



Leonardo Electronic Almanac

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INTRODUCTION

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< This Issue >

Craig Harris

In this month's issue Josephine Anstey provides a perspective on several works exhibited in the Touchware Gallery at SIGGRAPH 98 in the category of interactive installation. Josephine places these works in a context that explores the nature of this media, and examines how the fundamental principles relate to her work "The Thing Growing." Nathania Vishnevsky presents insights into another collection of works, this set presented as part of the 1998 International Symposium on Electronic Art. In "The flesh made word: ISEA98" Nathania traverses such topics as the biological vs. post-biological, privacy and surveillance, and the nature of transcendence. Eduardo Kac continues the exploration of the biological and post-biological in relation to genetic art in another feature article, "Transgenic Art." These three feature articles provide a fascinating snapshot of work and thought about the state of new media art today. A group of current opportunities for work in new media arts complete the issue, along with book and event reviews.

Work is progressing on developing the new structure for Leonardo Electronic Almanac. As I mentioned last month, beginning with Leonardo Journal Vol. 32 (1999) and Leonardo Electronic Almanac Vol. 7, any subscriber to the hardcopy journal Leonardo (individual, student, or institution) can get access to LEA for no extra fee if they register for it. Electronic versions of the hardcopy journal Leonardo will become available via the Online Computer Library Center, Inc. (OCLC) system, which will be integrated into the LEA web site archive. We are also working on bringing the complete 30-year archive of the hardcopy journal into the electronic archive. Individuals and institutions will still have an option to subscribe solely to the Leonardo Electronic Almanac monthly journal issues and LEA archive, which will continue to produce independent content from the hardcopy journal Leonardo.

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FEATURE ARTICLE

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< Are you Waving or Drowning?:Art, Interaction, Manipulation and Complexity (excerpts) >

Josephine Anstey

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This is a survey of several pieces that showed in the Touchware Gallery at SIGGRAPH 98, and were put in the category of interactive installation. I'm interested in discussing the issues and problems that these artists are dealing with by making, or because they make, interactive work, especially since I am in the process of making by own interactive art piece. The pieces were, Case Study 309, Tammy Knipp; Telematic Vision, Paul Sermon; WorldSkin, Maurice Benayoun; Items 1-2000, Paul Vanouse; The Bush Soul, Rebecca Allen and the Emergence Team; and Iconica, Troy Innocent. My piece is called The Thing Growing.

The audience may be both observer and participant - so we can experience the work from both inside looking out and outside looking in. This immediately distances and problematizes both of these positions and how we inhabit them - which is better, which is privileged, which am I more comfortable with and why? Because our physical bodies may be taking part in a representation, at times the line between the virtual and the real may be very thin. Tammy Knipp makes the point that different people learn and understand differently. Interactive work may allow people to take in an art piece haptically as well as visually or mentally. The technology which the work is based on can also break traditional, physical limitations. The art work enables and explores that event. Because the interactive work may require users and participants to act, our own actions become the focus of artistic inquiry and provoke associations. And, as virtual reality is viewer centered, so these actions emanate from the users themselves, and inevitably implicate them in the consequences of the action.

Interactive artists manipulate their audiences. How, why, and how successfully, this is done becomes part of the aesthetic. Success may also depend on the development of a sophisticated audience. Many art forms require the audience's suspension of disbelief. I would argue that interactive forms may sometimes require the participants to suspend their own will. They may have to be willing to act and interact in ways that further the piece - (pick up hints about the interaction, the rules, the interface) - for the richest experience of the piece. Of course sometimes we are too uncomfortable, too distrustful, too disenchanted with a work to suspend disbelief - equally sometimes, some people will be unwilling to suspend the exercise of their own will. Although I don't pretend that the lines between the real and the virtual are not blurred, I think a difference is signified when we can put down a book, exit a gallery, cinema, performance space or VR system. As a rule its safer to suspend will or disbelief in a representation than in a reality. Once outside the representation we judge it, having resumed our normal operations of belief and will - we judge it for how much fun it gave us, how it provoked or disturbed us.

Finally, the activity of making interactive art pieces also involves the artist in specific problems. Interactive Art seems to come in two main flavors. Either the artist sets up an environment in which the participants engage in social interaction or the artist creates an interaction between the participant and a responsive machine. In the first case, the artist must decided how directed the social interaction should be, and the piece is at the mercy of those interacting. In the second case the artist has to decide how complex the machine response is going to be. This review suggests that relatively simple responses can be powerful. More complex interactions run up against hard problems; how to get complex responses in and out of the machine; how to make a simple interface capable of

communicating complexity.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this profile is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

