

Leonardo Electronic Almanac

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INTRODUCTION
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< This issue >

Craig Harris

The Feature Article this month presents Eduardo Kac's perspective about a dialogical telepresence event entitled "Ornitorrinco in the Sahara" that he created with Ed Bennett in the IV Saint Petersburg Biennale. This is another in a series of telepresence projects, and LEA web visitors can explore some of Eduardo's works and writings. Sholto Ramsay illuminates recent activities at the Institute of Contemporary Arts in London. In addition to information about Corpus Delecti, we find out about artists and creative activity in China. I spent informative and enjoyable web time exploring these directions.

Leonardo Digital Reviews presents its usual group of thoughtful book and conference reviews. The depth of coverage and insights present in Molly Hankwitz's review of "Mass Media and Society" is matched by the intense coverage of "The Total Museum Conference". LDR makes excellent reading this month.

IDEA, the well-known hard copy directory of electronic arts, is going on-line; and we have some interesting opportunities and announcements for LEA visitors to consider.

Keep the material coming!

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FEATURE ARTICLE
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< ORNITORRINCO IN THE SAHARA >

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On October 5, 1996, Ed Bennett and I participated in the IV Saint Petersburg Biennale with a dialogical telepresence event entitled "Ornitorrinco in the Sahara". The phrase "dialogical telepresence event" refers to a dialogue between two remote participants who interacted in a third place through two bodies other than their own. Telepresence refers to the experience of having a sense of one's own presence in a remote space (and not the sense of somebody else's remote presence, as is common on the telephone). Realized in a public area of a downtown building in Chicago, The School of the Art Institute, without any prior announcement to facilities users, the event mentioned above consisted basically of three nodes linking the downtown site in real time to The Saint Petersburg History Museum (a Biennale sponsor) and the Aldo Castillo Art Gallery, located in the well known Chicago gallery district. Through these telecommunications ports of entry human remote subjects interacted with one another by projecting their wills and desires onto equally

remote and fully mobile, wireless telerobotic and telecyborg objects.

One of the Saint Petersburg Biennale directors, Dmitry Shubin, used a black and white videophone to control (from the Saint Petersburg History Museum) the wireless telerobot Ornitorrinco (at The School in Chicago) and to receive feedback (in the form of sequential video stills) from the telerobot's point of view. At the same time, my own body was enveloped by a wireless telepresence garment (1) which transformed it into a blind polymorphic zombie-like cyborg--a zomborg. The dispossessed human body was controlled, via a telephone connection only, by artist and art historian Simone Osthoff--who experienced empathic telematic blindness--from the Aldo Castillo Gallery. The color video feed from the zomborg was transmitted live to another space in the downtown Chicago building, enabling local viewers, surprised and unaware of the situation, to see the dialogical experience in real time (from the point of view of the zomborg, which itself could not see). During the event, while both the telerobot and the teleborg were remote-controlled, a unique dialogical telepresence situation unfolded.

The telepresence garment consisted basically of a transmitter vest (which placed the video transmitter in direct contact with the skin under the cloth), a limbless suit (which eliminated proprioception), and a transceiver hood with no openings for eyes or mouth on which I had sewn circuit boards to transmit video and receive audio. The CCD camera was mounted in alignment with my left eye and the audio receiver was mounted in alignment with my right ear. With this garment the human subject was converted into a human object, becoming a direct conduit to a remote operator's commands. The human body could not see anything at all. It could barely hear, and with great difficulty it could emit sounds. Locomotion on all fours was dramatically disabled by the limbless suit. With this garment, breathing became an exercise in patience, and as the temperature rose, sweat dripped incessantly, and most senses were effaced or had their range and power reduced. The human body could only rely on instinct and the concern and cooperation of the remote agent. The feelings that emerged in this dialogical context were a sense of spatial unawareness and fear of getting harmed, an agonizing combination of feeling invisible and fragile simultaneously. Like a corpse revived by an external power, my motions were not proprio motu.

In previous telepresence installations, Ed Bennett and I explored the concept of geographic displacements (2), which we also pursued in this piece. Without ever leaving Chicago, in the past the telerobot Ornitorrinco went to the legendary beach of Copacabana, the inaccessible terrestrial Moon, and the mythic Garden of Eden. This time, it went to the inhospitable Sahara. The title of this event, Ornitorrinco in the Sahara, dealt wryly with the contradictions inherent in the oppositions between a mostly barren land visited by few and the public space of a downtown building, early in the morning on a weekend day, in one of the largest American cities. The event took place early in the morning because of the Chicago-St. Petersburg 9-hour time zone difference. The sense of isolation, as well as nomadic activity, conveyed by the African desert, were translated into the telenomadic experience of the remote subjects and echoed in my own sense of complete isolation as a host to someone else's volition.

As Simone Osthoff controlled the behavior of my body, I dreaded the moment I would hit a wall or a pillar, accidentally find myself in the elevator, or collide with passersby or the telerobot (which hosted Shubin). Also temporarily blind and considerate of my

sensorial deprivation, Osthoff spoke slowly and paused intermittently, commanding the body as if via a telepathic sense of touch, as when someone enters a dark space and tries hesitantly to touch surrounding objects hoping to regain spatial awareness of the environment. At first completely unaware of what he was contemplating, Shubin alternated the behavior of his telerobotic host between propelling himself down the hall to navigate other areas of the space and engaging the zomborg directly. On occasion, physical contact between the telerobot and the zomborg occurred.

Cybernetic life, with its shortcomings, drawbacks, and political ramifications, as well as its latent expansion of human potentialities, is a motive power of our rootless and ahistorical nomadism. If there is today a general feeling of artistic openness in the one-world of global information exchange, partially shaped by ubiquitous electronic media, greater visa-free mobility, and immigration, at the same time most of art is still a matter of commerce of objects. The philosophical stasis created by this view of art conflicts with the fluidity of personas and commutation of points of view now enabled by the post-cold war global economy. The current general feeling bespeaks the credo that innovation is no longer possible, meaningful, or desirable, trying to close the chapter on high modernism. The serious danger of this position is to blindly dismiss the differentia specifica of most radical directions in electronic art as anomalies and aberrations in a global market of postmodernist polyphonic styles. In this sense, it is imperative to undo the authoritarianism of formal aesthetic concerns and assert alternatives that make statements about the human condition directly on the flesh. Reflecting on the passage into a digital culture and escaping from rubrics that categorize past directions in contemporary art - such as body art, installation, wearable art, happening, video art, performance, and conceptual art - the dialogical telepresence event described above contributed to a relativistic view of contemporary experience at the same time that it created a new domain of action and interaction for the human body.

NOTES

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1 - I originally sketched the Telepresence Garment on September 17, 1995. The Garment came into being on October 4, 1996.

2 - The first Ornitorrinco telepresence event took place in 1990, between Rio de Janeiro and Chicago. It was called "Ornitorrinco: experience 1". The next four events were: "Ornitorrinco in Copacabana", 1992, a link between two remote sites in Chicago; "Ornitorrinco on the Moon", 1993, a link between Graz, Austria, and Chicago; "Ornitorrinco in Eden", 1994, a link between Lexington, KY, Seattle, WA, Chicago, and the Internet; and "Ornitorrinco in the Sahara", 1996, a link between two remote sites in Chicago and Saint Petersburg, Russia.

CAPTIONS for images viewed on the web site

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Shubin.GIF - Dmitry Shubin in St. Petersburg, Russia, with the videophone used in Ornitorrinco in the Sahara

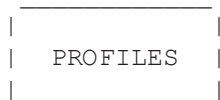
1.GIF - This image shows the Telepresence Garment used in Ornitorrinco in the Sahara, as part of the IV St. Petersburg Biennale.

