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EDITORIAL

In this second issue of *Leonardo Electronic Almanac* devoted to anthologizing some of the work by the Leonardo Digital Reviews panel, the emphasis is on the films, music, CDs, lectures and exhibitions that have been reported on and reviewed, rather than books. In some ways, these are more difficult to deal with than books because often the topic of the review is transitory, sometimes speculative, and subject to a variety of editorial regimes. Difficult as they are, book reviews use more or less the same codes and structural conventions that most books do. Drawing out an article that is more than a subjective reaction to the fugitive and of sufficient interest to merit being committed to print is difficult, requiring transliteration from one mode of encoding to another. I am always amazed at the intellectual mobility of some of the LDR panel reviewers as they switch between modalities.

Leonardo Digital Reviews carries fewer reviews of what one might call “unbound” material but, as I hope you will agree, what we do carry adds a valuable dimension to the spectrum of activities that will be of interest to the ISAST and *Leonardo* community. Selecting an anthology for this issue has been shaped by the imperative to reveal the extent and diversity of this aspect of our work. Consequently, some reviewers are more represented than others in this selection, and the range of material selected extends over two years.

It has been a delight for me to revisit the work of the panel in compiling these two editions of *Leonardo Electronic Almanac* and I hope that it is a pleasure shared with readers. What follows is a selection drawn from the most recent postings and the existing on-line archive.

The full compilation of reviews, together with the latest postings in full, can be viewed at the Leonardo Digital Reviews website: http://mitpress2.mit.edu/e-journals/Leonardo/ldr.html.

Michael Punt
Editor-in-Chief
Leonardo Digital Reviews

LEONARDO DIGITAL REVIEWS
2002.11

< The Interaction ‘01: Dialogue with Expanded Images >
Itsuo Sakane, Chief Curator, IAMAS 26 October to 4 November, 2001
Softopia Japan Center, Ogaki City, Gifu Prefecture, Japan

Reviewed by Mike Mosher, mosher@svsu.edu.

This attractive and informative catalogue documents “The Interaction ‘01: Dialogue with Expanded Images,” an exhibit held in the fall of 2001 at the Softopia Japan Centre in Ogaki City, Gifu prefecture, Japan. The show was produced by the Institute of Advanced Media Arts and Sciences and the International Academy of Media Arts and Sciences.

The exhibit featured the interactive work of 11 artists or artist teams, some of whom were artists-in-residence at IAMAS. Some of the works, such as *Liquidtime Series Tokyo,* by Camille Utterback and *Nosce Te Ipsum* by Tiffany Holmes, featured interaction with layered or fractured photographic imagery. Others, like Kays and Lee’s *Suspended Window,* placed the viewer-participant in a photographic or abstract graphic landscape. Hiroo Iwata explored telepresence with his blimp-enabled *Floating Eye* while *The Tug of War,* constructed by the Ars Electronica Futurelab in Linz, Austria, manipulated gender stereotypes as it pitted visitors in a rope-pulling contest with various virtual presences such as a female boxer, gunslinger, exotic dancer, football player or men in a donkey suit. There was also a gallery of student works in the exhibit whose postage-stamp sized reproductions in the catalogue look very interesting - it is regrettable they were not given coverage approaching that of the invited artists.

One work in the exhibit stands out in depth of concept and future promise: *Beyond Manzanar,* by Tamiko Thiel and Zara Houshmand. This 2000 installation was created when Thiel, a Japanese-American artist, was in residence at IAMAS. She and Houshmand, her Iranian-born collaborator, recreate on many levels the Manzanar prison camp to which Japanese-Americans were resettled and interned during World War Two in a critical 3-D graphic environment. The artists use VRML (with Blaxxun Interactive’s help) to create this disturbing political world of detention camp content and experiences.

It is this reviewer’s conviction that the density of information required in relation to difficult political issues, in addition to their queasy subjective ambience, can be best conveyed in the immersiveness and variegated, multi-dimensional interfaces of such new cyberspatial artforms. This work’s virtual artificiality surely underscores the weirdness and unreality of the wartime relocation itself. May its exhibition help prevent - however

slightly - such abuses of civil liberties in our own warlike times.

