was designed to be simple, non-intrusive, and suitable for use by the general public. In relation to the audience, the goal was to create an entertaining experience that would make users think about such issues as how we interpret and associate the information we receive from our environment.

My motivation in doing this work was to explore new presentation paradigms made possible by this technology. This work also had to address the problem of how to represent data which is not easy to represent; how to be immersed in, interact with, and navigate through, this kind of data; and finally make the process esthetically engaging and educational.

Janine Cirincione

From the Futurists to the Bauhaus, artists of the 20th C. have embraced new ideas and new technologies in an attempt to reach beyond mere aesthetic aims, and to help create the future. For one reason or another these movements have been superseded by other, more promising visions of the future. How do we keep interactivity from turning into yesterday's news as opposed to the important, rich, aesthetic medium it can be?

One way of doing this is to incorporate a healthy level of self-awareness and criticality into the artistic process. What can the medium do? By what standards should the new medium be judged? Is the work's essential meaning best expressed in this medium? Does the work fully exploit the medium's potential? My collaborative work in virtual reality addresses these and other questions.

The Imperial Message, designed in collaboration with Michael Ferraro and Brian D'Amato was created as part of the

1993-94 Artist-in-Residency Award at The Wexner Center for the Arts, at the Ohio State University in Columbus, Ohio. The work is a prototype for an interactive virtual-reality game—a new medium somewhere between architecture, film and game. The piece is loosely based on the Kafka parable of the same name which deals with the vast distance between the Emperor and the Individual. The Imperial Message attempts to extend this sense of scale to present inherent conflicts between the individual and the state and between the unspoken, secret "Law" and its corrupted representation.

Kafka's probing vision of bureaucracy, communications, authoritarian, legal and social structures in the formative stages of Imperial China relate directly to issues that we face today as we examine the "Utopia" of cyberspace.

Perry Hoberman

We live in an age in which technological paradigms shift about every half year. Almost every month seems to offer radically new media. Overnight, new standards are created and, suddenly, what was once exotic becomes merely commonplace (if it isn't totally forgotten).

This brings up many profound questions for working artists. Is this relentless change a permanent state of affairs, or are we witnessing the infancy of some new constellation of interactive media, one that will eventually (like the cinema) coalesce into something more lasting? Until then, how can we (and should we) keep up? Do we spend all our time learning to operate new hardware and software? How can we keep any critical distance at all when we are so close to our tools? And what happens to our work when the currently state-of-the-art hardware and software that it depends on have become obsolete? (Perhaps obsolescence itself has become a key category, one that needs to have its pejorative connotations reconsidered.)

For most of the recent history of technology, interactions between people and machines have been overwhelmingly monogamous - one user, one interface. Even the fantasy of total interconnectedness that drives the current mushrooming of the global network posits each and every user at home or work with their own terminal; and networked virtual reality is usually understood as requiring a head-mounted viewer for each participant. What implications does this have for the public display of artworks? And what happens when this one-to-one correspondence between person and machine is disrupted? Are there more robust models for interactive art, arrangements that allow for a simultaneous, fully realized experience for an unspecified number of people?

The twin dreams of immersion and interactivity have been with us for some time, but we have recently seen their possibilities vastly enriched with the advent of ever more powerful computer hardware and software. Concepts and ideas that could previously be only described can now be fully visualized and inhabited. What new kinds of artworks (if any) are made possible by these unprecedented capabilities? Will artists be put in the position of merely supplying content for this emerging medium? Or will they play an active role in actually defining the medium itself?

Michael Scroggins

VR technology offers many possibilities for transforming the practice of art; however, I would like to concentrate here on addressing a potential of great personal interest. The ability to shape temporal experience through the manipulation of a set of simultaneous and successive acoustic events is a power which sound producing instruments have afforded the aural composer/performer since pre-history. The development during the last decade of videographic devices capable of instantaneous generation and manipulation of absolute (or abstract) images has given the visual artist a similar power. In this decade, the rapid advancements being made in real-time computer graphics technology promise even more powerful visual instruments. My work in videographic animation extends a cinematic tradition which began in the twenties with visionary artists such as Oskar Fischinger, Viking Eggeling, and Walter Ruttmann. Like those pioneers of absolute cinema, I have aspired to the creation of a visual experience of purely formal means which —like absolute music— achieves affect through the architectonic structuring of basic elements. Aside from obvious disparities in how the organs of seeing and hearing are mapped onto the brain (and thus consciousness), absolute animation has differed from musical experience because of the isolating boundary of the frame. VR technology offers a means to dissolve that boundary. For the first time in history we may become as totally immersed in the field of visible radiation constituting synthetic image as in the ocean of air pressure constituting musical sound. Immersive VR will prove to be a great advance in the age-old search for an engaging art of pure movement.