2.GIF - The telerobot Ornitorrinco and the teleborg interacting as they were simultaneously remote controlled from the the St.

Petersburg Biennale and the Aldo Castillo Gallery.

3.GIF - The teleborg and the telerobot Ornitorrinco

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< Corpus Delecti & Chinese On-Line  
at the Institute of Contemporary Arts, London >

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On the first weekend of November the ICA held a series of workshops intended to explore the possibilities of going online and chinese poetry entitled "Chinese Online". It is part of a continuing commitment to contemporary chinese culture that will be maintained throughout 1997. There is a multilingual website at <http://www.illumin.co.uk/ica/diaspora/> which features chinese poetry in text and audio form. This will grow over the next year and will become the vehicle for projects that attempt to link chinese artists practising in Britain with artists in China, Hong Kong and Taiwan.

ICA Live Arts has focused on performance practices that have emerged from diasporic or marginalised communities with the Digital Slam event of 1995 and a number of performance seasons such as Respect, More Respect, etc. See further details at:

<http://www.illumin.co.uk/ica/Bulletin/livearts/>

This November saw the launch of Corpus Delecti, a major season of new Latin American performance, taking on sex, food and the body politics and looking at the cultural, political and religious forces which shape the continent's sensibilities. This has been curated by Coco Fusco and will also feature a one day conference. There are further details at the following URL:

<http://www.illumin.co.uk/ica/corpusdelecti/>

Those who missed the textuality season can listen to some of the performances at:

<http://www.illumin.co.uk/ica/Bulletin/livearts/textuality1.html>.

You will need a copy of shockwave however.

The following are some of the links to more information about activities in China:

<http://www.cnd.org>  
This is the first Chinese website launched in 1991. It has a virtual gallery of the Cultural Revolution. and a collection of classic Chinese poetry.

<http://www.rpi.edu/~cheny6/>  
This is an Internet magazine dedicated to contemporary Chinese

poetry.

<http://www.chinese-channel.co.uk>

This site is designed in London and publishes cable TV problems in Chinese and English.

<http://www.trader.co.uk./singtaoeu>

This is the first online Chinese language newspaper published in Britain.

<http://www.u-net.com/~cmc>

This is the first online English and Chinese magazine published in Britain.

<http://www.demon.co.uk/eastfield/>

This home-page is maintained by Wellsweep and publishes Chinese poetry in English.

<http://www.bbcnc.org.uk/online/poetry>

This home-page presents the poetry collection by the Poetry Society of Britain.

<http://www.chinapage.com>

This is a comprehensive Chinese Website.

<http://www.wt.net/~alex/html/media.htm>

This home-pages gives a comprehensive list of Chinese newspapers and magazines.

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<p>LEONARDO DIGITAL REVIEWS NOVEMBER 1996</p>
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Editor: Roger Malina  
 Coordinating Editor: Kasey Rios Asberry  
 Editorial Advisors: Chet Grycz, Judy Malloy, Annick Bureaud,  
 Marc Battier

Review Panel (includes): Rudolf Arnheim, Marc Battier, Robert Coburn, Shawn Decker, Jose Elguero, Michele Emmer, Josh Firebaugh, Geoff Gaines, Bulat M. Galejev, Thom Gillespie, Francesco Giomi, Molly Hankwitz, Istvan Hargittai, Gerald Hartnett, Paul Hertz, Curtis Karnow, P. Klutchevskaya, Richard Land, Barbara Lee, Roger Malina, Diana Meckley, Axel Mulder, Kevin Murray, Youri Nazaroff, Simon Penny, Clifford Pickover, Sonya Rapoport, Henry See, Kasey Rios Asberry, Jason Vantomme, Rainer Voltz, Christopher Willard, Stephen Wilson

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< Book Review: MASS MEDIA and SOCIETY,  
 Edited by James Curran and Michael Gurevitch >

London: Arnold, 1996

Reviewed by: Molly Hankwitz  
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A compendium of high-minded, elegantly written essays on contemporary media, "Mass Media and Society" is one of the best contemporary anthologies on western media today. It is a

comprehensive representation of Anglo-American, Australian and Dutch communications and media scholarship with contributions from unrivaled university scholars and theorists: Len Ang, Jay G. Blunder, John Corner, James Curran, John Fiske, Simon Frith, Christine Geraghty, Peter Golding, Michael Curevitch, Daniel C. Hallin, Joke Hermes, Judith Lichtenberg, Sonia Livingstone, Denis McQuail, Graham Murdock, Michael Schudson, Annabelle Sreberny-Mohammadi, Lisebet van Zoonen and Janet Wasko.

The book is beautifully organized into three sections: 'Mass Media and Society: General Perspectives', 'Media Production', and 'Mediation of Meaning' and includes seven newly commissioned essays. It primarily emphasizes British and American news and television media. The first edition published under the same title in 1991 had an explicitly educational focus and was quickly utilized by universities everywhere. The first edition was republished four times in six years with a wide academic readership and translations into Korean and Japanese.

Essays of particular note in this volume are Peter Golding and Graham Murdock's 'Culture, Communications, and Political Economy', Liesbet van Zoonen's 'Feminist Perspectives on the Media', 'Postmodernism and Television' by John Fiske, co-author of "Reading Television" (London: Nethuen, 1978) with John Hartley, Michael Chudson's 'The Sociology of News Production Revisited', Annabelle Srebeny-Mohammadi's 'The Global and The Local in International Communications' and Janet Wasko's 'Understanding the Disney Universe'.

This new edition is an excellent read for those interested in revisionist theories of contemporary media, neo-Marxist-liberal pluralist debates, effective sociological analysis or policy-oriented critique of mass media. Seventeen dense and explicit essays cover issues from corporate ownership and state control to the history and development of newspapers, to new technologies, television and the construction of news as literature. Perspectives, both radical and liberal in cultural and political economy are represented in each section of essays, with a strong emphasis on the role of audience, both conceptually, in terms of markets and socially, in terms of how audiences may make or reevaluate, read or use media.

Thus this book gives its readership a much-needed handle on the central political debates in media, communications, and cultural studies departments of the west while positing precise, descriptive analyses of changes in the structures of western media, the influence and roles of new technologies in making media, and shifts in the regulation-deregulation of media as they affect our understanding of what we see or of what we make or of who is making what we see. Excellent critical documentation and historical analysis of surrounding discourses such as political climates, definitions of journalism, and the re appropriation of media from the public to the private spheres give this book a particularly critical edge and scholarly sophistication.

The book is a fine foray into media in general through the first section and as it examines deeper structures of production and meanings in the second and the third. What is also remarkable about "Mass Media and Society" is that it suggests throughout that what we have come to term "mass media" in discursive practice needs to be reexamined--and that many discourses have failed to do this effectively enough, moreover, have insisted on evaluating media's role in contemporary society simplistically-- that mass media is, rather, a highly-variegated complex of multiple operations in which

new levels and constellations of ownership, interest, intention, power, subjectivity, audience and access exist and which theorists must consider and must move beyond, from earlier models of mass communications created in the late-sixties and seventies, through the conservative period of western political history, the eighties, to the present. Thus, the anthology is edited to emphasize functional social, economic and historical narratives for examining the complexities of media and effectively avoids monolithic systemizations of Marxism or all-encompassing categories. Critical positions on liberal theory are undertaken as well. The editors are successful in their pragmatic approach to redressing positions without--as was their goal stated in Curran's introduction-- taking sides. The fact that digital, television and print media are examined only makes the book more interesting, especially as today's readers seek signposts in the landscape of criticism with which to comprehend the problems inherent in such current phenomena as the Web boom, changes in the social role of reading, the field of media education, the collective social intake of news, or the much-touted, and perhaps debatable, "restructuring" in an electronic and digital age.