< Transgenic Art (excerpts) >

Eduardo Kac

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New technologies culturally mutate our perception of the human body from a naturally self-regulated system to an artificially controlled and electronically transformed object. The digital manipulation of the appearance of the body (and not of the body itself) clearly expresses the plasticity of the newly formed and multifariously configured identity of the physical body. We observe this phenomenon regularly through media representations of idealized or imaginary bodies, virtual-reality incarnations, and network projections of actual bodies (including avatars). Parallel developments in medical technologies, such as plastic surgery and neuroprosthesis, have ultimately allowed us to expand this immaterial plasticity to actual bodies. The skin is no longer the immutable barrier that contains and defines the body in space. Instead, it becomes the site of continuous transmutation. While we try to cope with the staggering consequences of this ongoing process, it is equally urgent to address the emergence of biotechnologies that operate beneath the skin (or inside skinless bodies, such as bacteria) and therefore out of sight. More than make visible the invisible, art needs to raise our awareness of what firmly remains beyond our visual reach but which, nonetheless, affects us directly. Two of the most prominent technologies operating beyond vision are digital implants and genetic engineering, both poised to have profound consequences in art as well as in the social, medical, political, and economic life of the next century.

Transgenic art, I propose, is a new art form based on the use of genetic engineering techniques to transfer synthetic genes to an organism or to transfer natural genetic material from one species into another, to create unique living beings. Molecular genetics allows the artist to engineer the plant and animal genome and create new life forms. The nature of this new art is defined not only by the birth and growth of a new plant or animal but above all by the nature of the relationship between artist, public, and transgenic organism. Transgenic artworks can be taken home by the public to be grown in the backyard or raised as pets. With at least one endangered species becoming extinct every day, I suggest that artists can contribute to increase global biodiversity by inventing new life forms. There is no transgenic art without a firm commitment to and responsibility for the new life form thus created. Ethical concerns are paramount in any artwork, and they become more crucial than ever in the context of biological art, when a real living being is the artwork itself. From the perspective of interspecies communication, transgenic art calls

for a dialogical relationship between artist, creature/artwork, and those who come in contact with it.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this profile is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

< The flesh made word: ISEA98 (excerpts) >
Nathania Vishnevsky

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Despite all of the discussion about the "post-biological", izea98 produced a corpus of works dealing with biology and the human body. The idea of the post-biological is a continuation of the concept of mind / body duality, taken to its most extreme conclusion. While desire to transcend our biology is not new, the mechanisms by which to disencumber ourselves now seem closer at hand. This yearning for release is balanced, however, by our attachment to the flesh. As our bodies are our primary interface by which we relate to our environment, we are not yet prepared for an out-of-body experience.

The presence of the body was felt at the conference by its use as media, subject, and as the site of aesthetic experience. Body doubles and various attachments / extensions made their appearance as well. Issues of exposure, along with issues of domination and control, both of and by the technology, were some more enticing offerings.

As digital artists we rely on inexpensive micro-chips with which to generate our work. The revolutionary plenary lecture presented by Coco Fusco described the exploitation of women's labor, in the border towns between the Americas, in the production of these chips. After the presentation I was left with the feeling that the era of "post-humanity", another utterance at izea98, might also be the age of the post-humane.

Nathania Vishnevsky (M.S., M.F.A) is an independent artist, and also a digital lighter with PDI, working most recently on the 3D computer feature animation "Antz". She would like to thank PDI for their support in attending izea98.

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[Ed. note: the complete content of this profile is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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LEONARDO DIGITAL REVIEWS
November 1998

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< Book Review: The Panorama: History of a Mass Medium >

The Panorama: History of a Mass Medium

Stephan Oettermann:

New York: Zone Books 1998,
497 pp., cloth, \$37.50,
ISBN 0-942299-83-3

Reviewed by by Oliver Grau

Email: <ldr@sfsu.edu>

It is no accident that the current eruption of virtual reality and the dominance of visual media coincides with the discovery of the pre-history of these mediums. The panorama, that media dinosaur -- the "tele-visual" device of the Nineteenth Century -- provides the primary clues needed to uncover that prehistory. Installed in a rotunda, the panoramas, sometimes larger than six-thousand square feet, were gigantic photo realistic paintings that hermetically surrounded the observer. From a darkened central platform, the observer found herself completely enveloped in visual illusions illuminated by concealed lighting. It may have been almost a hundred million visitors who flocked into these specially designed rotundas before the age of tourism. They surrendered their eyes to these simulations of distant lands, familiar cities and spectacular natural catastrophes produced by these 'image machines.' Consequently, the panoramas contributed considerably to the public image of otherness and foreignness; the more exotic, distant and unreachable the projected landscape was, the greater the profit for the proprietors of the panoramas.

