Art in Digital Times: From Technology to Instrument

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ABSTRACT
The author’s approach to selecting digital art encompasses four major themes. The first relates to reprocessing information and the use of sampling as a means of representing the culturescape we inhabit. The second involves the emergence of interactive environments and installations. New forms of storytelling frame the third view and the final theme relates to bridging the categorical gaps, as demonstrated in computer generated multimedia work.

The tenth anniversary of the New York Digital Salon offers an opportunity to assess the extraordinary shift that has occurred in art and, more generally, in the cultural production of this past decade. Ten years ago artists using digital technology were few; they somehow belonged to a marginalized minority, as they produced work that seemed more driven by technology. Indeed, they had to conceive and build their own solutions, engaged with engineering as much as they were with their own ideas. Those artists were more likely to be affiliated with universities or research centers, while others had chosen to work in the corporate sphere. Technology was scarce, expensive, and still very contained, and technical expertise was hard to access.

Today, however, digital technology has permeated the entire culture, is mass produced, and is consequently becoming readily accessible to everyone, including artists. Equipment is improving, not only in terms of its versatility, but also with its ease of use. Work from recent years reveals the extraordinary new spectrum of possibilities brought by this new device: The personal computer originates a vast array of art forms being presented today. In the late 1960s, the advent of the Sony Portapak™ gave way to a whole range of experimentation with the moving image in the arts. Similarly, the release of powerful and true multi-media personal computers in the mid-1990s has had a profound effect on the way artists incorporate digital technology in the creative process. Furthermore, akin to the effect brought by the Portapak, the Apple Powerbook G3 has fostered a whole new range of experiments, more specifically in the field of sound and performance visuals. The digital sphere is no longer limited to a few technophiles. Rather, its ubiquity gradually makes it possible for an enlarged audience to relate to these new forms without necessarily thinking of them as marginal or geekish.

The multiplicity of software combination on the same platform gives way to reformatting, collage, etc., which furthers the convergence of disciplines and methods: The common tool has fostered this intersection of know-how, a more fluid exchange between specific expertise. What was once a set of delineated artistic practices is now an open field of experimentation, where the context and venues inform artistic production no less than the disciplines they originate from. One example that comes to mind is Christian Marclay’s Video Quartet. Using an off-the-shelf prosumer software/hardware solution, the artist has created a remarkable image and sound composition, which borrows equally from traditional visual culture (collage) and deejay remix strategies. The use of similar hardware and comparable software solutions lets the likes of Ryogi Ikeda stage extraordinary audio-visual performances. Participatory screen-based non-linear narratives by such artists as Auriea Harvey and Michaël Samyn (Entropy8Zuper!) are also produced with the same type of gear.

The ubiquity of technology has also affected its place in our Western, post-industrial culture: From subject, it has become object. No longer a wonder, its sole use cannot legitimize an art project. Rather, as digital tools become as readily accessible as the pencil or clay, mastery tends to be about pushing technology to the back of the stage, where it really belongs. With computing, the notion of representation is further established in the realm of filtering, editing, and reconstructing, so as to create new meaning. The digital, in that sense, has established itself in the natural continuum of art history and in the ongoing relationship of art with technology, from the tube of paint to the camera—from the moving image to multimedia.

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Reprocessing Information: Sampling as a Means of Representing the Culture-Scape We Inhabit

Beginning with collage in the early 20th century, the notion of reprocessing information as a form of representation has gained even more significance. Western cultures continue to produce more visual information. As the flow intensifies, artists of all backgrounds have engaged with the notion of reprocessing cultural fragments, thus creating a new context for the comprehension of information, and furthering a reflection on the notion of representation.