Moreover, for professional critics and the critically-minded, this anthology represents a clear continuation of rationalist discourse expressed by Jurgen Habermas' in his major work, "The Transformation of the Public Sphere", the critical writings of Edward S. Herman, Noam Chomsky and others. It is solid discourse on art, media and technology. The writers do not seek to preach their referents, but, in fact, to give specific critical underpinnings for their discussions. (This is profoundly comforting to this reader.) The methodologies of Habermas can be found in historical analyses which undertake policy-making, social history, restructuring of the organizational bases of media, reorganization of corporate power and capital, trends in viewership and new uses for media as part and parcel of a new landscape of media in society. It can be found in the absence of texts which simply beat ideological drums; moreover, in the presence of texts, such as van Zoonen's which overturn rhetorical drums. The acknowledgement of a solid critical traditions, vantagepoints from which reader's can agree or disagree, identify or reject the positions and suggestions within it makes the book an excellent example of discourse which dismantles assumptions rather than simply reframing them in a less-than-democratic manner. The writers ask larger questions and almost every essay concludes with queries for new thought or suggests areas of media and communications theory which need further work, which need to be revisited and considered.

That the book redresses media in terms of cultural and political economy is its best feature, for it suggests all the possibilities of a strong future for international and multicultural critique, for the speaking subjectivities of non-objectified audiences. It undermines the very blind assumptions with which centrist, individualized media distorts world views. "Mass Media and Society", in the second edition, offers new thought and new analysis especially in the areas of audience participation in the mediation and making of meaning. It speaks to students. It is a superb reference text for the media-bound.

(c)by Molly Hankwitz, Nov. 1996  
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< Conference Review: The Total Museum Conference >

The Total Museum Conference  
Chicago, October 25-27, 1996  
URL: <http://WWW.PG.NET/totalmuseum/index.htm>



Reviewed by Annette Barbier and Paul Hertz  
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Sponsored by the Goethe Institute, the Art Institute of Chicago, and the German-American Arts Foundation, and announced as an "interactive multimedia conference," the Total Museum Conference brought together curators, critics, and artists to Chicago for three days to discuss the impact of new media on the future of museums. New media in this case spanned the gamut from analog video installation to digital interactive and networked multimedia. The first two days of the conference began with a keynote speech, followed by panel discussions billed variously as "Immersive Concepts," "Interactive Environments," and "The Digital Museum," but the panels quickly established other, more specific themes. The third day was devoted to visiting various exhibitions around the city. There were several notable presentations, a fair amount of self-promotion by new media artists (i.e., not an unfair amount), and exhibitions ranging from the VR CAVE at the University of Illinois, Chicago, to a sculpture incorporating Siamese fighting fish.

In Friday's keynote speech, David Ross, Director of the Whitney Museum, momentarily raised the specter of Wagner, declaring that a Gesamtkunstwerk needs a Gesamtkunstmuseum. After appraising the ideals of early video artists, who despite their ambitious hope of reorienting American TV culture ultimately failed to activate the viewer and build community, he dissected the term "Total Art Museum." Total, a word of fear; art, to soften the fascistic tone of total; and museum, a social instrument: in the Total Art Museum no one will be left out, no concept or community exiled, no artist omitted. Such is our "hyperbole before lunch," but what is the current state of the museum? Primo, a site for the contest of ideas and values, and secundo, a hinge whereby hangs our understanding of the cultural role of pleasure. After all, it was not the shade of Wagner that presided over his presentation, but the distant shadows of Diderot and Schiller, debating the ethical versus the ludic role of art--one of the central themes of the conference, as it turned out. And who shall oil this hinge, ease this disjunction? New technologies, perhaps? Mr. Ross evidently thought so, and after some discussion of the potential utopian or dystopian effects of new media on the future "architecture" of the museum, closed with an extended theme and variations on the World Wide Web. Some of these, such as digital multimedia equalizing author and audience, the anarchic culture of the Internet providing an uncensorable haven for art, or the Web being an inherently multicultural and international entity, were contested immediately and throughout the conference. Ross himself closed on a cautionary note, urging his audience, in the words of Gregory Bateson, not to "mistake the menu for the food." The Infobahn is not economically empowering, it territorializes sophistication, and it emerges as a cybermall. In response, museums may need to take an oppositional stance. These are issues of real substance, and while Mr. Ross sounded many of themes of the conference with grace and aplomb, one regrets that he chose to leave such momentous observations as a coda.

In the first panel, "Immersive Environments," Monika Fleischmann sounded another of the central themes of the conference, the presence of the body. What is happening to ourselves in the real world as we experience the virtual world? Her question made oblique reference to the previous notion of art as sensual pleasure, but emphasized the role of the body as an interface, whose sensations range from passive observation to passionate disintegration as events in the virtual world pass around it or sweep it up. In VR

environments the degree of corporeal involvement depends on individual choices, which include a culturally determined axis of behavior, a particular concern of her current art production. Hans Ulrich Reck presented a densely argued examination of the body/technology interface. Computers, he asserted, serve as yet another device to externalize language. Technology continues to develop, while our sensory faculties essentially remain the same. Inevitably, technological media production overwhelms our senses, but conversely, technology fails to capture the dynamism and symbolic power of dreams. New media that bring the observer in as an actor--an old idea--give us the possibility of molding and reacting to the flood of sensations technology purveys. In this context, the Gesamtkunstwerk serves not as a realizable utopia, but as a regulatory concept. From these premises, he projected a constellation of ideas: one bright cluster involved the notion of immersive environments as a hallucinatory experience, linked to the recovery of the ritual power of images and the merging of technological with magical thinking. Michael Rodemer followed with a practical discussion of the implications of the total artwork. Introducing the realm of telepresence as a bodily projection distinct from VR's bodily immersion, he cited several recent artworks that involve telepresence. He concluded that future exhibition spaces will require flexible dimensions, multiple points of audience access, and technological and network support. The respondents, Mary Lucier, Shawn Decker, and Jill Scott, further developed some of the issues involved in exhibiting new media. Mary Lucier dwelt on the elements of seduction and repulsion inherent in using the whole body as interface, and pondered whether an artform where presence prevailed over representation could act as an antidote to passively consumed spectacle.

The next panel, "Interactive Environments" began with Shawn Decker expanding on the pragmatics of new media. He suggested theater, publication, and gallery as potential models of museum activity around new media, and emphasized the difficulty of providing spaces for one-on-one interactions. The respondents subsequently pounced on the publication model as too limiting. Mirosław Rogala discussed his works "Electronic Garden," an interactive sound installation installed in a public park, and "Lovers Leap," an interactive digitally processed video installation. The body, he stated, serves him as a triggering instrument looking for freedom in a controlled space, as an instrument of change. He candidly described the mixed reactions of residents to the Electronic Garden, and his hesitation to relinquish control over the parameters of his work to the audience. Kenneth Rinaldo followed with a rough cut video survey of the field of natural systems modeling, tracing its presence as a stream of art production back to James Seawright. His documentary approach provided a welcome sense of historical depth and continuity among artists with vastly different approaches to media production. Responding to the panelists, Sara Diamond described the museum as context for production and play, where constructs of gaming and information tracking could lead to discoveries of how information systems work, and ultimately to the building of virtual worlds as laboratories for discourse and critique. Paul Brenner noted that Internet role-playing as a form of gaming is severely hampered by the lack of a sense of presence--communication tends to be asynchronous. Ken Rinaldo closed the session by declaring that in the future interfaces should adapt to the viewer, not vice versa.

