



Leonardo Electronic Almanac

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INTRODUCTION

< This issue >

Craig Harris

Leonardo Electronic Almanac Volume 4 Number 1 includes profiles of Dan Senn and Pamela Z, along with some information about their respective World Wide Web sites. I had the pleasure of working with these artists during 'Divergent Streams/Convergent Dreams I', a constellation of media arts events that I organized, in collaboration with Red Eye Collaboration Theater, the Science Museum of Minnesota, and Arts Midwest. Dan Senn was residing in Minnesota for a 3-month McKnight Artist Residency, working on his "Catacombs of Yucatan" installation described below; Pamela Z travelled here from the San Francisco Bay Area; New York artist David Van Tiegham participated in a multi-site performance, via telephone and MIDI communications. Pamela Z had just finished installing her new Web site as she arrived in Minneapolis, and this was Dan Senn's initiation into the wide world of webness. The descriptions below and visits to their respective sites provide LEA readers with a sense of their work.

Our feature this month is a view into BE NOW HERE (Welcome to the Neigborhood), a fascinating new installation by Michael Naimark. Those of you who are familiar with Michael's work in surrogate travel and field recording studies will appreciate this new stage in the evolution of his work.

In Leonardo Digital Reviews Kevin Murray provides us with installment 1 of his Compleat Web-ster, an essay reflecting on the challenges that we face in trying to use the World Wide Web productively. He suggests that we need "a change of focus from means to ends: it means turning away from the expanse of possibilities towards the goals that direct them."

I was thrilled to hear that Leonardo Electronic Almanac has been awarded a 4-star rating by The McKinley Group's Magellan database. The strength of the Magellan database is that in addition to providing a search engine for locating sites, there is a tiered ranking system created by a group of specialists in the fields intersecting with the orientation of the site. This helps to sift through the massive number of available sites and can short circuit the path to the most effective resources on the internet.

As I mentioned in recent issues, we are expanding Leonardo Electronic Almanac this year, as a result of increased funding from Interval Research Corporation, and due to the number of paid subscribers to LEA in 1995. It is time to be renewing your subscriptions for 1996, so I hope that you will continue to support this activity. Best of luck in your work, and keep that material coming in! Send me information about World Wide Web sites, perspectives on works and artists, profiles of media arts facilities, and theoretical articles. We rely on your participation.

< Leonardo Electronic Almanac awarded 4-star rating
in McKinley WWW Magellan Database >

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Congratulations again on your 4-Star award! We at The McKinley Group wish you continued success in all of your Internet endeavors.

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FEATURE ARTICLE

< BE NOW HERE
(Welcome to the Neighborhood)

an immersive virtual environment
by
Michael Naimark >

supported by Interval Research Corporation, Palo Alto
with special thanks to UNESCO World Heritage Centre, Paris

Center for the Arts Yerba Buena Gardens, San Francisco
21 December 1995 - 3 March 1996

"Be Now Here (Welcome to the Neighborhood)," a new installation by Michael Naimark, is an immersive virtual environment about landscape and public gathering places. It consists of a large 3D video projection, four-channel surround audio, a simple input device, and a 16-foot diameter rotating viewing platform on which the audience stands, which rotates once per minute in sync with the panoramic image and sound.

For this installation, Naimark and his colleagues at Interval Research Corporation assembled a unique camera system, consisting of two 35mm motion picture cameras (for 3D, one for each eye), wide-angle lenses, and special 60 frame-per-second motors, resulting in unrivaled fidelity. The system was mounted on a custom motor-driven tripod which rotated once per minute. The entire system weighed 500 pounds but was built for travel.

Naimark took the camera gear, along with a pro-DAT audio recorder, around the world to film public gathering places. Site selection was based on the "Endangered List" issued by the UNESCO World Heritage Centre in Paris. Of the 440 UNESCO-designated World Heritage Sites, 17 are further designated "in danger," of which four are (or were) cities: Jerusalem, Dubrovnik (Croatia), Timbuktu (Mali), and Angkor (Cambodia). Naimark traveled to each site with the gear and a letter from UNESCO, relying on pre-arranged local collaboration. He filmed all four sites, plus one in San Francisco, during the month of October. "It was a little crazy," he said.

"This is an experiment," Naimark continued. "I wanted to explore 'sense of place' both in terms of good research and meaningful content. Most of the interesting research in this area ends up as 'demos' shot in the parking lot. These 4 cities are both global treasures and in trouble. They felt like the right places to document."

The installation itself is also an experiment. To convey a panoramic sense, Naimark rotates the audience rather than the screen, in sync with the pre-recorded rotating imagery. "It's a little like the feeling when the train sitting next to you pulls out and you think you're moving. At the very least," Naimark believes, "the audience gets sensitized to the relationship between their eyes and ears with their feet. Groundedness is what I'm shooting for."

"Be Now Here (Welcome to the Neighborhood)" complements Naimark's first art project at Interval, the "See Banff!" kinetoscope, a 3D interactive "moviemap" about tourism in the Canadian Rocky Mountains produced with the Banff Centre for the Arts. "While 'See Banff' is about moving around, 'Be Now Here' is about looking around" says Naimark. He believes these two projects conclude an inquiry he began 18 years ago.

"Be Now Here (Welcome to the Neighborhood)" is on exhibition at the Center for the Arts Yerba Buena Gardens in downtown San Francisco from December 21 1995 through March 3 1996. The Center is at 701 Mission St. (at 3rd); hours are Tuesday - Sunday 11am - 6pm; phone (415) 978-2787.

Michael Naimark

Michael Naimark spent twelve years as an independent media artist before joining Interval Research Corporation in 1992. He was instrumental in making the first interactive laserdiscs in the late 1970s at M.I.T. and has worked extensively with projection and immersive virtual environments. He has consulted on new media for various institutions and his artwork has been exhibited internationally.