Anthony Discenza, Little Apocrypha (Distant Shoreline), 2002

My video work arises from my interest in our relationship to images, specifically, the ceaseless barrage of mediated images which permeate our environment to such a degree that we no longer attend to their effect upon us. The highly constructed nature of these images, as well as the violence implicit in not merely their content, but their speed, constant repetition, and staggering volume, are all issues of morbid concern for me. These issues are particularly relevant given that we receive most of our information about real events through dense, elaborately manipulated visual sequences which are formally and structurally indistinguishable from mass entertainment. As a result, we find ourselves increasingly lost in a dreamlike space in which the complexity of real-life events and situations becomes subordinated to the narrative logic of the Spectacle. My work represents my attempt to collapse this notion of the mediated spectacle in upon itself, to suspend it in a moment of simultaneous destruction and reification. Through this, I'm trying to problematize the very act of viewing, to break down the hierarchies of content within mediated imagery, while still retaining the seductive (and disturbing) pleasures with which it lures us.

-Anthony Discenza

Anthony Discenza reprocesses hours of television-watching, reducing it to a mesmerizing abstraction which results from the compression of the signal. The sound has been processed in the same fashion as the visuals, resulting in a nondescript white noise. This ever-evolving mosaic of images, enhanced by the mechanical quality of the “soundtrack,” evokes the notion of a common matrix to all images. Little Apocrypha is a double projection of the same footage that superimposes a mediated layer to the architectural environment where it is presented, as if to materialize the increasing blurriness between real and mediated spaces. This “immersive” lush abstraction further reflects the seductive and mesmerizing quality of the mediated reality offered by television. Discenza, for instance, explains how the world of the famous series Star Trek is not necessarily any different from politics: The President of the United States and Captain Kirk co-exist in a world of channel surfing, seen through the looking-glass of television.

Alex Galloway and RSG, Carnivore, 2001

Alex Galloway’s Carnivore is an ongoing collaborative networked art project in two parts based on the artist’s exploration of recreating the functionality of the eponymous software developed by US intelligence to monitor Internet activity worldwide. The first part is Carnivore Server, an application which performs packet-sniffing on a specific local area network and serves the resulting data stream via the Net. The second part consists of an unlimited number of client applications which tap into this data stream and interpret it in creative ways: Galloway has engaged in multiple collaborations in order to create this set of interfaces which propose different interpretations of the data gathered in a given system. The project demonstrates how difficult and arbitrary the fielding and representation of information can be, thus making a derisive comment on the official endeavor to monitor information exchanges.

Interactive Environments and/or Installations

Addressing the blurring boundaries between the various layers of “reality”–virtual, augmented, etc.–a number of artists explore manners in which to render the level of artificiality of cultural constructs, and their assimilation in a global environment. Increasingly, nature is a cultural convention, as the amount of uncharted territory is reduced to almost nothing. Simultaneously, with the increase and sophistication of real-time telecommunication, and the resulting importance of the mediated space in our daily routine, our experience of space and time is permanently altered.

Lynn Hershman, Synthia, 2000

Synthia is an artwork that communicates in real time the changing patterns of the stock market, bringing live online Internet information into the real space of the Schwab lobby and facade. Synthia reacts in real time to changing stock data. Her behavior reflects changes in the market.

Sponge and FoAM, T2Garden, 1999-present

Sponge was formed in San Francisco in 1997 by Chris Salter, Sha Xin Wei, and Laura Farabough. It is an association of artists and researchers who produce public events which blend performance, lecture, participatory environments, etc. Current project/research interests include topological media, design of hybrid responsive environments, arenas of game/play, micro-performance, dynamical system media architectures, and authoring and experimental phenomenology.