The afternoon session opened with a performance where Steina Vasulka played a five string "media violin" which controlled a video laser disk's speed, direction and location of playback. The processed sounds from the video, rhythmic and coarsely textured, complemented the control signals from the violin, gestural yet far removed from

"violin music." The shifts in time of the video, forwards and backwards, repeating, advancing or retreating in time, suggested contrapuntal compositional techniques. Vasulka closed by declaring "I am the performer," stressing that she did not wish for audience interactivity, but for an accomplished performance practice, echoing some of Rogala's concerns.

After a day devoted mostly to contemplating the nature of new media, the panel which closed the day, "The Digital Museum," finally focused on the ostensible topic of the conference, the presence and function of interactive multimedia in museums. Carol Gigliotti dwelt at length on the educational function of museums, seeing them both as a bridge between art and technology, and as a potential force militating against the reindustrialization of schools and the separation of the majority of people from cultural, economic, and political power. Gerd Schwandner, General Manager at the Center for Art and Media (ZKM), Karlsruhe, despite technical difficulties, presented a generally well managed talk on the presence of information systems in museums, emphasizing their potential to reach broader audiences beyond the museum walls. Hans-Peter Schwarz, Director of the Media Museum at the ZKM, sketched the relation of art and technology from their marriage in the Renaissance through their divorce in the Romantic era to the present, when we must wonder if their remarriage in technological art will be a boon or a barbarity. By its very nature interactive, he suggested, multimedia art presents a radical challenge to the art of the museum: it is a code, not an object, and it reproduces with flawless accuracy. Museums face it timidly, if at all, and even media artists, as inheritors of tradition, track its burgeoning network connections, synaesthetic combinations, and emergent presence as artificial life with trepidation. New art needs new venues. The museums of the future may be museums without walls. Nevertheless, museums as cultural institutions still have some unique and valuable traditions. They confront us with the alien, the unknown, and sometimes the embarrassing. They still have enough of an aura to maintain subversive effects in the face of mass-mediated political and educational constructs, and via new media they may serve as a refuge for the sensorial assessment of reality--whatever that may be. Like Schwandner, Schwarz presented the Media Museum in Karlsruhe as a new breed of museum. The respondents, Joan Truckenbrod, Richard Francis, and Myron Kruger and members of the audience wound the first day down debating the potential of museums as educational institutions, returning to the difference between art as seduction, source of pleasure, and art as a social instrument.

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In his keynote address on Sat. morning, Roy Ascott called for a return to the original meaning and intention of the museum as a site of spiritual transformation. He contested that the museum has become a conservator of the values of industrial society, and proposed a re-visioning of the museum as a site of interchange between the mind of the observer/participant and that of the artist, without mediation by a third, curatorial, party. In an address as full of poetry and rhythm as a Sunday morning gospel broadcast, Ascott challenged the museum to remain viable by adopting the strategies of the human brain, leaving behind the "game of images." His notion--that we don't need museums, that they take things out of the flux of life (and thereby ossify them)--and most amusingly that museums are the "greatest little whorehouse in the world" were echoed by artists throughout the 2 day conference, and not so much rebutted as ignored by Richard Francis, Chief Curator of the MCA in Chicago who was next on the program.

In his position as first speaker on the panel addressing The Digital Museum, Francis extolled the virtue of the Sir John Soane Museum in London, which, he contends, creates an immersive environment through the use of mirrors reflecting among interiors and from exterior to interior. He believes that this museum presents an admirable lack of mediation by only presenting a slim pamphlet as adjunct to the exhibit, forgetting, apparently, the irony in his description of the guard who mediates between the audience and the building and works of art within it by being the one who must open out the panels of a nested painting for the viewer to see. Francis is of the opinion that the main objective of web and interactive art is "epater le bourgeois". This sent us all scurrying to our French/English high school dictionaries. Lucier's presentation of a single channel excerpt from "Noah's Raven", a multi-channel work as lucid and eloquent as anything she has done, had little relevance to the topic of the panel, and Paul Brenner's presentation of a case study--Muntadas' "The File Room"--was refreshing in its clear, grounded description of the difficulties of installing and managing large, ongoing web-based projects.

[Editorial Note: Muntadas' "The File Room" was featured in LEA Volume 2, No. 6, June 1994.]

Discussion by respondents touched on the inheritance of museums of a "historical/critical" method of organization and the supposed irreconcilable dialectic of the educational model this presupposes vs. the pleasure model that came before and seems to be becoming more desirable today. ("Can't education be pleasurable?" one listener quipped.) Myron Kruger, as he had the day before, woke the audience up with a sharp verbal stab to the hindquarters with his suggestion that "Modern" and "Contemporary" in the names of museums are really misnomers since they lag at least thirty years behind the art of today, and stated that "if art is important at all, it must be important when it's created."

This provided a perfect segue to the next panel, Immersive Concepts, in which Dan Sandin pointed out that VR is over 30 years old, and that it is a "substantial improvement in human/computer interfaces comparable to the development of perspective in painting". He was followed by Sara Diamond from the Banff Centre for the Arts who showed some fascinating examples of artists' VR work there, and discussed the relationship of the body to cyberart in the most theory-savvy way of anyone at the conference. Myron Kruger's history of interactive art spoke eloquently for the power of direct experience ("when you've reduced it to words before you start, there's something wrong there") and the importance of embodiment in the experience of virtual space. The role of the museum in mediating the art experience again emerged as an issue and it became clear that this was one of the central themes of the conference--that while artists would like to think about the WAYS in which the museum contextualizes highly technological art, the real issue is that the museums simply ignore these art forms and artists. Kruger summed up the sense of futility artists have about institutional support with "imagine an artists' strike--two, three hundred years and we'd bring them to their knees."

-- AB

The late afternoon slipped into the last Immersive Environments panel with the lights dimmed for Jill Scott's slide and video presentation of her work--video projection of a computer monitor aside, new media were notably absent at the podium--"Paradise Tossed" and "The Frontiers of Utopia." Describing mental processes as a maze or a net full of holes, she addressed the ways that memory

and desire might be addressed through new media. Her strategy in *Paradise Tossed* is to enlarge upon the possibilities of narrative, permitting the viewer to select encounters among a group of women, fictional protagonists separated in time, social class, and ethnicity. In *Frontiers of Utopia*, a work in progress, she examines the body as at once the focal point of memory and the site of socially inscribed imagery. Joan Truckenbrod's discussion of her work addressed more her medium than her aesthetic, though her concluding remark that the rhetoric of the computer is subverted by the artist could have wider resonance within her choice of artistic style, full of chromatic washes and other digital watercolor effects that perhaps subvert her own intentions with respect to content. Steina Vasulka continued the performance of the previous day, this time stopping in the end to comment on the difficulty of finding adequate venues for any new media that functions as an interactive environment, whether for performance or for participation. In the responses to the presentations, which rang the changes on the roles of artist, viewer, participant, and community in virtual and real spaces, her comment that "I'll take any space they give me!" tolled with an ironic finality over which Monika Fleischmann's admonition, "It's the audience that matters," hung suspended and unresolved.

In the closing address, Hans-Peter Schwarz appraised the role of the museum as a "fossil-cache," to which new media bring, at last, the possibility of renewal. He linked new media thus to themes of the historical avant-garde: the urge to erase boundaries, to enter new modes of experience, and to activate social change. New museums will need new forms of education, too, while they serve as a proving ground for a new multimedia aesthetic: above all they must avoid both museification and massification and promote communication as the single area on which our very survival depends.