Stephan Oettermann introduces a detailed and entertaining history of the three to four hundred oval images that were shown in Europe and North America in the Nineteenth Century. His presentation is enriched with many anecdotes. The basic method of panoramic perspective presentation was patented by Robert Barker in 1787 and was hastily marketed, producing a mass-media that oscillated among the intersections between art, entertainment and political propaganda. Initially created by individual artisans over years of pain-staking work, the manufacturing of the panoramas was quickly rationalized according to strict economic principles. In the large cities of England and France, panoramas were produced according to the division of labor, taking on an almost industrial quality. As early as 1800 panoramas were being produced in a matter of months. The companies producing panoramas financed their ventures with foreign capital and therefore operated on the principle of maximizing profits. In this sense, the panorama mirrors the age of burgeoning capitalism like no other visual medium. The international marketing of the panorama was paradigmatically related to the maximization of profit. As soon as the presentation was no longer viable at its place of origin, the canvasses were rolled up and sent out on far-reaching tours through regions with wealthy populations. The paintings were often transported

over thousands of kilometers and shown at as many locations as possible until they were practically shredded. This early modernization, which anticipated the devices of the film industry, really set in with the standardization of the rotundas around 1830. The subject matter presented in the panoramas primarily adhered to market demands and chiefly reflected the interests of the upper classes, initially the only ones who could afford the exorbitant entrance fees. However, along side the current battle reports displayed in the panoramas, burgeoning imperialism also found its way into this new mass media, which had a potential for propaganda already recognized by the likes of Napoleon and Lord Nelson. The spectacular events, landscapes or battles provided by colonial conquests were presented to the subjects of the given hegemonic power in the panoramas.

The opulent documentation provides the most eye-pleasing asset of the book. The vivid illustrations and the well-researched and informative text offer a detailed and clear presentation of a century in the history of this medium that make the book worth buying. If one, however, wants to understand the place that the panorama has in art history and gain an insight into its specific effect on its historically contemporary observers -- consequently treading the bridge of connections leading up to current developments --- then the analysis of the Germanist Oettermann, which was already criticized upon its first publication in 1980, is simply out-dated. Oettermann, hardly reacting to the stated objections, simply tones down his contentions in a few places. In this edition, he contends that "the precursors played no role in the panorama's development," (p.5), whereas in the first german edition this line reads "Precursors and successors can be found almost anywhere, they are meaningless" (p.7). This uncompromising position exhibits just plain ignorance. Oettermann's main assertion cannot be maintained, not only when one looks forward to the immersion experiments of the Twentieth Century and the currently emerging computer generated virtual spaces but also when one looks back upon the steady, multi-faceted and complex prehistory of the panorama, that can be followed from the Renaissance [Baldassare Peruzzis Sala delle Prospective, 1516, or the "Sacri Monti Movement" 1498-1600] through the various eras all the way back to antiquity. The panorama is rooted, moreover, in the history of the 360° sphere of illusion. The wall-paintings of such spaces hermetically encapsulated the observer and transported her into an artificial world. Even though there were hundreds of such rooms in european palaces, villas and sacred places, especially in the Seventeenth and Eighteenth Centuries, Oettermann persistently ignores the comments of his predecessors on this point or dismisses them with an air of superiority. The panorama grows out of this tradition and is, simultaneously her most elaborate representative. In order to support his contention of the singularity of the panorama, Oettermann especially argues the position that the panorama represents an aesthetic reaction to the supposed discovery of 'horizon' in the Eighteenth Century. (p.13) The presumption is quite incomprehensible because city vedute's, coastal panoramas and bird's-eye view maps date all the way back to the Fourteenth Century -- a time in which Francesco Petrarca ascended Mont Ventoux and "like one who is paralyzed" relished the mediterranean panorama between the Alps, the Rhone and the Gulf of Marseille.

The panorama as medium unifies two diametrically opposed aesthetic experiences. Oettermann justifiably throws out the aesthetic-sublime effect of the horizontal perspective, which conjures up a feeling of an obscure power of the gaze. On the other hand, he fails to grasp the central function of immersion, which rises out of the suggestive power of the absolute image. This point is all the more pertinent when regarding spaces in which the illusion was expanded through the use of

figures and natural accouterments in the interior of the room leading directly up to the observation platform. This faux terrain functioned as a 3D-element. The battle cries and other, predominantly orchestra effected, sounds increase the poly-sensual suggestion. In the Panorama of the German Colonies, opened in 1885, they intended to recreated the lighting, atmosphere and haziness of tropical regions with artificial fog and wind effects, thereby appealing to the skin and noses of the visitors. This kind of 'transposing into the image', this immersion, encapsulates the incipient essence of the idea of the panorama. The panorama attempts to break the inner distance separating observer and image. It attempts to overcome the influence exerted by the image upon viewer reaction and thereby were incapacitating the observer. Oettermann fails to reflect upon the strategy of immersion, especially as employed in the suggestive politics of the battle panoramas, which, after all, make up a third of all known panoramas.