Naimark has held faculty appointments at the San Francisco Art Institute, San Francisco State University, California Institute of the Arts, M.I.T., the University of Michigan, and is on the Editorial Boards of Presence and Leonardo Electronic Almanac. He created a B.S. in Cybernetic Systems as an independent major from the University of Michigan in 1974 and received an M.S. in Visual Studies and Environmental Art from M.I.T. in 1979.

Interval Research Corporation

Founded in 1992, Interval Research Corp., Palo Alto, Calif., is a research setting seeking to define the concerns, map out the concepts and create the technology that will be important in the future. With its long-term resources, Interval pursues basic innovations in a number of pre-competitive technologies and seeks to foster industries around them--sparking opportunity for entrepreneurs and highlighting new ways of researching technology. To bring a fresh perspective, Interval has gathered a broad range of people to make up its research staff, including filmmakers, clothes designers, musicians, cognitive psychologists, artists, computer scientists, journalists and software developers.

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| |
| PROFILES |
| |

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Pamela Z is a San Francisco-based performance musician and composer who works primarily with voice, electronic processing, and sampling technology. She creates lush textures and frenetic rhythmic structures from fragments of her voice trapped in electronic processors during live performance and combines these sounds with melodic lines and spoken texts and punctuates them with found percussion instruments and exquisite gestural movement. She has a wide vocal range and employs a diverse array of styles from experimental extended techniques to operatic "Bel Canto". Although she specializes in New Music, she also performs pieces from earlier periods, and her own work often straddles the ever blurring line between avant garde classical music and other categories of experimental modern music.

Pamela Z has done solo performances in San Francisco Bay Area galleries, theater spaces, and clubs since 1984 and has done numerous tours including appearances at the Knitting Factory and CBGB's Gallery, in New York and LACE in Los Angeles. She has done live and recorded vocal work for other composers, and has composed, recorded and performed original scores for choreographers and for film and video artists. Pamela Z, along with composer Donald Swearingen, has produced numerous multi-media/ multi-artist events in the series "Z Programs" in which her own work has been featured along with that of other artists doing experimental work in various genres. She composes for THE QUBE CHIX, an interdisciplinary ensemble comprised of herself, vocalist Julie Queen, and choreographer Leigh Evans. She has done several concerts and experimental theater pieces with NEW MUSIC THEATRE (including their John Cage festivals) and has sung soprano with THE SAN FRANCISCO SYMPHONY CHORUS. She is currently developing new solo work utilizing a MIDI controller called The BodySynth, which allows the performer to trigger sounds with physical gestures. Pamela Z hosts "The 11th Hour" on KPFAfm on the second and fourth Tuesdays of each month at 11pm, playing new and experimental audio art. Pamela Z holds a music degree from the University of Colorado at Boulder.

Pamela Z is one of the artists currently in residence at Xerox's Palo Alto Research Center in the PARC Artist In Residence Program (PAIR). This is a program in which artists are paired with researchers to do exploration concerning technology and the arts. Pamela Z is working with Michael Black, a researcher working in motion studies and gesture recognition, and anthropologist David Levy who does studies concerning work practice and documents.

Pamela Z' s web site includes information about her performance schedule and recordings, and includes sound examples of her work in DigiDesign 2.1 format.

< Sound Art, Music, Video and Texts of Dan Senn >

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Interdisciplinary artist Dan Senn builds sculptural instruments which he exhibits and performs, constructs clusters of videos from unedited mappings of objects and territories, does sound and video installations in remote caves and rain forests, and composes music for traditional instruments using his own "thinking" software. Trained since early childhood as a French Horn player and vocalist, he began studying ceramic sculpture while in music school at the University of Wisconsin at LaCrosse in the early 1970s. Here, he was introduced to an ancient chance method of making pottery called raku, a process he has come to think of as the "elegant use of awkward materials". In 1977 he began building sculptural instruments which he now exhibits and performs widely. Since 1978 he has been developing a computer software program entitled the Raku Composition Program, a powerful personal composing system which, like his instruments, exhibits the peculiar paradox of raku... that is, highly considerate, non-linear systems which exist to confound the will (talent) of the artist. His videos, which he calls "percussive videos" exist in unedited form and are characterized by a frame-by-frame rhythmic mapping of a single object or territory.

He also curates and produces events under the auspices of Newsense Intermedium, a Tacoma-based presenting organization which he founded and directs. Senn frequently tours internationally with his music and art and recently returned from a 3 month McKnight Foundation residency for the state of Minnesota. Senn will tour Germany and Poland in '96.

The Raku Composition Program

Linear notation when applied to sculptural, or nonlinear instruments is mutually obstructive. Take for example a sound sculpture which has been designed to link the visual and aural arts in a balanced representation -- how does one score for an instrument where the pitched elements may only be a by-product of visual and timbral or even logistical considerations; where sound parameters do not operate along a convenient continuum; where resonators are not presented in panel format for easy access; where traditional percussion mallets may be wholly unsuitable? The symbiotic nature of nonlinear instruments is the stuff of compromise as the spatial position of resonant objects, relative to human limitations, impose a set of physically possible or convenient musical gestures. These considerations extend beyond the limits of traditional notation and bring to the fore the question as to whether new systems should be devised or whether, perhaps, it is best for such performances to remain within an improvisational context.

The Raku Composition Program, "Interface", Vol. 20 (1991), pp. 197-207, Amsterdam, The Netherlands.

Catacombs of Yucatan Sound and Video Installation

In mid-September of 1995, while filling an old diesel truck at a gas station in Houston, Minnesota, I overheard a man of about eighty tell a friend, "They're opening the Catacombs." I had come to this remote part of southeastern Minnesota a month earlier to put together the "The Catacombs of Yucatan Sound and Video Installation" and now wondered how the man knew about it. Having spent considerable time tracking down and interviewing on video nine people who had worked at the Catacombs 60 years earlier, I reasoned that the word was getting out. After all, this was a culture where people still used their living rooms for "visiting."