Conferences need to end on an upbeat note, and the conferees left with a pleasant sense of rededication and accomplishment in the wake Dr. Schwarz's speech: they were the future of museums and the bearers of a salutary technology. They had hit the high themes, the body and desire, the mind and education, community and critical thought. And yet the matter of their audience remained almost unstated and certainly unresolved, and the commitment of museums and galleries to exhibit their work (with the notable exception of the ZKM and a few other institutions) remained nebulous. Although the expansion and near saturation of current networks foretells a certain sea-change in ownership of network technology, no strategies were hatched for maintaining the praiseworthy, healthy anarchy of the Internet. Good will does not imply foresight--but it does require precisely the sense of renewal that the conference provided to continue muddling through. If most of the questions went unanswered, at least they were aired and shared.

-- PH

#### Reviews of Selected Exhibits

Below are a few reviews of whatever the reviewers chanced to see. Other installations can be viewed on the World Wide Web at the Total Museum  
Conference site <<http://WWW.PG.NET/totalmuseum/index.htm>>

Mary Lucier  
Aspects of the Fossil Record

Mary Lucier's preoccupation with mortality resounds in her recent video installation *Aspects of the Fossil Record, or From Here on Dance*. The three channel piece consists of 3 - 25" monitors

suspended at different heights, distances and angles from the viewer. Each monitor is fed by a video loop, the top one consisting of a flashing white sun emanating rays, and surrounded by a dark blue field; the middle one showing a great blue heron dancing in slow motion and reverse on a shoreline; and the bottom containing footage of a forest floor seen from above in close up while walking. Each source is processed in a way that subtly affects our perception. The sun fades to black in quick, rhythmic bursts. The heron, reversed and slowed down, was shot with the shutter at typical video speed--so the motion when slowed smears across the screen. The forest floor, shot with a very fast shutter speed produces artifacts of repeated edges (of leaves, sticks, etc.), turning the forest floor into a mosaic tile. There is a sense of progression through the monitors--as of an individual's journey, with both a connection to the earth, a destination which transcends the earth, and a reveling in the pleasures in between. The heron presents a complex set of issues, however, as a being whose medium is air and water, but who is here earthbound, flapping her wings but never rising into the air, caught in an eternal and repeated present. The sound, slowed down versions of both the walking and the surf, adds a ponderous tone.

-- AB

The CAVE at the UIC

The University of Illinois at Chicago's Electronic Visualization Laboratory provides a rare opportunity for artists to work in high end experimental VR, shoulder to shoulder with computer science, engineering, and mathematics students and researchers. The CAVE environment provides a multi-viewer experience, where one viewer is privileged to wear a tracking device that centers the VR perspective. A multi-button wand controls interactivity.

Visitors to the CAVE saw the installation prepared for Ars Electronica's new media museum, a collection of several different works created in the EVL. Works include a tour of the solar system, a maze of virtual paintings and large scale vessels (which enclose virtual environments), and a gallery of animated mathematical sculpture. The CAVE has evolved over several years, partly as it acquired faster computational machinery, but also as a result of the artists and engineers involved discovering a vocabulary adequate to sustaining the VR illusion. For visitors who do not experience VR dizziness, a very real problem, the current state of the CAVE provides an exhilarating glimpse of the how technology can extend imagination.

-- PH

Mirosław Rogala  
Sound Garden

PH: Set in Chicago's Washington Square, formerly a site for political speech-making akin to London's Hyde Park Corner, Sound Garden looks like a utilitarian bandstand with public address horns angled towards centerstage. Proximity sensors allow visitors to trigger recorded speech, poetry, and reminiscence by oral historian Studs Terkel, poet Gwendolyn Brooks, audio artist Ken Nordine, and others, and historical recordings of political speeches. Visually not terribly prepossessing, Sound Garden nonetheless works very well to provide a soundscape of political speech. It would be nice if the work could have a permanent residence in the former Bughouse Square.

AB: I was upset with the fact that, while it purported to be about a

sort of universal access to information--early 20th C. style--the platform in the middle of the speaker construction prevented anyone in a wheelchair from entering the space. This seemed somehow ironic.

Ken Rinaldo  
Delicate Balance  
Technology Recapitulates Phylogeny

Delicate Balance allows bettas, Siamese fighting fish, to control the swinging movements of two structural arms delicately built of vines and suspended by their center point from the ceiling. At each end of the arms are small globular fish tanks with sensors that react to the proximity of the fish: a lone male in two of the tanks on separate arms, and several females in the other tanks. Should the tanks with the two males swing near each other, their aggressive behavior activates the sculpture. Unfortunately, the two males had been overfed and passed their time in postprandial somnolence, leaving the work in the conceptual stage. Technology Recapitulates Phylogeny pointed to the evolution from the silicon substrate of transistors of forms and behaviors associated with living systems. Tubefex worms reacting to light and outside stimuli showed how individual biological entities cooperate to create complex systems, while graphics of computational process showed how the same forms could evolve algorithmically. It is not clear whether we should conclude that silicon lives, or that carbon calculates, or simply stand amazed at how formal structures cross the boundaries that separate the two, but the thoughtful execution of this installation overcame its occasional difficulties and opened deep questions.

Shawn Decker  
Divided Circle

A delightful work, Divided Circle consists of sixteen paint stirrers hanging from two circle metal arcs suspended from the ceiling. The stirrers stir, activated on a 24 hour cycle by a microprocessor. Their pleasant metallic racket is intended to recall birdsong and other natural sounds sequentially accelerating and decelerating, while their spatially disjunct, rhythmic triggering makes reference to the hocketing technique of gamelan music, where melodic lines are distributed over several instruments. In its modesty of means and seemingly casual presence it suggested the vast, unnoticed terrain of sound events mechanical and organic that surround us, that penetrate one another in complex and unexpected ways verging on language. The time scale of the piece, controlled by the invisible computer, suggested that it was meant to be lived with rather than enclosed in a museum--an interesting idea, in this conference of the total museum.

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< Book Review: Visualizing with CAD >

Visualizing with CAD:  
An AUTOCAD Exploration of Geometric and Architectural Forms  
Daniela Bertol  
Springer-verlag, Berlin, 1994, 359 pages, DM 84, with diskette included

Reviewed by Michele Emmer  
Email: emmer@mat.uniroma1.it

"This book has been written for those who are afraid of mathematics, who would like to learn how to use it for the purpose of architecture and who do not want to spend more than a few weeks to achieve this goal. Discovering by himself, or with the help of a teacher, that it is easy to obtain quantitative answers to the

problems of his daily practice, the architectural student will exorcise his fear of numbers and get ready to deal with the physical reality of architecture. He will learn at the same time the language of technology and thus establish the possibility of better communications with his consultants. The fulfilment of these needs is an essential condition of good architecture in today's technological era."

These are words from the famous structural engineer and architect Mario Salvadori (born in Rome in 1907) from his book "Mathematics in Architecture" (Prentice-Hall Int., London, 1968). More recently, in a meeting on "Architecture and Mathematics" (Nexus Series, ed. by Kim Williams, edizione dell'Erba, Fucecchio, 1996) he was asked to introduce the meeting speaking on the theme "Can there be any relationship between Mathematics and Architecture?" (pp.9-13). He wrote: "Having proved that to look for relationships between as abstract as science as mathematics and as concrete as art as architecture is theoretically inconceivable.....I realize that all my disquisitions on the impossibility of relating mathematics and architecture vanish and, as a technologist, I must agree that the relationships between mathematics and architecture are so many and so important that, if mathematics had not been invented, architects would have had to invent it themselves."