In the Eighties of the last century, the "dark side" of the panorama had reached its peak. As in the case of the Panorama of the Battle of Sedan, opened in center city Berlin in 1883 by Moltke, Bismarck and the Kaiser himself, the suggestive potential of the panorama was exploited in order to purposefully manipulate the emotions of hundreds of thousands, making them more susceptible to state propaganda. Today, our eyes are used to following a steady acceleration; thus we can hardly appreciate the effect which a still panorama picture had at this time. Many witnesses attest that for the first few moments the deception was so strong that the luminous scenery was experienced as a real battle. The Berliner Tageblatt reported, "It is as if one were standing amidst the awful battle." With the calculated precision of illusion, the picture and the 3D-interior concentrate and fix upon the onlooker. He/She is devoured by the image. An image that the Prussian soldiers and those unconditionally obedient to them idolized. The mechanism of shattering the inner distance of the image, which demanded emotional participation, always claimed the central role in the history of these image machines. Oettermann interprets the Panorama as a "pictorial expression or symbolic form of a specifically modern bourgeois view of nature and the world," of a society going through the process of democratization. (p.7) At the very latest, with the return of the panorama in the 1980's as medium for the glorification of politically important battles and for the fostering of national unity in notoriously authoritarian societies -- among them, North Korea, China and Iraq -- one must recognize Oettermann's glorifying analysis of the panorama as untenable.

In the context of current developments in the field of the new media, the panorama becomes worthy of attention precisely because of its problematic aspects. On this point, one finds the decisive parallel to virtual reality. Virtual reality employs currently available means and technologies but is, at its core, characterized the search for interface. It is the attempt to address directly and physically indistinguishably as many senses as possible. As the extent to which the virtual illusion can act upon all of the sense increases and as the interactive potential of the observer with image becomes more and more comprehensive, the intensity of the suggestive power of the digital image, the immersion will increase drastically and create a sustained suspension of the distance between image and observer. As the interfaces become more imperceptible, more natural, or physically intimate they will further expand the illusion of the image unbound and the power of distance which contributes to the construction of the subject will disintegrate. By creating an illusion and addressing all the senses of the human body, virtual reality reveals itself as the technically developed heir to the illusion as it made itself felt in its paradigmatic representative, the panorama. The publisher deserves recognition for its undertaking of interfacing the debate surrounding the new media with its media-archeological predecessors and that in

the form of a most wonderfully formatted book.

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< Book Review: Les Particules Elementaires >

AUTHOR: Michel Houellebecq
PUBLISHER: Flammarion, Paris, France.
LENGTH: 392 pp
ISBN: 2 08 067472-2
DATE: 1998

REVIEWER: Roger F. Malina
EMAIL: <rmalina@alum.mit.edu>

This french novel is stirring a raging debate among french intellectuals this fall, most recently in the pages of Le Monde newspaper. The novel tells the story of two half brothers, baby-boomers, and traces their family, amorous and professional stories . One of the brothers, the lead protagonist, is a molecular biologist the other seeks resolution through sexual pleasure. The novel is a fast read, and through the vignettes and embedded philosophical musings provides a biting critique of contemporary society. It attacks the 1968 generation both in those now in positions of power and authority, as well as the New Age outgrowths of Californian Esalen and the Summer of Love; it attacks the new humanists, the french intellectuals of post modern and deconstruction schools (Foucault, Derrida, Lacan, Deleuze and gang), and well as the neo- socialists. Indicative of the cynical view of the book is that most of the lead characters end their lives as suicides or in insane asylums.

The sometimes purple prose is laced with scientifically accurate descriptions of human biology, psychology and anatomy, with a particular relish in describing the effects of aging, and the emptiness and alienation of much of contemporary life. It is merciless on the fragmentation of society (40% of french children are born out of marriage). The protagonists fail to develop any meaningful long term relationships with their spouses, children, relatives or friends (hence the book's title - "elementary particles").

The novel may be of interest to Leonardo readers for two reasons related to the current Leonardo "Art and Biology 30th anniversary theme. First the lead protagonist is a molecular biologist and the book present a convincing and realistic, if sarcastic and depressing, view of the life and work of scientists. The discussions of the impact of einsteinian relativity, quantum mechanics, chaos theory and molecular biology are well thought out and interesting. There are perceptive anecdotes for instance about the Huxley brothers, Julian and Aldhous, and about Neils Bohr and the Copenhagen School. The underlying thrust is that the advance of scientific knowledge has been steadily removing the various underpinings of philosophical and ethical systems, with the resulting materialist impasse. The book however provides a rather suprising and provocative denouement. The molecular biologist, Michel Djerzinski, develops a theory (published in the journal Nature)- that is based on thermodynamic principles that demonstrates that all evolution based on chromosomic separation, sexual reproduction, is inherently unstable (and hence imperfectible). In a second paper he demonstrates, and confirms through numerical simulations, that any genetic code, whatever its complexity, can be re-written through a formal mathematical procedure so that it is structurally stable, resistant to alteration through mutations, and infinitely extensible through asexual cloning. True ethical humanism he demonstrates can only be achieved through genetically based brotherhood, or rather sisterhood. UNESCO funds the development of the

creation of the new beings using the Djerzinski algorithm, an event that is televised live like the moon landing, or Sojourner on Mars.