The "Catacombs of Yucatan" is a name for a limestone cave and dance hall which had been commercialized in 1934 in the hills separating Houston and Spring Grove; a venture which succumbed to hard times after several intense years. By the time I arrived in mid-August 1995, local memories had become vague, along with the access road which had once passed within 50 feet of the cave. I had spent many summers in the area since childhood (1950s) and knew a little about Catacombs lore. Now, with a McKnight Visiting Artist grant from the Minnesota Composers Forum, I was returning to dispersed memories, cave bats, cow manure, and an electricity-free cavern located a half-mile from the nearest gravel road.

The cave installation fell perfectly in line with the sort of event I have focused on over the last three years: two inner-city installations and a neighborhood concert series. These were premised on a belief that "high-risk art," if presented respectfully and with care for detail, will be accepted by even the most conservative as natural and necessary and, in turn, will have a significant impact on social consciousness. And the formula has been the same: to present mature risk-takers (Paul Panhuysen, Phill Niblock, Warren Burt, etc.) within unlikely contexts which have a unique place within the memory of local society. There is much more to it than this, but, I must emphasize, for such events to have the most social and political impact, they must be stridently apolitical. They must not be about Bosnia, AIDS, the environment, nakedness, or some smiley-face issue which is equally political. They must be concerned with exploring new systems and materials precisely as a means of ensuring meaningfulness, accessibility, and, therefore, their non-elitist essence.

The Catacombs of Yucatan is a small cave about 100 yards deep, located on a bluff overlooking the intersection of three valleys of incredible beauty. The first half of the cave descends 50 yards into the hillside to an intersection where two narrow rooms veer to the left and right. From here, a second and wider pathway descends sharply off to the right for another 50 yards, leading through two large chambers. The front half is characterized by a narrow path, high pointed ceilings and sound-absorbent surfaces. The second half features a wider path leading through the larger rooms with reverberant surfaces. These features dictated the structure of the installation, in which discrete, sight-oriented materials with a sound component were located in the first half, and heterogeneous, sound-oriented materials with a sight component were placed in the second half. The midpoint served as a transition between halves. Likewise, floor-positioned lights were used in the front half to push light upward toward video monitors placed on shelves, and gallery-like spots were placed in high positions to illuminate the sculptural instruments in the second half. The front portion contained five monochrome monitors with materials gathered from the video interviews. At the intersection, a cluster of "percussive

videos" (color and monochrome monitors stacked and turned on axis while playing the same source material) was located, along with the first of six automatically-playing sculptural instruments spaced throughout the second half. The installation concluded with a dispersed cluster of color and monochrome monitors playing a minimalist video, which contrasted with the flashing "percussive" videos at the midpoint.

As the patrons crossed the fields to the cave site (either by foot, tractor or horse-drawn wagon) they were first led by docents to the site of the old dance-hall foundations. Here a video tape was playing music performed 60 years ago which I had documented at the Highlandville schoolhouse in Iowa (a special dance was arranged for this!). The patrons were then guided along a path to the cave entrance, which had been reframed as a means of keeping bats and cattle out. As visitors entered the cave, they encountered monochrome video monitors featuring former cave and dance-hall workers telling stories of their work experiences. These faded to white and silence between anecdotal episodes, creating a conversational counterpoint between monitor positions. As visitors approached the midpoint, the spoken sounds became mixed with the phasing and pitched staccato sounds of my Pendulyre as it accompanied a nearby cluster of flashing videos. From here they came upon sounds from two rattling Pushups (small metal plates which continuously toss geometric objects), and then the continuous beating of my Winged Pendulyre (similar to the Pendulyre). Next came the contrasting sound of my Bass Shmoos, a droning instrument and the only one played live during the exhibit. After this the installation was capped with the clangorous and roto-tom sounds of my Penduling (another pendulum-based instrument) as it accompanied three nearby video monitors showing a continuous video of a seven-day-old child falling asleep.

With over 1200 local farmers and small-town people attending the two-day event, and considering the staggering amount of hard labor needed to prepare the cave, volunteer support was indispensable. Leading up to the event, I was supplied with power and hand tools, and with labor in the form of scheduling interviews and organizing the volunteer force, along with tasks such as fence-mending. I was provided with a 4-wheel-drive truck and a place to stay, and one farmer participated by leveling the dirt road I had created by driving the same route to the cave daily. On the day of the opening, unscheduled volunteers showed up, asking to help out. And at no time did anyone ask whether it was art or music or even ridiculous. It was interesting and necessary.

The Catacombs of Yucatan Sound and Video Installation, American Composers Forum Newsletter, Vol. 23, No.1, 1996

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LEONARDO DIGITAL REVIEWS
JANUARY 1996

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< Special Focus, WWW: Compleat Web-ster >

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Compleat Web-ster

The web is now blessed with a fulsome variety of 'interactive' devices to assist authors in engaging with their visitors. Much of their potential, however, is yet to be realized. Part of the problem is the lack of steady ground on which to work. To be a competent web designer today requires keeping up with a rapidly changing artistic environment. Previously, the skills involved in becoming an artist were relatively finite and good tools lasted a lifetime. In the global computer network, however, you have your work cut out simply keeping abreast with upgrades to Netscape betas, innovations in HTML code, VRML and multimedia add-ins, etc.

In this accelerated medium, it's easy to treat each new interactive device as a toy to be played with and quickly replaced by the next version. By the time you've mastered its features, another more exciting gadget has arrived. So how do you turn a toy into a tool? How do you settle on a device long enough to start using it productively? The answer to this question entails a change of focus from means to ends: it means turning away from the expanse of possibilities towards the goals that direct them.