T2Garden is the third room in a proposed performance/social investigation by Sponge called M3, produced in collaboration with FoAM, a Belgian art collaborative. It is a responsive environment where visitors can put on sound and dance with images in a tangible way to construct musical and visual worlds “on the fly.” The play space dissolves the lines between performer and spectator by creating a social, computational, and media architecture which allows the visitor-players to shape patterns in a dynamic environment. As visitors enter the performance space, they find an array of sumptuous clothing from which they can choose to don. The clothing has specific exaggerated physical qualities of weight, size, and material. This clothing is embedded with
wearable sensing, computing, and signal processing devices as well as small audio speakers. Individually, the visitors enter into several individual vestibules–rehearsal studios where they can play with streams of sounds and compositional effects that are broadcast by wireless audio devices throughout the room. There the visitors can explore the aural and physical properties of their garment-instrument, and gradually learn how to modulate and change the sounds they are receiving. After practicing, the players then enter a circular room, thick with sound and image. The curved walls and floor are covered with transforming, polymorphous video and computer-generated textures: archaeologies of bodies, aquatic organic forms, elemental and microscopic liquid, and solid state changes. These phantasmagoric textures appear to breathe and dance according to the sound patterns in the room. In this garden, as the visitors pass near each other, their clothes will appear to howl and squeal–patterns of sound and image “bleeding” from one body to another. As the visitors move about, their locations and groupings will strengthen and lighten the density of the visual environment while varying the melodic and rhythmic aspects of the sound space. Memory, population density, and bodily proximity affect the dynamics of the room, causing growth, decay, infection, and contamination in the visual environment. Embedded performers also inhabit the room and will affect the basic sound structures of the environment, providing the cantus firmus in a dense and changing polyphony of rhythms and melodies generated by the visitors’ gestures and motions. The room’s media is stirred not by explicit speech and command, but by the half-noticed gestures and the flows of fabric and resonating air that halo the people’s conscious activity.

–Sponge’s artistic statement

New Forms of Storytelling

Non-linear participatory narrative structures have blossomed with the readiness of digital technology, fostered also by the existence of hypertext literature. Working primarily in the sphere of hypermedia, artists compose narrative threads which are in turn activated by the viewer. Blending computer animation, film footage, text, and sound, they also create new forms that borrow from a variety of existing ones, such as music videos, experimental cinema, advertising, and classic film.


Auria Harvey and Michæl Samyn created Entropy8Zuper! in the late 1990s, when they started collaborating. The main is the conflation of their two personal projects, Entropy8 and Zuper!, a sarcastic comment on the merger economy that tends to create improbable confluences. Together, Harvey and Samyn have created a distinctive blend of images, music, and text, stitched together in meandering story lines that combine dramatic sights with cryptic plot twists.

Maybe we mistook cyberspace for heaven.

–Entropy8Zuper!’s artistic statement about *The Godlove Museum*

One of the key works of the collaborative is *The Godlove Museum*, a four-part digital epic (Genesis, Exodus, Leviticus, and Numbers), which takes its cue from the chapters of the Bible, yet another dominating archetype of Western culture. *Genesis* was the first project of the Entropy8Zuper! “joint venture.” The multilayered narrative structure is born out of a skillful collage of references and symbols. There is a clear debt to cinema in the wide-screen format of their work and in the use of soundtracks to key emotional response. One also clearly identifies a reference to the world of computer games in terms of interface design and user participation, both of which are carried out with an overt derisive quality.


Created by two Bay Area experimental filmmakers, *Wave Twisters: The Movie* (WTM) takes as its starting point a CD of the same name by turntablist DJ QBert, a member of the Bay Area-based deejay crew the Invisible Skratch Piklz. Each track of QBert’s original album was designed to provide the audio framework for another chapter in this sci-fi/kung fu epic; every aspect of the story, music, sound effects, and dialogue has been accounted for and seamlessly integrated into QBert’s original musical compositions. WTM defines a unique visual style analogous to the supercharged cutting and scratching of a turntable deejay. Sampling from a wide variety of techniques (from traditional cell animation to 3D live-action to photo-collage), the feature length animation catapults the bar on the correspondence between sound and image, taking the *Fantasia* concept to the next, dizzying level.

**Bridging The Gaps: Computer Generated Multimedia Work, Performance, and Exhibition**

A growing number of artists and collective have emerged who operate within the confines of exhibition and performance: The same work can be reactivated in different places as a time-based experience usually staged as an event. The importance of the sound component is balanced by a strong visual element, which is at times activated by the artist while onstage. The computer is a real-time generator of multimedia algorithms that constitute the core of the work’s experience.