The novel ends optimistically through the eyes of the new race of ethical beings that have been created and is dedicated to the human race that had the courage to end their own flawed existence, through rational and scientific means. The premise of the book, familiar to the science fiction audience, is developed in a thorough and effective way- a foretaste of the profound ways that molecular biology and genetic engineering will dominate the philosophical and ethical discourse of the next century.

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< Event Review: Experiments in Musical Intelligence >

David Cope
at the "Forum" series
presented by Palo Alto Research Center Xerox Corporation
Palo Alto, CA., USA

Reviewed by Richard Kade, Ubiquitous Iconoclast
E-mail: <Richard.Kade@pahv.xerox.com>

On 3 September 1998 the weekly "Forum" series at Xerox Corporation's Palo Alto Research Center (PARC) afforded attendees the opportunity to see not only an accomplished composer, lecturer, author, computer program designer and, (often unintended) humorist all interacting within the same cranium but, also, to hear the essence of "machine creativity".

David Cope recounted how, nearly two decades ago, the need to overcome a human "mental block" caused the creation of "Experiments in Musical Intelligence" (or "EMI", affectionately pronounced "Emmy", a LISP-based program developed on an ancient Macintosh) that performed much the same function upon musical progressions that IBM's "Deep Blue" did with situations in chess games. In both cases the breakthrough resulted from minimizing the programming so as to enable maximizing of data bases.

EMI emulations of Bach, Rachmaninoff, Mozart, Stravinsky and others demonstrate, even if unwittingly, that Longfellow was closer than he could have realized when calling music the "universal language." Douglas Hofstadter's "Le Tombeau de Marot" shows amply that translation of poetry from one language into another is a task beyond machines which seemingly deal with the far less involved form of expression we perceive as "music."

Professor Cope acknowledged that, even today, the EMI program cannot take "both versions" of the first movement of Bach's "Concerto for 2 Violins/Harpsichords in d/c minor" minus the final tonic chord and resolve the matter of whether it should be major or minor much less complete the final fugue of the "Art of the Fugue." However, after he completes the final book of his trilogy on the modern composer, we can look forward to an opera composed in the style of Gustav Mahler.

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The editors of Leonardo Digital Reviews welcome your comments. Contact us via email at <ldr@sfsu.edu>. These editorials and reviews may be found online at <<http://mitpress.mit.edu/e-journals/Leonardo/ldr.html>>

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| OPPORTUNITIES |
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< Technical Position Indiana University School of Music >

Indiana University School of Music has the following position open:

The following position is open within the Music Library. To apply, please mail a cover letter and resume to:

Meg Lindeman
MU105, School of Music, Indiana University
Bloomington, IN 47405

as soon as possible.

Music Library Computing Manager
School of Music
RANK: PA11

Under minimal supervision, this position provides planning for and technical support of computer workstations and servers in the Music Library. The Music Library is technologically complex, with 100+ workstations with Kurzweil MIDI keyboards, multiple servers, specialized music hardware and software, and the Variations digital audio library system. This position will include the following duties:

Provide technology leadership and planning for the Music Library. Actively research and track advances in music technology. Make recommendations for their use in the Music Library and in instructional settings. Serve as a point of coordination between multiple units, including the School of Music, Library Information Technology, UITS, and Instructional Support Services. Serve as an ex officio member of the School of Music Computing Policy Committee and the Music Library Advisory Committee.

Provide technical support for library staff and public access workstations, totaling 100+ Windows 95, NT, or MAC machines. Duties include hardware installation, software installation, training of users, troubleshooting, and evaluation of new hardware/software. Software includes instructional and library applications. Serve as primary system administrator of the LAN server supporting the public access workstations. Share responsibility with other School of Music computing staff for system administration of School of Music LAN servers.

Provide technical support for the digitization of and access to staff and public workstations for the Variations digital library project. This includes troubleshooting installation and user assistance for digital audio and image conversion hardware and software. Will work closely with the Digital Library Program staff to coordinate workstation software or hardware changes and any Digital Library server changes.

Bachelor's degree in music with two years training in technology or equivalent combination of experience and training is required. Specific experience required: support of Windows and Macintosh computers; experience with MIDI (Musical Instrument Digital Interface) and music software; NetWare or Windows NT server administration; and experience with digital audio/audio, including configuring sound cards

and MPEG hardware and software.