So what do web authors want to achieve? Such a broad question is not easy to answer, yet it is critical given absence of familiar artistic rewards, such as sales and direct contact with an audience. The proliferation of web counters suggests that a simple quantitative goal like increasing the number of hits might be desired. But to use a metaphor that will be relevant later, aiming for 'hits' is like angling for 'bites' rather than 'fish'. A 'hit' does not discriminate between an ideal visitor who reads all the text, fully explores every corner of the site, fills in all the forms, and feels their life changed as a result; and a 'knowbot' which updates a search engine by automatically trawling the web.

The most conspicuous sign of qualitative success is an accolade such as Top 5% or Cool Site of the Day. The problem with these web honours is that they are awarded either purely on the basis of hit counts, or their 'cool' attitude suits a very limited set of visitors; in particular, the 'net surfers' who cruise the web to keep in touch with the latest tricks. Such tributes are unlikely to indicate any lasting value: can you imagine being interested in visiting a Cool Site of the Day which is more than a year old?

For these reasons, an inquiry into the very particular goals of web authors requires a radically different point of view. As a speculative device, therefore, this outline invites you to step back to a pre-electronic era and consider the life of an angler in 17th century England. Of course, for web authors there is nothing practical to be learnt from the art of catching fish. Where benefit may obtain is applying the same kind of critical perspective used to describe the art of angling to the emerging craft of web design.

The Compleat Angler

Izaak Walton's *The Compleat Angler* is of more symbolic than practical significance. For Irving Washington, this venerated book 'breathes a innocent and happy spirit' which, with an English regard for nature, 'makes a science of sport'. As a guide to catching fish, however, it is limited by its exactitude: Walton's advice on snaring trout, salmon or pike is often specific to the very meadow where he sits. Appropriate bait is frequently drawn from the local population of worms 'which for colour and shape alter even as the ground out of which they are got'.

While it is the complete antithesis of a global network, the river-world evoked by the *Compleat Angler* does have similarities to the web we angle in today. Both the river and the web are places where individuals might come to relax and contemplate the forces that shape their world. Unlike libraries, they contain little history. The river and the web are constantly changing environments: you can't log on to the same web twice. Mark Twain praises the Mississippi: 'it had a new story to tell every day' -- so it is the case with web pages that a recent update marker is a sign of a freshly flowing site.

While the technical means available in Walton's time were limited, the variety of stratagems and conceits that might be employed by an angler are comparable to the range of media tools we can use to disseminate information. Yet while the mechanics of these devices are widely disseminated, the particular effect they achieve is little remarked upon. A school of criticism appropriate to the web would need to consider these effects carefully. What response do you think a good web site should produce: intrigue, reverie or a unique multimedia sublime?

As an introduction to this question, let's follow the metaphorical path leading to the successful web site:

1. Cast the fishing line = upload web files to site
2. Bait the hook = place link in directory, e-mail notice, search engine or other web site
3. Catch the fish = attract attention, cause visitor to peruse content

The critical point in this strategy is the decision by the visitor to 'take the bait' and enter the spirit of the site. The primary difficulty here is the propensity of web visitors -- attention spans worn thin by channel-surfing and magazine flicking -- to cruise sites without ever fully tasting their contents. Unlike a gallery, where the visitor is captive to that space, at the click of a button web visitors can exit an online exhibition that doesn't immediately excite their interest. To use the more frequent analogy, the task is to turn the 'net surfer' into a 'web diver'.

Gutenberg Elegies

If we succeed in doing this, then we may well show that humanist critics have been wrong in their dismissal of Internet. In his defense of the 'missionary position of reading', the "Gutenberg Elegies", Sven Birkerts bemoans the 'gradual displacement of the vertical by the horizontal', where more is read for less purpose. Birkerts' main reason for preferring the linear narrative to its hypertext version, is that it offers 'a chance to subject the anarchic subjectivity to another's disciplined imagination, a chance to be taken in unsuspected directions under the guidance of some singular sensibility' (p. 164). What prevents an electronic text

from doing this, according to Birkerts, is that readers are reluctant to involve themselves in a materiality as ephemeral as pixels on a screen.

Ephemerality, of course, is a relative notion. Paper pages seem ephemeral by comparison with stone tablets. And in the future, our digital files might seem like granite compared to the latest nanotechnological medium. This is not to say that materiality is irrelevant, only that it should not lead us to despair at the depth of response possible on the web. Plainly, if any medium is capable of taking its audience 'in unsuspected directions' it is the web. What it needs is a 'singular sensibility' -- a strategy. Here we need to focus on a sample of the techniques uniquely available to web authors.

Client-pull/Server-push

Client-pull/server-push introduces an element of surprise to the web. A seasoned web-surfer learns ways of idling the time while waiting for the screen fill with images and text from top to bottom like an inverted tank. Each screen offers a choice: Is it interesting enough to go further? Are there different routes available? The client-pull/server-push technique wrests this control away from the visitor by seizing the decision making power.

Though their output can be quite similar, client-pull and server-push operate on different principles. Client-pull is an HTML code which issues a command only when a certain condition on the visitor's side has been reached. This is opposed to 'server-push' where the timing is controlled by the server. Returning to our fishing metaphor, client-pull is similar to an angler who lets the hooked fish take the slack on the line, while server-push is equivalent to a less patient angler who tugs the line to further embed the hook in the fish.

A dramatic use of the server-push technique might be found in the Black Hole of the Web, where the bait is a warning for visitors not to proceed further. Once the inevitable decision to proceed is taken, the screen turns from white, to gray, to black and admonishments appear at intervals, such as 'Lonely, isn't it?'. After some time, the messages disappear and the black screen continues to be refreshed until the visitor regains control by closing the browser or opening another bookmark as a lifesaver. This clever subversion of net surfing demonstrates the dramatic possibilities of web design.