It is of course during the Renaissance that important connections were established among art, architecture and mathematics. To the Renaissance scientist, mathematics was the key to nature's behaviour. The conviction that nature is mathematical and that every natural process is subject to mathematical laws began to take hold in the twelfth century. It was a common belief that the book of nature was written in the language of geometry. Even an architect not very much interested in mathematics cannot ignore the importance of geometry in architecture. A wonderful example is what Morris Kline calls "The most original mathematical creation of the seventeenth century: projective geometry." ("Mathematics in Western Culture", Oxford University Press, 1953).

The words of Salvadori were written 30 years ago. It is no doubt that many things have changed in this long period of time. Computers and telecommunications have revolutionized traditional perceptions of space and time. In particular "this transformed contemporary environment suggests the need for an investigation of physical form in their relation to our modified visual perceptions" wrote Daniela Bertol in the introduction to her volume. "The disciplines dealing with the exploration of forms, such as architecture and intuitive geometry, also need to address the implication of the new digital media. The issue raised by this new way of dealing with visual forms in a digital world are the topic of this book." Bertol has taken her degree in architecture at the University of Rome. She remembers very well the excitement of entering the ancient Roman temple of the Pantheon or when she was going each Sunday to Piazza San Pietro. Walking through Rome she has received the sense of architecture as the expression of a tangible geometry. She was fascinated by the treatises by Leon Battista Alberti, by the mathematician Luca Pacioli and by Sebastiano Serlio, who emphasized the relation between architecture and geometry. Bertol says that probably Serlio writing his eight books of architecture today would have added a ninth book on computers. And probably would have also enclosed a computer diskette or a CD ROM with the electronic models of his temples and columns. This is really the key of the book of Bertol and her idea for writing it. She states that today computer visualization is probably as influential in architecture as perspective was in the Renaissance. "The linking of geometry, CAD, and architecture in the same book is similar to the inclusion of



geometry, perspective, building technology and typologies and graphics in the treatises."

An ambitious project where the difference in the aesthetic of computer images versus traditional rendering inspired Bertol to use both to express two different processes that achieve the same result: the representation of three-dimensional objects through two-dimensional images.

Bertol recalls the analogies of her book with the Renaissance treatises and states the importance of relating contemporary technology with historical foundations. So the approach is that of an architect exploring space in terms of intuitive and visually constructable forms using CAD. Of course the aim of the author is to point on applications in architecture computer aided design, focusing on geometry and architecture as formal expression.

I hope it is now clear that the book of Bertol is not just a technical book on the use of CAD but is a successful essay to combine a deep understanding of the theoretical underpinnings of design and form, let's say geometry, with the understanding and treatment of CAD. This is the reason why you will find in the book chapter entitled "Considerations about space, architecture, design and computers" and questions like "What is space?". The role of geometry is investigated with an interest not so often found in architects. She wrote: (p.39): "Mathematics and geometry are related to architecture in two principal ways. First, they are a source of meaning for architecture. In Renaissance and Baroque architecture the use of geometric forms became a symbol of the power of human reason over nature. A philosophy of architecture based on mathematical principles. The other relationship between architecture and mathematics is more pragmatic. Geometric laws have practical applications in surveying, measuring, and stereotomy. Mathematics is indispensable in structural analysis. Two-dimensional architectural representations are made possible by geometric projections."

The central part of the book is based on the problem of visualization through computer and computer models. The book includes a diskette to follow the suggestions of the book and to make experiments. An interesting book because it does not focus only on how to use a software but wants to investigate the reasons why we use the software to produce a certain form. It is this the real meaning of making a comparison between the book of Bertol and a treatise of Renaissance architecture. The ambitious of the book is to be a treatise, to discuss in deep the reasons why we use certain instruments and the philosophy hidden in them. This is the reason why it can be useful of course to students in architecture but can be very readable for people interested in geometry, in space, in forms. For any person with a wide range of cultural interest. A last note. I teach this year mathematics to the students of architecture at the University of Rome. It is a unique opportunity to have this incredible laboratory of forms, shapes and styles, the town of Rome, at students' disposal. Unfortunately the students sometimes do not realize the great advantage they have studying in Rome; this book can help them to rediscover their town.

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< Book Review: SOL POWER, by Sophia and Stefan Behling >

SOL POWER: THE EVOLUTION OF SOLAR ARCHITECTURE  
by Sophia and Stefan Behling,  
in collaboration with Bruno Schindler.  
Prestel-Verlag

Munich, Germany, 1996.  
240 pp, illus. ISBN 3-7913-1670-2  
(in English)

Reviewed by Eva Belik Firebaugh  
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Email: fireball@easynet.fr

The scope of *Sol Power: The Evolution of Solar Architecture* by Sophia and Stephan Behling extends beyond what is commonly referred to as solar architecture. In addition to discussing buildings and cities, the authors weave two principal themes through the topics of this book: the potency of cross-fertilization of disciplines, and the necessity for a positive understanding of technology.

*Sol Power* could be characterized as a "coffee-table" textbook. Its high-quality color images, clear diagrams, magazine like two-page layouts, and the large number of articles make it extremely accessible. The text is limited in depth, but is well researched, impeccably organized, and concise. The authors consider diverse issues ranging from building sustainability to the origins of our aesthetic perceptions.

*Sol Power* is a publication of the READ Group -- Renewable Energies in Architecture and Design -- an international group of architects "committed to incorporating ecologically sound materials and practices into the architecture of the future." The READ Group charter, included in the book, is endorsed by prominent architects such as Renzo Piano, Richard Rogers, Frei Otto, and Nicolas Grimshaw. Norman Foster, an internationally renowned practitioner of technological architecture, wrote the foreword. The book's publication coincides with the fourth European Conference on Solar Energy in Architecture and Urban Planning, held in Berlin in March 1996.

The book begins with a summary of our present environmental crisis, illustrated through statistics and diagrams. The authors examine the history of humanity in terms of energy consumption. They emphasize that western lifestyles cost us absurd amounts of energy which come from non-renewable resources.

Prior to the Industrial Revolution, buildings and cities had to "cooperate" with harsh climactic conditions, because technology was not advanced enough to dominate the natural environment. The second section of the book illustrates how vernacular architecture varies in relation to its climate. Twelve climactic zones are defined and located on a world map, and the corresponding indigenous buildings are explained in terms of their resistance to undesirable environmental conditions. Each zone includes temperature and precipitation charts, and design principle diagrams. The overview is brief, but succeeds in distilling the nature of each region.

The main body of the book illustrates the history of buildings and cities of several great cultures. Through a chronology highlighting the most notable cultural movements, the authors examine each movement from the viewpoint of the inhabitants' relationship to their environment. The text and images include specific descriptions of climactic conditions and how they are enhanced or controlled, as

well as the spiritual or ideological ambitions of each cultural movement. The discussion starts with the Neolithic period and concludes in the present; passing through ancient Egypt and Greece, medieval China and Japan, baroque Europe, post-Industrial Revolution America, and the contemporary world.

In the concluding chapters of the book, the authors urge us to reconsider our understanding of technology. Humanity has developed a technology capable of large scale destruction; however, this same technology can be used positively to analyze and remedy the environmental consequences. The authors stress the significance of economic and political reforms to enhance the feasibility of positive technological changes.