< Music Technology Director-SUNY Buffalo >

STATE UNIVERSITY OF NEW YORK AT BUFFALO - Music Technology
Director, Department of Music, Faculty of Arts & Sciences.

David Felder
Chair, Department of Music
222 Baird Hall
SUNY at Buffalo
Buffalo, NY 14260-4700.

Application deadline: December 23, 1998 or until the position is filled. Applicants should send a cover letter, curriculum vitae, and should request three letters of recommendation to be sent independently.

Starting Date: January, 1999.
Salary Range: \$28,889-\$35,000.

Description of Duties: The Music Technology Director works closely with the Director of the Computer Music Studios in equipment procurement, studio design and musical research.

S/he maintains high operational functionality of audio systems, computer music studios and concert recording and presentational modes within the Department.

S/he trains and supervises a small group of student assistants to record, mix, edit, duplicate, etc. and maintain equipment and operations.

S/he teaches an occasional course or portion of courses in the Music Technology area as assigned by the Department Chair in consultation with the Composition Coordinator and Director of the Computer Music Studio. S/he participates as engineer, mixer, programmer, sound designer, etc. in creative and research projects in collaboration with faculty, guest artists and graduate students. S/he records selected events in the Music Department maintaining highest possible professional standards.

Minimum Qualifications:

A bachelors degree in Music Technology, Audio Recording, Computer Music (or the equivalent) is the minimal qualification; advanced degree is strongly preferred or the equivalent in direct or related experience of two-three years. Demonstrable professional experience to include:

- 1) programming expertise in MAX and MSP and some familiarity with UNIX experience desirable;
- 2) ability to work closely and enthusiastically with faculty and graduate students on creative and research projects to include programming, recording, editing, mixing, and live-concert performance - a strong background in music is highly desired. Ability to maintain and repair and trouble-shoot analog/digital recording and synthesis/processing equipment;
- 3) expertise in Macintosh-based music software programs to include most commercially-available audio, midi, and editing packages;

4) digital audio recording, editing, mixing, computer studio design and maintenance.

SUNY at Buffalo is an Equal Opportunity/Affirmative Action Employer.

< Program in Film and Video Studies-University of Michigan,
Ann Arbor >

Mary Simoni
Email: <msimoni@umich.edu>

The Program in Film and Video Studies and the Department of Media and Music Technology of the University of Michigan invite applications for a tenure track Assistant Professor position in Digital Animation and Multimedia Studies to start beginning Fall 1999.

Responsibilities include teaching courses in digital animation and the computer-based integration of sound, music, and moving image. Candidates should have an understanding of moving image history and aesthetic theory and its application to digital technologies as well as an understanding of the role of music and sound in multimedia art forms. Theoretical knowledge and practical experience with multi-dimensional, computer based animation and multimedia authoring systems is required, as well as knowledge of and experience with video, MIDI and digital audio.

Demonstrated commitment to cultivating creative expression through multimedia within the context of a liberal arts education is necessary as well as the ability to work as a member of a team bridging liberal and performing arts education. Successful teaching experience at the college level is preferred. Master's degree required. Doctorate preferred. Salary competitive.

To apply, submit a letter of interest, curriculum vita, sample of creative work, and names and phone numbers of three references to: Chair, Digital Animation and Multimedia Studies Search Committee, Program in Film and Video Studies, 2512 Frieze Building, University of Michigan, Ann Arbor, MI 48109-1285. Review of applications will begin on January 18, 1999 and continue until the position is filled.

The University of Michigan is an affirmative action, equal opportunity employer.

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ANNOUNCEMENTS

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< Calls for Papers: Leonardo Music Journal 1999 and 2000 >

Calls for Papers: Leonardo Music Journal 1999 and 2000

Leonardo Music Journal
425 Market St., 2nd Floor
San Francisco, CA 94105, U.S.A.
Nicolas Collins, Editor-in-Chief
Email: <TallmanCollins@compuserve.com>

We invite proposals for the next two issues of the Leonardo Music Journal. The guidelines below are intended to create an identifiable

focus for each issue, but should not be regarded as a limited set of assigned topics or as specific questions to be answered. They should serve instead as springboards for personally relevant writing, and are open to individual interpretation.

LMJ 9 (1999): Power and Responsibility: Politics, Identity and Technology in Music

In our contemporary saviness, we no longer think of music as the creation of a solitary genius scribbling in a garret. We are far more likely to see it as a collaboration between individual ambitions and socio-economic constraints and inspirations. Composers themselves are likely to parse the responsibility for musical decisions out among numerous parties: a composer, pseudo-autonomous hardware and software, improvising musicians, variables of architectural space, or the interaction of an audience.