A more local incursion into screen space creates the illusion of movement on screen. Limited to a small section of the screen, the emergence of 'push animation' in web sites resembles the use of flies to entice fish to the surface by using a moving lure.

Animation can be created by a variety of means, ranging from server-push, Java programs, to add-ins such as Shockwave, Macromedia Director's plug-in for Netscape. At a very basic level, animations provide motivation for visitors to look at the screen, careful not to miss the action. Disseminated through the Internet, these animations are mostly quite crude and examples of animation used for a particular aesthetic affect are rare.

Ironically, though, this very primitive state of animation serves to retrieve a mystery lost to its more sophisticated uses in film. Web animations, particularly with slow connections, have the stilted appearance of flipcards. The magic of this very crude movement is that you can be simultaneously aware of both the illusion and its

material construction. Of course, the unsophisticated state of animation is reason for many to put the web on hold until it catches up with other media. This may be a mistake. It is the capacity to renew an almost archaic fascination with illusion techniques which may be the singular advantage of web animation. Ironically, it took the height of sophistication in media technologies to return us to this primal scene.

From the other side of the screen and history, the client-pull technique has been used to advance ideas unique to our end of the millennium. Alan Liu's Lyotard's Auto-Different page cuts up text from the French philosopher Francois Lyotard into screens which transform static discourse into a temporal flow. The aim, for Liu, is to replace slabs of words and graphics with 'text tracks' which produce a discourse that visitors have to steer as much as read. Liu writes of the advantages of this technique: Client-pull makes it possible to reflect on the fact that each of our communications is paced by simultaneous demands made on the network by other communications-by the time-sensitive collectivity that constitutes historicity.

Ironically, this technique is best suited to slow connections: a fast download rate can turn a gentle trickle of words into whitewater.

In more accessible web publications, client-pull is often being used to provide a 'courtesy screen' for those awaiting a heavily loaded screen to download. 'Please wait for files to download' at a very simple level demonstrates that the author has anticipated the visitor's waiting experience. While not of aesthetic interest at this level, it does make opportunities for strategic 'client-pulls' which need not consign the visitor to an irreversible descent, but set up expectations of what is to follow.

Whether or not these possibilities are fully exploited depends on how seriously web authors take these kinds of techniques. The unfavorable comparison with animation on multimedia and the temporary nature of HTML code may dissuade many from investing their creative energies in this area. But as the film industry learnt that black and white could be a matter of artistic choice rather than technological backwardness, so the very simple nature of these techniques may generate their own unique language--if allowed to.

Cast off

Of course, client-pull/server-push is one of a number of techniques available to web authors for luring visitors to take their bait. Online forms which request information from visitors that is used in subsequent screens demonstrate a powerful way of involving visitors in a more direct fashion than any other media. In the second part of Compleat Web-ster we look at a range of contributions by writers reflecting on their experience at particular sites. We'll discover which web-generic techniques entice their visitors to take the hook, the line or the sinker.

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< Installation Review: Telepresent Surveillance,
Experiment in Automated Surveillance Technology,
by Joel Slayton >

Krannert Art Museum
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Reviewed by Kasey Rios Asberry
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Telepresent Surveillance is a computer-media installation of three free-roving robots outfitted with helium balloons, video cameras and programmed "personalities". Records of their passage through the museum space are available on-line at:

<http://surveil.sjsu.edu/Title.html>

which is updated frequently (approaching real time) during museum hours; during off-hours the robots rest and get their batteries recharged.

In the context of Joel Slayton's larger body of work (the infamous Palo Alto Centennial Celebration, set designs for George Coates's performances such as Virtual Sho) Telepresent Surveillance is a relatively quiet installation. First response to the caprices of these artificially intelligent beings (reminding me of C.S. Lewis's monopod community in his Narnia series) is delight. In a formally sculptural sense the robots warm up and activate the cool museum space, existing in sharp contrast to the sinister tradition of surveillance technology. Clever programming and the robots's surprising balloon heads which give them uncanny expressive abilities, make the installation entertaining: when first installed the robots could just go anywhere, now even with a little fence one occasionally still escapes, having learned how to.

Telepresence Surveillance is also engaging at deeper levels: the dual framing for the museum world and the online communities is executed well and is actually functional - many of the best made installation plans are wrecked on technical or technological shoals, very often when an Internet connection is central to a piece. But what I appreciate most in the Telepresence experience is the questioning initiated by the robots's humor. Why are they so funny? Is there some sort of hard-wiring of the human nervous system that makes small mammal-like scurrying cute? Perhaps it's an instance of good old anthro-centric condescension at work, where the behaviors of other types of intelligence are humorous as long as they are not threatening. Would we still laugh if Slayton's robots were 10 feet tall and we had to avoid the scurry of their feet? As it is maybe they can be our pets, our (even if bumbling) servants, but maybe not quite friends.

Beyond the droll, Slayton points to our complicity in creating a society watched over from outside or above. The telepresent robots remind me that emissaries of an enforcer may appear clownish and still cause great harm - not that these robots do. It doesn't cause me to laugh less but differently and hope that we humans get a clue about sentience.

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< Book Review: "Spirits of Computer Animation",
by Alexey M.Orlov >

(the world of electronic images and levels of conscious)
Alexey M.Orlov
Moscow, Mirt
1993, 105 pp. ISBN
5-85029-018-4.

Reviewed by Tatyana Shulga
Pilot Animatographic Center, Maly
Vuzovsky pereulok 4/6

Moscow 109028, Russia
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This book is the first theoretical work devoted to the analysis of the specificity of computer imaging and computer animation. This book was preceded by several articles on the topic by Orlov in the national magazine "TVT". The book consists of four chapters. The first one, "Aesthetics of "infantile periods" in cinema technology" is devoted to analysis of peculiarities inherent to the language of cinema, first of all of animated cartoon films. He has found such phenomena as "Zombie" effect", "Plasmatic images", "Consciousness in space and in Primordial Emptiness", "Transformer", "Psyche of an infant" and so on. Metaphorical form helps him to underline such features of drawn images as unnatural movement, non-limited transformation possibilities, weightlessness, and so on.