Ryoji Ikeda began his activity as a sound artist and deejay in 1990. In 1994 he began to work as the composer for the multimedia art group Dumb Type. Since 1995 he has been intensely active in sound art through concerts, sound installations, and recordings. With the release of his second solo album +/− in 1996, Ryoji Ikeda delivered a key to a new primitive world of electronic music through employing sine waves, click sounds, and white noise. Reflecting a sharp and highly clarified sense of beauty, these minute yet dynamic sound constructions have established the artist as one of the key figures of “glitch/electronica” or “technoise” forms of post-techno music.

For the past couple of years, Ryoji Ikeda has integrated visual elements in his perf-
mance work, first as part of his contribution to Dumb Type, and then extending this practice to his solo work. In 2000 he created Matrix, a sound installation for the Millennium Dome in London, a new iteration that was presented later at the InterCommunication Center in Tokyo. Matrix was presented in the same year at the Hayward Gallery in London as Ikeda's contribution to Sonic Boom: The Art of Sound. Formula, a 2001 audiovisual performance piece, was awarded the Ars Electronica Golden Nica (Grand Prix) in the Digital Music section.

Atau Tanaka and Kasper Toeplitz, Global String, 1998-present
In his practice as a musician, Atau Tanaka has been using the network as an instrument, in performances and performed installations. Proceeding with this investigation he has developed the Global String in collaboration with Kasper Toeplitz. This project was awarded an honorary mention at Prix Ars Electronica in 2002. Global String is a multi-site network music installation connected via the Internet. Its monochord structure evokes the most ancient musical instrument. Yet its resonating body is the network, mediated by way of a real-time sound synthesis server. The concept is to create a musical string (like the string of a guitar or violin) that spans the world. Its resonance circles the globe, allowing musical communication and collaboration among the people at each site. The installation consists of a real physical string connected to a virtual string on the network. The real string (12millimeters in diameter, 15meters in length) stretches from the floor diagonally up to the ceiling of the space. On the floor is one end: the earth. Up above is the connection of the network to one of the other ends of the world. Vibration sensors translate the analog pulses to digital data. Users then strike the string, making it vibrate.

The server is the bridge of the instrument—the reflecting point. It runs software that is a physical model of a string of unreal proportions. Data is streamed back to each site along with video, providing a visual connection among the users. Global String is a scalable multi-mode installation.

The number of sites can range from two and up (three being the ideal initial number). The installation can be used in concert mode for soloists at each site who want to perform together. Global String allows performers or gallery visitors to create musical harmonies together over the Net. A functional prototype was created in June 1999. The structure consists of a base structure, steel cable, and bridge. Ceramic as well as Hall Effect sensors are used to detect both high and low frequency vibrations of the string. This signal enters the computer as an audio-rate and control-rate signal, exciting a physical-model virtual synthesis engine. IP video and MP3 audio-streaming connectivity is in development.

[The User], Emmanuel Madan and Thomas McIntosh, Symphony #2 for Dot Matrix Printers, 1999
Architect Emmanuel Madan and composer Thomas McIntosh formed their collaboration a few years ago.

[The User] takes its name from a term employed by our technocratic society, especially in design-related fields such as engineering, architecture, and software development. The term "user" objectifies and reduces individuality to an abstract and generic ideal. This reduction is employed wherever abstract rational methodology is applied to situations involving real people. Once this reduction is made, it becomes much easier to treat the faceless, formless "user" in an inhuman fashion. In our society we employ the impersonal term "user" to justify the infliction of neon lighting, plastic cutlery, and Muzak on a huge majority of our population.

--[The User]

Symphony for Dot Matrix Printers was first presented at the New Media and New Cinema Festival in Montreal in 1997. Since then, [The User] has been evolving this performance/installation. Symphony #2 for Dot Matrix Printers was commissioned by the Hull Time-Based Art Festival, where it was presented and performed in 1999. As its name indicates, this work transforms obsolete office technology into an instrument for musical performance. The Symphony focuses the listener's attention on a nearly forgotten technology: the dot-matrix printer. Specifically, it employs the noises the printers make as the sole sound source for a musical composition. Leaving the constituent elements untouched, the process imposes a new order upon them, reorganizing the sounds into a musical structure. The "orchestra" constituted by the printers is in turn "conducted" via a network server which reads from a composed "score." Each of the printers plays from a different part comprised of rhythms and pitches made up of letters of the alphabet, punctuation marks, and other characters. [The User] uses ASCI text files to compose, orchestrate, and synchronize sonorous and densely textured, rhythmically driven music. During the half-hour performance, the sounds are amplified and broadcast over a sound system. The audience is also presented with live images of the sound sources: The motions of the mechanisms, rollers, and gears are captured using miniature video cameras installed inside the printers and projected onto large screens.