These issues converge on questions of identity and power politics: Is the orchestra necessarily fascistic? Does electronic technology have an inherent sexual identity (is it all "boysâ toys")? What is the difference between a Japanese composer writing for the piano and a German composer writing for the koto? Do composers in "young countries" (e.g. Australia) necessarily have less cultural baggage than those in older ones (e.g. Italy)? Are the virtues of democracy the same as those of music? And how do we deal with Mr. Gates?

In this issue of Leonardo Music Journal, we want to examine how contemporary composers define their role within a network of shared responsibility. How is power allocated? How is its use justified? How do you define your musical and social communities, and how do you position yourself within them?

LMJ 10 (2000): Southern Cones---Music Out of Africa and South America

For the end of the millennium we want to shift the focus away from technological music's traditionally Eurocentric domain and concentrate instead on contributions to modern music coming out of Africa and South America. Access and attitudes towards technology shift radically with geography, causing both predictable and unexpected effects on the arts. We encourage writing by residents of these continents who work with technology and music (composers of "serious" and "pop" music, recording engineers and producers, studio musicians, concert promoters, musicologists, etc.), as well as persons of any citizenship for whom Southern cultures have been musically significant.

Potential authors are invited to contact the Leonardo Music Journal (425 Market St., 2nd Floor, San Francisco, CA 94105, U.S.A.) or Nicolas Collins, Editor-in-Chief (TallmanCollins@compuserve.com) directly with proposals, suggestions or questions.

< Leonardo Space and the Arts Workhops >

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Email: <bureauud@altern.org>
IDEA online: <<http://nunc.com>>
OLATS: <<http://www.cyberworkers.com/Leonardo>>

LEONARDO SPACE AND THE ARTS WORKHOPS

"Rencontres du 13 avril" - Boulogne (Paris)

Announcing the 1999 and 2000 workshops on:

Living in Space (1999) Sunday March 21, 1999
Life in Space (2000) Date to be announced

The Workshops

The "Rencontres du 13 avril" are a series of workshop co-organized by Leonardo/OLATS, the OURS Foundation and the International Association for Astronautics. The themes of the workshops have been :

1997: The artist as space explorer
1998: Space Art, Earth Art

The themes of the 1999 and 2000 "Rencontres du 13 avril" will be "Living in Space" (March 21st, 1999) and "Life in Space" (2000, date to be confirmed).

The 1999 workshop will take place in Boulogne (near suburb of Paris) as previously. We are currently in negotiations to organize the 2000 workshop in Avignon as part of the 2000 year celebrations and Avignon, European Capital of Culture.

Rencontres du 13 avril III - March 21st 1999 - Living in Space

This workshop will address cultural issues surrounding the increasing presence of humans and machines in space. In this workshop, we shall address several subjects such as:

- space habitat, space architecture
- human engineering : medical and psychological questions
- Design of environments for machines in space

Rencontres du 13 Avril IV. Spring 2000 - Life in Space

This workshop will address cultural issues surrounding exo and astrobiology. We seek to involve scientists and engineers involved in the scientific study and search for lifeforms other than our own in the Universe.

< LIFE 2.0 International Competition >

For further submission information and the application form, please see the URL: <<http://www.telefonica.es/fat/vida.html>>

For questions concerning eligibility of entries:
Nell Tenhaaf, Artistic Director
Email: <tenhaaf@yorku.ca>

All other inquiries:
Susie Ramsay <fat@telefonica.es>

This is a call for submission of art works to an international competition on "art and artificial life." We are looking for works in electronic and digital media that cross over with the field of a-life research. Artists whose work uses digital synthesis techniques and whose conceptual concerns are related to synthetic life and artificial evolution, are invited to submit their pieces. The work may employ techniques such as digital genetics, autonomous robotics, recursive chaotic algorithms, knowbots, computer viruses, avatars or virtual

ecosystems.

An international jury (Jose Luis Brea, Manuel DeLanda, Joe Faith, Rafael Lozano-Hemmer, Sally Jane Norman and chair Nell Tenhaaf) will grant three cash awards, with a first prize of US \$5,000 (2nd Prize:\$3,500 - 3rd Prize:\$1,500), plus seven honorary mentions to the most innovative electronic art projects related to a-life. Furthermore, works that are awarded a monetary prize or selected for an honorary mention will be included in a "Best of LIFE 2.0" video which will be aired on specialty television programs and circulated at festivals worldwide. Assessment will be based on video documentation submitted along with an application form.

The deadline for submission is Friday, January 15, 1999.

The Life 2.0 International Competition is sponsored by the Fundacion Arte y Tecnologia in Madrid, Spain.