The articles in the last section survey the latest advancements in structural and environmental engineering, energy production, high-performance fabrics, and boat, airplane and space craft design. To improve the performance of buildings, especially with regard to their energy consumption, architects are urged to cooperate with experts in other disciplines. Astonishingly, the authors tell us that buildings account for fifty percent of the energy consumed in Europe. Therefore, the field of building construction alone represents an opportunity for substantial improvement of the global ecological situation.

The tone of Sophia and Stephan Behling's text solicits action without being dogmatic. Sol Power reads like a textbook for an introductory course, but it succeeds in providing a clear overview of issues relevant to energy technology.

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< Digital Review Notes >

Leonardo Digital Reviews is review journal published regularly as a section of the Leonardo Electronic Almanac. Leonardo Digital Reviews covers publications, conferences, events and publicly presented performances and exhibits. The focus is the work of artists, scientists, technologists and scholars dealing with the interaction of the arts, sciences and technology. Topics covered include the work of visual artists, composers and multimedia artists using new media and technologies in their work, artists dealing with issues and concepts from contemporary science, the cultural dimensions of science and technology and the work of scholars and historians in related fields.

Specifically, we publish:

- a) Reviews of publications in electronic formats (CD, CDROM, CDI, on-line, diskette, WWW, etc ...).
- b) Reviews of print publications, events, conferences, and exhibits dealing with art, science and technology.

Accepted reviews will be published in Leonardo Digital Reviews. Reviews of key works will also be considered for publication in the Leonardo Journal and Leonardo Music Journal published in print by MIT Press. Selected reviews will also be republished in the Leonardo Almanac book published by the MIT Press.

Authors, artists and others interested in having their (physical) publications considered for review in Leonardo Digital Reviews should mail a copy of the publication to Leonardo, 236 West Portal Ave, #781, San Francisco, Ca 94127, USA. Event and exhibit organizers, and authors of virtual/electronic publications and events interested in having their event reviewed should send information in advance electronically (only) to:

davinci@uclink.berkeley.edu

Individuals interested in being added to the Leonardo Digital Reviews review panel should email (only) their curriculum vitae to:  
mason@uclink.berkeley.edu

We are particularly seeking reviewers who can review material in other languages than English.

Unsolicited reviews are not accepted by LDR.

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< End Leonardo Digital Reviews November 1996 >  
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PUBLICATIONS
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< IDEA goes Online at <http://nunc.com> >

Annick Bureauud  
Email: [idea@nunc.com](mailto:idea@nunc.com)

CHAOS is proud to announce the launch of the International Directory of Electronic Arts on the Internet at <http://nunc.com> IDEA (the International Directory of Electronic Arts) started in 1990, as a paper edition published by the French non-profit organization CHAOS under the direction of Annick Bureauud. The current paper edition has been released in 1995 in co-edition with the British publisher John Libbey Media. The next one is scheduled for the Autumn 1997.

In 1996, IDEA goes Online. IDEA online , bilingual French/English, is published by CHAOS with the support of Le Mafort and the Ars Electronica Center and with the technical collaboration of the French company Altern.

IDEA is a unique resource tool world-wide. Bilingual French-English, it has an international scope and lists information in more than 50 countries in Europe, North and South Americas, Asia, Oceania and Africa. IDEA includes the actors of all kind in the field of art, science and technology : organizations (non-profit organizations, museums, galleries, art centres, centres for research and creation, festivals, centres for scientific research, distribution companies, production companies, fairs and trade shows, education institutions, documentation centers, competition and conferences), artists, people (theoreticians, critics, independent curators, scientists), periodicals/TV/Radio.

IDEA covers the whole range of artistic activities in this broad domain of electronic art (video, holography, laser-light, networking art, interactive art, computer animation, computer visual arts, space-sky art, performing arts, computer literature, electronic music, sound works, virtual reality, robotics, A. Life, etc.). Each entry in IDEA includes the contact informations and a short description of activities.

IDEA Online offers:

\* A full text and multi criteria search with links to the URL of the organizations, artists, people and periodicals listed in IDEA online when they have one which makes it the most important linked database about electronic art in the world.

\* A special section highlighting the links with our founding partners and to other major resource sites (such as Leonardo, FineArt Forum, etc.) and interesting sites in the field of art,

science and technology.

\* The essays published in the different paper edition of the IDEA.

\* An online possibility for the updating and a real time updating of the datas.

IMPORTANT NOTE :

At this stage, the datas online are mainly those of the 95/96 paper edition. We are just starting the updating and will go on on a regular basis. Feel free to go and search and send us any new information or modification. IDEA online, like IDEA on paper is a curated database/directory.

If you wish to become partner of IDEA online or to advertise your activities or events, contact us at [idea@nunc.com](mailto:idea@nunc.com).

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OPPORTUNITIES

< Three Positions and a Request for Workshop Proposals at the School of the Museum of Fine Arts, Boston >

Human Resources Office  
School of the Museum of Fine Arts  
230 The Fenway, Boston, MA 02115 USA

ELECTRONIC MUSIC AND SOUND ART

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Faculty, School of the Museum of Fine Arts, Boston. 15 contact hours. Salary commensurate with experience. Starting September 1997.

Teach all levels of electronic music and sound art. Also teach courses and promote projects inter-relating electronic music and sound art with other media, including film, video, multimedia, performance, animation, and installation/exhibit media. Instructor is responsible for managing a Mac-based audio facility and supervising teaching assistants and technician.

Previous college-level teaching experience required, minimum two years preferred. Must have good communication skills and be able to work cooperatively in a loosely structured, multi-discipline environment.

Applicants should have experience in a broad range of creative Audio applications and the distribution and performance of those works: Music and Sound Art and Synchronizing Audio Content with Visual media. Must have a good understanding of current trends and practices in MIDI, Digital Audio, and Sound Art as well as a good grounding in their history and foundations. Multimedia, World Wide Web and Internet experience preferred. Professional experience in producing visual arts and working with visual artists.

Send letter of application, resume, examples of own work, examples of student work, artist's statement, a brief statement of teaching philosophy, name, address, & telephone number of three references familiar with your work and teaching, and SASE. A/D January 15, 1996. Apply to the Electronic Music and Sound Art Search Committee at the address listed above.

GRAPHIC DESIGN

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Faculty, School of the Museum of Fine Arts, Boston. 15 contact

hours. Salary commensurate with experience. Starting September 1997.

Full time position teaching advanced graphic design. Experience and continued commitment to graphic design practice required. We seek an inspired and inspiring artist/designer/teacher who will thrive on creative challenges in a highly flexible educational setting of unusual academic freedom - for both students and teachers. Faculty member will create his/her own courses and modify the curriculum to keep pace with the fast evolving design field. Experience in Illustrator, Quark, and Photoshop required. Experience with Web design and Macromedia Director preferred. We seek a truly adaptable creative individual with vision, who will establish curriculum and directions in the new electronic environment.

Send letter of application, resume, 20 examples of own work, examples of student work (if available), a brief statement about the role of graphic design in a fine arts institution, name, address, telephone number of three references familiar with your work and teaching, and SASE. A/D December 15, 1996. Apply to the Graphic Design Search Committee at the address listed above.

#### PHOTOGRAPHY

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Faculty, School of the Museum of Fine Arts, Boston. 15 contact hours. Salary commensurate with experience. Starting September 1997.

Teach classes primarily at Tufts University for undergraduate, non BFA students, and occasional teaching responsibilities at the School of the Museum of Fine Arts for full time art students. Teach beginning through advanced silver based photography, as well as some combination of non-silver, computer-generated, critical and theoretical or historical approaches. Other responsibilities include organizing, maintaining and administering a black and white photo lab serving approximately 80 students per semester.