Chapter two reviews the most important technological aspects of the creation of computer images in view of their artistic effects. The author considers pixel images structure, wire frame models of vector graphics, combinatory geometry as a basis for simulation of complicated objects in computer medium, the effects of multi-spectra imaging and pseudo color, as well as the effects of the perception of an objects' delayed movements and point of view (virtual camera).

Chapter three - "The ecology of computer images" - considers virtual reality as an ecological niche or environment. The author uses the ecological approach to perception developed by James J.Gibson, a noted American researcher.

Such an approach reveals the invariance of the author's perception, which remained in the world of computer images and which becomes the characteristics not of earthly homo sapiens but rather homo cosmicus - an intermediary, who connects all the dimensions of multiplex universe by his "omni-existence" and penetrates through them.

The analysis shows that "transcendent aesthetics" with a corresponding world picture is similar to the ideas of relativistic physics of the world as a boundless ocean of energy fields of different density; unlike the commonplace ideas of mechanical center-orientation, which still continue to be the basis of the world picture reproduced by traditional cinema, video and animation.

In this chapter the author also pays tribute to two outstanding animation film directors of our time - James Whitney, American, and Piotr Kamler, Pole who lived in France. Without using a computer, they became precursors of the aesthetics that is now the norm for electronic images.

And, in conclusion, chapter four - "Computer animation with human face" - reviews the problem opposite to the previous one: how to adapt the cosmic, transcendent picture of the world, which is typical for electronic images, to the conditions of ordinary perception; how to make it most comfortable and intelligible for an ordinary viewer.

This chapter brings up the factor of perception, which can provide the computer image with earthly features, such as warmth, and ease the psychological and emotional discomfort that often accompanies the perception of virtual realities. The author considers here purely practical, applied aspects of redundancy and clustering principles, the hierarchy of relations between hearing and sight, the peculiarities of space perception, the role of surfaces, the mechanisms and attributes of depth, the perception of events and

movements, the behavior of the point of view, the perception gradation of living and non-living things, and, finally, the structure of art image. The analysis is based on traditional and generally-accepted theories of perception.

By considering the above factors, the mathematical picture of the world, which is typical of computer animation, can be normalized and "absorbed" into the laws of common everyday perception.

In the course of research it becomes more and more clear that computer images will provide the new approximation to that very "objective reality" which is the favorite theme of philosophers' debates. But it turns out that an ordinary man does not need the reality of the world that surrounds him - at least in such a pronounced objectified form . We prefer to surround ourselves with some kind of "transition layer" and call this layer "the laws of perception". The lack of this layer - or its excessive thinness - is the main problem of electronic images: they are too objective, they are provocatively real, they are excessively precise. And all this should be normalized and assuaged by coarsening, bounding, simplification, etc. Mathematical methods of calculation still render an ordinary viewer ill service - he has to come across the images constructed according to the precise and objective laws.

What could be proposed as a solution? We must create "a buffer zone" around electronic phenomena to prepare the psyche for their perception. While doing that, we must reserve the peculiarity of the unique phenomenon of computer images and protect it from adjusting to the mimetism of fiction film and video with their obligatory live-action and to traditional animation with its obvious relativity. Following scrupulously the laws of everyday perception can help to go this way. Although there is another way: by making the most use of extraordinary and novel aspects of virtual realities, to teach oneself how to reach the state of being there - of overcoming one's own present boundaries and favorite limits.

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< Editor's Note: Special Focus >

Kasey Rios Asberry
Email: davinci@uclink.berkeley.edu

In this first edition of 1996, Leonardo Digital Reviews is proud to welcome Kevin Murray as guest editor of the two-part series The Compleat Web-ster. In the second part of this series he will highlight works made for the WWW that demonstrate the analysis of part one. LDR hopes to foster meaningful discussion of these ideas and welcomes reader response which we will publish to that end.

Look for LDR online at the following URL:

<http://www-mitpress.mit.edu/Leonardo/plaza.html>

(choose "digital reviews")
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< END LEONARDO DIGITAL REVIEWS January 1996 >
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| PUBLICATIONS |

< SWITCH - Call for Articles >
Christine Laffer, Editor
Tel: 408-995-0277
Email: 70451.1665@compuserve.com

Loretta Lange, Associate Editor
Tel: 408-286-2640
Email: lllange@sjsuvm1.sjsu.edu

SWITCH, the electronic arts journal of the C.A.D.R.E. Institute, publishes in electronic form on the World Wide Web at <http://cadre.sjsu.edu>, with three issues per year. We aim to foster a critical evaluation of the expanding electronic arts field and to broadcast alternative viewpoints on issues in art+technology.

UPCOMING SEARCH!! In May, 1996 we plan to focus on developments in electronic music and sound. Switch looks for energetic writers to review events or submit critical articles.

ON-LINE: On October 4, 1995 Switch published its issue on VR which includes interviews with Brenda Laurel and Linda Jacobson, reviews of SigGraph '95 and recent pop films, and a project page in vrml.

SWITCH seeks articles (800 to 1000 words) and reviews (400 to 600 words) in response to critical issues in electronic music and sound. Writers interested should send their queries to the above contacts via e-mail, or to the address: SWITCH, School of Art and Design, One Washington Square, San Jose, CA 95192-0089.

SWITCH is run by graduate students of the Computers in Fine Arts program at SJSU. We seek writers who can donate their articles for this venture into Web publishing.