< Symposium: Emergent Futures: Art in the Post-Biological Era >

Symposium: Emergent Futures: Art in the Post-Biological Era

With:

Roy Ascott
Mike Phillips
Eduardo Kac
Charlotte Davies
Joseph Nechvatal
Miroslaw Rogala
Bill Seaman
Victoria Vesna
Christa Sommerer + Laurent Mignonneau
Chris Speed

When: Dec 4-5, 1998

Where:

Centre Cultural La Beneficiencia
C/ Corona,36 46003
Valencia (Spain)

Information and Applications

<<http://caiaa-star.soc.plym.ac.uk/production/EMERGENT-FUTURES/index.htm>>

and

<<http://www.cbcp.com/benefic/symposium>>

Application deadline, 20th November

Directed by: Angela Molina and Roy Ascott

Coordinated by: Kepa Landa

EMERGENT FUTURES

Art in the post-biological era Art is undergoing paradigmatic change. Interactive media, telematic systems, immersive environments, the technology of transformation and transcendence, serve not only as the tools of this process but as its very environment. Representation and expression are giving way to connectivity and emergence as the formative principles of creativity. We see our own identity as non-linear, multi-layered, hyper-connected, and globally distributed. We inhabit the interspace between the virtual and the actual. A

post-biological culture is emerging. Artificial life, artificial intelligence, and perhaps eventually artificial consciousness will increasingly challenge our ideas of nature and what it is to be human. New processes of perception, communication and cognition are forming. While science and the technology increasingly inform our aesthetic and epistemological structures, we are also inspired by metaphors and myths of other times and distant cultures. At the frontier of art, issues of technology and consciousness are of major importance. This has radical implications for the new millenium while being entirely consistent with the conceptual and spiritual provenance of twentieth century art.

Roy Ascott

<<http://caiaa-star.soc.plym.ac.uk/production/EMERGENT-FUTURES/index.htm>>
and
<<http://www.cbcp.com/benefic/symposium>>

< Cognitive Science Conference on Perception, Consciousness and Art >

Cognitive Science Conference on Perception, Consciousness and Art

Erik Myin, Fac. L.&W., Vwij
(EMEP), VUB, Pleinlaan 2,
B-1050 Brussels, Belgium
Email: <emyin@vub.ac.be>
URL: <<http://homepages.vub.ac.be/~emyin/conference.html>>

Brussels, 17-19 May 1999
Vrije Universiteit Brussel
Centrum voor Empirische Epistemologie

From 17 to 19 May 1999, a Cognitive Science Conference on Perception, Consciousness and Art will be held at the 'Vrije Universiteit Brussel', Brussels, Belgium.

The aim of the conference is to highlight the fertility of the cognitive science approach to perception for the understanding of Consciousness and Art, as exemplified by the recent books of Susan Hurley on Consciousness and Semir Zeki on Art (Consciousness in Action, Harvard University Press, 1998; Inner Vision, forthcoming).

Each of the themes -perception and consciousness and perception and art- will be treated during one third of the conference time, with invited speakers. Another third of the conference is reserved for presentations based on submitted proposals.

Confirmed Speakers

Confirmed invited speakers are (as of November 20 1998):

- JosÚ Luis Bermúdez (CREA, Ecole Polytechnique, Paris and Philosophy, University of Stirling)
- Marc De Mey (Philosophy, University of Ghent)
- Mia Gosselin (Philosophy, Vrije Universiteit Brussel)
- Clyde Hardin (Philosophy, Syracuse University)
- Susan Hurley (Philosophy, University of Warwick)
- Martin Kemp (Trinity College, Oxford -provisional)
- Marcel Kinsbourne (Psychology, New School for Social Research, New York)
- Marianne Marcussen (Art History and Theatre Research, University of

- Copenhagen)
- Arthur Miller (Science and Technology Studies, University College London)
 - Alva NoÏ (Philosophy, University of California, Santa Cruz)
 - JoÏlle Proust (CREA, Ecole Polytechnique, Paris)
 - Luc Steels (Artificial Intelligence, Vrije Universiteit Brussel)
 - Robert Solso (Psychology, University of Nevada, Reno)
 - Michael Wheeler (Psychology, Oxford University)
 - Semir Zeki (Institute of Neurology, University College London)

More speakers will be added to this list later

 Call for papers

Researchers from any domain in cognitive science whose work is related to the conference themes are encouraged to submit an abstract for presentation at the conference. Abstracts should not exceed 250 words and should be sent preferably by e-mail to emyin@vub.ac.be. If this is impossible, the paper mail address is: Erik Myin, Fac. L.&W., Vwïj (EMEP), VUB, Pleinlaan 2, B-1050 Brussels, Belgium. In the latter case, please include a version of the abstract on floppy on any regular Mac or Windows wordprocessor. The deadline for abstracts is January 18, 1999. Authors will be acknowledged of reception without delay and of acceptance status before March 1, 1999.

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 | ACKNOWLEDGMENTS |
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