Send letter of application, resume, 20 slides of own work, slides of student work (if available), artist's statement, a brief statement of teaching philosophy, name, address, telephone number of three references familiar with your work and teaching, and SASE. A/D December 15, 1996. Apply to the Photography Search Committee at the address listed above.

We are an Equal Opportunity Employer and actively seek diversity in our workplace.

#### Call for Workshop Proposals

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Visiting Performance Artists at the School of the Museum of Fine Arts, Boston. Design a 2 - 3 day (12-18 hour) workshop that examines your particular approach to creating solo performances, or explores specific content or techniques. Include in your description the maximum number of students and the level of experience required.

These workshops are to complement courses in performance art currently offered through the regular curriculum. Your workshop can take place on a weekend during the fall or spring semester. Please indicate preferred schedule and dates.

Send proposal and workshop description, resume, documentation of your work (slides, video, or audio) and press material to: Amy Kaczur, Dean of Faculty's office, School of the Museum of Fine Arts, 230 The Fenway, Boston, MA 02115. Call (617) 369-3604 for workshop salary and travel information.

Proposals due January 15, 1997.

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< Co-Editor - SEAMUS Newsletter >

Stephen David Beck  
President, SEAMUS  
The Society for Electro-Acoustic Music in the United States  
2550 Beverly Boulevard  
Los Angeles, CA 90057  
Tel: 504-343-0470  
Email: sdb@comp.music.lsu.edu  
URL: http://comp.music.lsu.edu/seamus/

Responsibilities:

The Co-Editor is responsible for writing, editing and soliciting articles for the SEAMUS Newsletter, a thrice-a-year publication. The Co-Editor is also responsible for the printing and distribution of the newsletter. The Co-Editor also sits on the Board of Officers, and is required to attend board meetings via e-mail and at the National Conference.

Requirements:

This position demands access to word processing, and electronic mail, with full internet access preferred (i.e. WWW capability). Experience in editing, desktop publishing, or graphic design a plus.

Salary:

A hearty handshake and our deepest and most heartfelt thanks!

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ANNOUNCEMENTS

< NO-TV' 97 >

Robert Doyle, Coordinator  
The Media Center @  
Visual Studies Workshop  
31 Prince Street  
Rochester, New York 14607  
Tel: 716-442-8676  
Email: rdoyle@acs.brockport.edu

The Media Center at the Visual Studies Workshop is accepting work for possible inclusion in NO-TV' 97. NO-TV has been up and running for about ten years now, this will be the 16th series produced. Over the years we have shown a wide range of work by scores of video and film makers. The series has become a major component of the videotape collections at the Media Center. We are in the process of publishing a catalog of this collection.

We are now looking for film and video work to include in this 16th series. The pieces can be up to 28 minutes long and be submitted for preview on either VHS or 3/4" tape. When we go into production we will need a 3/4" videotape copy of the work selected. The tapes submitted will be returned to the makers. After the exhibition, we will retain the copy for the collection. This collection is available for viewing by appointment at the Media Center. It is used for teaching and preview for other exhibition possibilities. No public screening takes place without the permission of the maker.

The exhibition will take place in the spring in the Viewing Room of the VSW Gallery as well as over the public access channel in Rochester, RCTV Channel 15.

Send your videotape, a current resume, a statement on the work and a prepaid return mailer to NO-TV at the above address. If you have questions, please call or send e-mail.

Deadline for submissions: January 15, 1997

This project and the Media Center @ VSW are funded in part by the New York State Council on the Arts.

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< Marking Time: The Art of Measuring Change  
Technology Review's photo contest >

Laura van Dam  
Email: lvandam@MIT.EDU  
Photo Essay Contest  
Technology Review  
MIT, Bldg. W59-203  
Cambridge, MA 02139 USA

"Marking Time: The Art of Measuring Change," is the title of this year's photo contest by Technology Review, the magazine that focuses on the implications of technology and science.

Recognizing that the passage of time is critical not only in scientific research and engineering efforts but in all the diverse processes that affect the quality of our lives, Technology Review challenges you either to depict events evolving over time or to portray creative methods of recording changes over time. The magazine will publish a selection of winning photographs and award prizes of \$500, \$300, and \$200 to the first-, second-, and third-place winners.

Naturally, timing is everything: all entries must be postmarked no later than January 15, 1997. Send no more than six previously unpublished entries--prints or slides in a sleeve to the address listed above. Our overnight mail address is 201 Vassar St., Cambridge, MA 02139.

Technology Review acquires the right to publish the award-winning photographs, including honorable mentions, in one issue. Entries without return envelopes and proper postage will not be returned and we cannot take responsibility for loss or damage. Include cardboard for protection, note your name on each slide mount or the back of each photograph, and mention the type of film and photo equipment used. We regret that we cannot take telephone calls about the contest.

Technology Review's Web page is <http://web.mit.edu/techreview/www/>

Good luck, and remember: time flies!

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< 1997 INTERACTIVE MEDIA DESIGN REVIEW -  
I.D. MAGAZINE >

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I.D. Magazine invites interface and multimedia designers to submit their work for the first annual I.D. Interactive Media Review, a



juried design recognition program formerly included in the I.D. Annual Design Review, America's largest and most prestigious design competition.

The 1997 I.D. Interactive Media Review will accept examples of interaction and interface design for both Macintosh and PC products, including CD-ROM titles, Web sites or other online designs, promotional demos, unpublished prototypes, games and kiosk interfaces. Projects may be submitted in the following six categories: Advertising/Promotion, Education, Entertainment/Games, Kiosks, Reference and Student Work. The deadline for entering is January 3, 1997.

Any project introduced in North American or European market the 1996 calendar year is eligible. Projects will be juried by design professionals distinguished in the field. Winners of the competition will be featured in a special June issue of I.D. Magazine and on a CD-ROM enclosed with the issue.

Entry forms can be downloaded from <http://www.idonline.com/>.

This site also contains detailed information about last year's winners, I.D. Magazine, and entry forms for the 43rd Annual Design Review.

If you would like entry forms sent to you by paper mail, please e-mail [idmag@aol.com](mailto:idmag@aol.com) with your contact information.

Questions about the Interactive Media competition can be sent to David S. Bennahum, New Media Projects Editor, I.D., at [davidsol@panix.com](mailto:davidsol@panix.com).

ABOUT I.D. MAGAZINE

I.D. Magazine, published 8 times a year, is the recipient of the 1995 National Magazine Award for General Excellence, and is regarded as the leading resource for design criticism. Since 1954, I.D. Magazine has published an Annual Design Review, to showcase the best design in North America and Europe. The Annual Design Review categories include consumer products, furniture, equipment, environments, packaging, graphics, concepts and student projects. In 1995 I.D. added a new category -- Interactive Media -- to explore design issues in this exciting and rapidly evolving environment.

This year's Design Review winners were selected from the largest field in the program's 42-year history: 2,300 entries from designers and manufacturers worldwide. Over 200 of these were in the Interactive Media Category, and these winners were showcased both in the Design Review issue and in a companion CD-ROM. Because of the overwhelming response to this category of design, I.D. will publish a separate edition of the Design Review devoted solely to Interactive Media. I.D. presents three classes of awards: Best of Category, Design Distinction, and Honorable Mention.

The Annual Design Review offers a thorough survey of the current state of design, documenting its role in the development of new products and technologies. Through the review, I.D. Magazine seeks not only to recognize outstanding work but to serve as a catalyst for the dialogue between design, industry and society.

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<http://www-mitpress.mit.edu/LEA/home.html>

Back issues, submission guidelines and LEA Gallery files are available via ftp anonymous, using the following method:

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