DEADLINE FOR ARTICLES/REVIEWS:

Vol.2 No.4 -- on electronic music and sound

DEADLINE: April 1, 1996

< Soundsite >

Scot Art

Email: scot@sysx.apana.org.au

URL: <http://sysx.apana.org.au/soundsite/>

We are proud to announce the launch of Soundsite on the World Wide Web, with the involvement of Contemporary Sound Arts, who have given permission to Soundsite to republish material from their journal, 'Essays In Sound'.

Soundsite is a World Wide Web publication for sound artists, practitioners and theorists. Soundsite deals with the cultural, theoretical and practical aspects of sound as manifest in: language and discourse; voice; poetics; acoustics; psycho-acoustics; the nature of perception and sensory experience; hearing vs. listening; aurality and corporeality; space and architecture; sound geographies; philosophies of sound; post-musics; film, video and tv soundtrack; sound art and sound by artists; sound and noise; virtual systems; human-computer interface; communication and technological systems; low fidelity sound; radio and radiophonic art; performance; recording; composition; aesthetics; art.

This list is not exhaustive! We will be implementing several new features on Soundsite in the coming months, including a WWW forms implemented discussion and user contribution area, a major sound events page, and many other interesting (and fun!) sound orientated projects.

We are interested in your contributions! Essays, project

descriptions, biographical material, criticism and artists statements are all welcome. Essays are preferred in a 'journal' type format, with footnotes and bibliography as appropriate. We are also very interested in receiving criticism and artist's descriptions of sound artworks and performances.

Please send your essay proposals, reviews, feedback, etc, to soundsite@sysx.apana.org.au.

Soundsite looks forward to your visit.

< New Computer Music Journal Editorial Address >

Computer Music Journal Editor Stephen Pope has moved to Santa Barbara to be the new Research Director for the Center for Computer Music Research and Composition at UC Santa Barbara. The CMJ Editorial address moves with him, so people are directed to use the following to get in touch with Stephen and others about CMJ issues:

Stephen Travis Pope, Editor
Computer Music Journal
PO Box 14043
Santa Barbara, CA 93107
Tel: (805) 967-2621 or (805) 893-8352
Email: cmj@ccmrc.ucsb.edu
WWW: <http://www-mitpress.mit.edu/Computer-Music-Journal/>

< Forthcoming Issue Contents - LEONARDO 29:2 (1996) >

NOTE: <W> This symbol indicates articles that have related materials on the Leonardo World Wide Web Site:

<http://WWW-mitpress.mit.edu/Leonado/home.html>

ARTIST' S ARTICLES

Daniela Bertol: "Architecture of Images": An Investigation of Architectural Representations and the Visual Perception of Three-Dimensional Space

Mike Goslin and Jacquelyn Ford Morie: "Virtopia": Emotional Experiences in Virtual Environments

GENERAL ARTICLES

Adam Lucas: Indigenous People in Cyberspace

Alexander Voloshinov: Symmetry as a Superprinciple of Science and Art

<W>SPECIAL SECTION

A Radical Intervention: The Brazilian Contribution to the International Electronic Art Movement

Eduardo Kac: Editorial: Brazilian Technological Art in LEONARDO and on the Web

Mario Pedrosa: The Chromatic Plastic Dynamism of Abraham Palatnik--
-An Introduction to the First International Biennial of Sao Paulo (1951)

Walter Zanini: A New Technique in Modern Painting

Eduardo Kac: Abraham Palatnik, Pioneer of Kinetic Art

SPECIAL SECTION

"The Inspiration of Astronomical Phenomena" Conference Papers

Raymond E. White: Selected Papers from The Inspiration of
Astronomical Phenomena, A Conference on the Influence of Observed
Celestial Events upon World Culture

Amy Baker Sandback: Prologue

Guy J. Consolmagno: Astronomy, Science Fiction and the Popular
Culture: 1277 to 2001 (and Beyond)

Steven J. Dick: Other Worlds: The Cultural Significance of the
Extraterrestrial Life Debate

Ron Miller: The Archeology of Space

Jozef Pacholczyk: Music and Astronomy in the Muslim World

William R. Stoeger: Astronomy's Integrating Impact on Culture: A
Ladrierean Hypothesis

ARTISTS' STATEMENTS

Terry Rosenberg: "Projections"

Donald Sanders: As Above, So Below: The Manifestation of the
Universe as a Mirror to Consciousness

Jadzia Donatowicz: Symbolism of the Cosmic Dance of Shiva in the
South-Indian Temple Dance Tradition

ART/SCIENCE FORUM

Chris Illert: The Australian Supercomputer Graphics Exhibition and
First International Conchology Conference

Irina L. Vanechkina: Applications of New Technologies in Culture and
Art

Ivan Dryer: The International Laser Display Association

<W>REVIEWS

Mit Mitropoulos, V.V. Bazov, Bulat M. Galejev, Irina Presnetsova

ENDNOTE

Fred Forest: Against Official Contemporary Art, For an Art of the
Present

< Knitting Factory catalogue >

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If you are in Europe, mail to:

KFEURO@knittingfactory.com

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OPPORTUNITIES

< School of Art, Washington University: Computer Technician >

Jeff Pike, Chair
Computer Search Committee
School of Art, Washington University
Campus Box 1031
One Brookings Drive
St. Louis, MO 63130-4899

The School of Art, Washington University in St. Louis invites applications for a full-time Computer Technician.

Qualifications: Familiarity with Mac, SGI, and PC environments. Desirable software experience: Director, Photoshop, Strata Studio, Wavefront, Quark, etc. Successful candidate should have a broad vision of technology and ability to work effectively with faculty and students and to facilitate relationships between the school and other divisions of the university.

Description: To coordinate academic computing throughout the School of Art. Responsibilities include maintaining computer and video equipment, network and software. Other duties include research on software and hardware developments, grant writing, supervision of media center, purchasing, and long-range planning.