Benjamin Weil is the Curator of Media Arts at the San Francisco Museum of Modern Art. He oversees a program which includes gallery exhibitions, sound events, and presentations, as well as projects on the network—all presented in the museum's E.SPACE virtual gallery. Weil was also recently appointed Curatorial Chair of Eyebeam in New York. As the Co-Founder and Curatorial Director of the Web Digital Foundry, Weil has participated in the pioneering of the network as a venue for artists, and has coordinated the development of a foundry model applied to the use of digital tools. The foundry produced projects by artists such as Doug Aitken, Jenny Holzer, Julia Scher, and Lawrence Weiner, as well as a collaboration with the writer Darcey Steinke, which was presented at the Whitney Biennial in 2000. Weil has participated in talks and conferences and has published articles on the issue of the evolving curatorial practice in the sphere of new media art, the role of institutions, and possible new models of support for these new art forms. Weil graduated from the Whitney Independent Study Program.
Using digital recording equipment, Anthony Discenza reprocesses hours of television watching, reducing it to a mesmerizing abstraction, which results from the compression of the signal. Often presented as multi-channel installations, the work evokes the idea of a media space that surrounds us, shaping our understanding of the world and blurring the notion of reality. The artist also confronts us with the idea of information overload. These lush abstractions reflect the seductive and mesmerizing quality of the mediated reality offered by television. Discenza, for instance, explains how the world of the famous series Star Trek is not necessarily any different from politics: The President of the United States and Captain Kirk co-exist in a world of channel surfing, seen through the looking-glass of television.
Carnivore is an ongoing collaborative project based on the artist's exploration of the functionality of the infamous software used by US intelligence to monitor Internet activity worldwide. The project demonstrates how difficult and arbitrary the fielding and representation of information may be, thus making a derisive comment on the official endeavor to monitor information exchanges. Galloway has engaged in multiple collaborations to create a set of interfaces which propose different interpretations of the data gathered in a given system: The piece was first developed at Eyebeam and hence tracked the data flow of that organization.

Alex Galloway and RSG, United States
Carnivore, 2001-present
Mixed media (software and network)
http://rhizome.org/rsg
Lynn Hershman, United States
*Synthia, 2000*
Net installation
http://lynnhershman.com
In cooperation with Lior Saar
Fabricator: Matt Heckert
Administrator: Michael Ahearn, nextmonet.com
Coordinator: Kyle Stephan
Webdesign + Production: Sandra D. Zimmermann, Berlin
Designers: Sean Ahlquist, Matt Whitman, Ben de Leon, and Digital Core
Additional Software: Michael Greenspon, Sequin Corporation
Sponge and FoAM, United States and Belgium
TGarden, 1999-present
Interactive Installation
Entropy8Zuper!, United States and Belgium

*The Godlove Museum–Numbers, 1999-present*

Web site

http://entropy8zuper.org
Syd Garon and Eric Henry, United States

Wave Twisters: The Movie, 2001

Animation

Image: Still from DJ QBert's "Wave Twister"
Christian Marclay, Switzerland

*Video Quartet, 2002*

Four-screen DVD projection
Photograph by Ben Blackwell
Courtesy of Paula Cooper Gallery
Ryoji Ikeda, Japan
*Formula, 1998*
Audio-visual performance
Atau Tanaka and Kasper Toeplitz, Japan and France

*Global String, 1994-present*

Performance


Photograph by Gerda Seebacher
[The User], Canada
*Symphony #2 for Dot Matrix Printers*, Avanto Festival, November 2001, Kiasma Theatre, Helsinki, Finland
Electronic music and performance