The School of Art: The School of Art is one of five undergraduate schools of Washington University. The School offers instruction in seven major areas: ceramics, fashion design, graphic communications, painting, photography, printmaking, and sculpture. The School offers degree programs leading to the B.F.A. and the MFA. Currently there are approximately 300 undergraduate and 40 graduate students enrolled with 25 full-time and 15 part-time faculty members.

Salary: Commensurate with qualifications and experience.

Starting Date: July 1, 1996

Application Procedure: Send letter of application, vita, SASE, and the names and addresses of three persons from whom letters of recommendation may be solicited.

Application Deadline: Open until filled.

Washington University is an Affirmative Action/Equal Opportunity employer. Women and minorities are encouraged to apply.

< University of Miami School of Music -
Music Theory, Composition, CAI >

Dr. Don Wilson, Chair
MTC Search Committee
School of Music
University of Miami
P.O. Box 248165
Coral Gables, Florida 33124-7610
Tel: (305) 284-4886
Fax: (305) 284-2290
Email: DRWILSON@umiami.ir.miami.edu

Position: Music theory or composition, with a specialty in computer assisted instruction (CAI). The appointment is effective August 15, 1996.

Qualifications: Doctorate preferred. Candidates must demonstrate successful undergraduate teaching experience in music theory,

composition, or electro-acoustic music. A background in CAI and/or related areas is required.

Responsibilities: To develop an integrated program of CAI in a computer network environment for the undergraduate theory/composition area and to teach undergraduate courses in theory as assigned. Faculty are expected to engage in research/creative activities related to their area(s) of expertise.

Appointment: This is a tenure track, nine-month appointment at the rank of assistant professor. The salary is competitive.

The Program

The University of Miami is a private, independent, School, and research university with an enrollment of approximately 13,700 students from all fifty states and over 100 countries. The main campus is located in Coral Gables, an attractive residential community of Miami. The School of Music has an enrollment of approximately 650 majors in 31 programs offering BA, BM, MM, MS, DMA, and Ph.D. degrees. The Department of Music Theory and Composition offers BM, MM, and DMA degrees in Composition; a MM in Music Theory; and a MM with an emphasis in Electronic and Computer Music.

Applications: Applications should be submitted by February 1, 1996 for primary consideration. However, the search will be open-ended until such time as the position has been filled. Please submit a curriculum vitae and a narrative that addresses the essential experiences and qualifications stated or implied above, along with the names, addresses, and telephone numbers of at least five references. Please do not submit software, scores, or recorded materials at this time.

The University of Miami is an Equal Opportunity/Affirmative Action Employer. The School of Music has been an accredited institutional member of the National Association of Schools of Music since 1939.

< University of South Florida Art Department:
Electronic/Digital Media Artist >

Victoria Hirt, Chair
Electronic/Digital Media Search
Art Department
University of South Florida
Tampa, Florida 33620-7350
Tel: (813) 974-2360
EMail -hirt@satie.arts.usf.edu
URL: <http://arts.usf.edu/art/art.html>

POSITION: Artist: Electronic/Digital Media. Tenure Track. Nine month position to begin August 7, 1996.

RANK/SALARY: Assistant Professor. Salary Negotiable.

QUALIFICATIONS: M.F.A. or equivalent required. Artist working with installation or performance, cross-media approaches, or hyper media/interactive forms and whose work addresses current critical issues in art. Preference given to artists whose work addresses issues of diversity and/or community involvement. Demonstrated professional record of exhibitions and/or performance/projects/publications required. Some teaching experience preferred.

DUTIES: Teach one introductory course in digital imaging, and one cross media course that may be team taught (12 contact hours per week plus graduate teaching). To establish and maintain a high level of professional activity and provide leadership in ongoing development of program.

APPLICATION

DEADLINE: March 1, 1996 (February 1, 1996 to be considered for CAA Interview)

APPLICATIONS: Application package should include resume; application letter; most appropriate evidence of professional activity, i.e. discs, video tapes, slides, publications, etc; statement of educational philosophy; and names, addresses and telephone number of 3 references. Include SASE if you wish your applicational materials returned.

DEPARTMENT: USF's Art Department, with a full-time faculty of 20, over 350 undergraduate majors, and 60 graduate students, offers a B.A., an M.F.A. in Studio Art, and an M.A. in Art History. It is an integral part of the College of Fine Arts, which includes art, theatre, music and dance, as well as an outstanding Contemporary Art Museum featuring national and international curated exhibitions and Graphicstudio, the internationally acclaimed print and multiples atelier. Areas of emphasis include painting, printmaking, drawing, sculpture, photography, film/time arts, electronic/digital imaging, ceramics, theory and criticism, and art history. Course experimentation in, for example, performance, installation, or book art, is encouraged, as is interactive/interdisciplinary/teaching. Department's emphasis is contemporary art and theory, and there is an exceptional rapport between art history/theory and studio faculty. The Department sponsors semesters in New York, Paris and London and is currently developing a program in African Art with an endowed chair.

TAMPA/USF: The Tampa Bay area, with a culturally diverse population of over two million, supports three performing art centers and four art museums. Its historic Ybor City, the former cigar capital of the world, is a thriving center for jazz, blues and alternative music, experimental theatre, poetry and art. USF with an enrollment of over 37,000, is the 15th largest university in the U.S.

The University of South Florida is an equal opportunity, equal access, and affirmative action employer. Women, minorities, Vietnam veterans and persons with disabilities are strongly encouraged to apply for this position. The search and selection process will be conducted in accordance with provisions of the Government in the Sunshine laws of the State of Florida. Meetings of the search committee are open to the public. All documents related to the search will be available for public inspection. Applicants who need a reasonable accommodation in order to participate in the selection process must notify Kevin Kennedy at the USF College of Fine Arts (813-974-3665), forty-eight (48) hours in advance.

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| ACKNOWLEDGMENTS |
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