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< The Third International @rt Outsiders Festival: Du bio-art ˆ la vie artificielle (From Bio-art to Artificial Life) >
Maison Europ□enne de la Photographie, Rue de Fourcy, Paris, 18 September - 20 October 2002.

Reviewed by Stefaan Van Ryssen, stefaan.vanryssen@pandora.be.

The theme of the third international @rt Outsiders Festival at the Maison Europ□enne de la Photographie in Paris was "from bio-art to artificial life," an apt description for the strange mix of projects shown there from 18 September till 20 October, 2002. The festival consisted of some 20 lectures and presentations by artists, critics and theorists of contemporary art and a modest exhibition of ten recent works by internationally renowned artists. The works were selected by Henry Chapier (see www.Henry-Chapier.com) and Jean-Luc Soret, who have been organizing the event for the past three years. The @rt Outsiders website (http://www.art-outsiders.com/) is certainly worth visiting, for those who consider Paris a bit too far out of their way.

France and a large part of the French-speaking world have followed a different path than the Anglo-Saxon world when adopting computers and the Internet in the arts. I conjecture that the highly centralized development of arts and sciences in France - where anything shown or done outside of Paris is not even considered worthwhile, whereas in the English-speaking world several big cities perpetually compete for prominence - has led to its precocious development of a networked information system on the one hand (Minitel, started in the 1980s) and a certain distrust of anything as unruly and chaotic as the Internet on the other. For example, the IRCAM has dominated the scene for the last 30 years and made its mark on the development of electronic and digital music, to the effect that non-professional musicians or artists from other disciplines have had a tough job getting recognition. Similarly, computer graphics have been dominated by professional computer scientists, leaving only little room for experimenters and creative dabblers to get full attention, let alone grants and access to resources. Far from suggesting that French artists are in any way trailing behind, it does explain why the public at large has only been slowly exposed to digital art and intermedia - most of it has remained quasi hidden in institutes, for the eyes and ears of experts only. A festival like @rt Outsiders tries to make up for this lack of exposure, a fact that accounts for its appearance as a mix of seduction and instruction, the panoptic and the focused.

Christophe Luxereau's installation, *Electrum Corpus,* showed images from an imaginary future when implants become functional improvements and fashionable jewels adorning the body. Imagine a younger (and more seductive, because less oversized) version of Star Trek *Voyager's* character Seven of Nine, with her cyborg implants covered by skin and still visible in outline. Fitting for the fashion capital of the Western world, the work combined a touch of savoir-vivre with a hint of what might be a commercially viable road for bio-art. This is what aesthetically pleasing mutilation might become, beyond the commitment of purely graphical tattoos and the temporary redemption of chastizing

piercings. It holds the same aspects of fascination and repulsion, and it makes one dream of (and fear) a confrontation with a potentially lethal mate.

Carbon was a minimalistic multimedia work by Servovalve (www.servovalve.org), in which the image of an indistinguishable face, built of randomly walking microscopic white (non-carbonic) lines, emerged from a solid carbon-black background. The dynamic graphic quality of the image was unlike any ink or charcoal drawing, escaping conventional routes. The effect it produced was reminiscent of Chris Marker's cult film *La Jet□e* (1964), without the narrative connotations of the film.

Both *Electrum Corpus* and *Carbon* explored new aesthetics rather than explaining new technologies - at least, that is, if aesthetics is understood in the common sense of being about beauty and pleasing the eye. The other works in the exhibition, on the other hand, seemed primarily to be technical showcases or philosophical statements. (Annick Bureaud, journalist and critic, will most likely have addressed this problem in her talk at the exhibition "Is Biological Art Aesthetically Pleasing?" It is a question emblematic of this festival. As I said, there is a touch of the instructive here, and I guess Bureaud would not have shied away from giving the audience a solid intellectual bashing in the best French tradition.)

Of course, there is no opposition whatsoever between technicity and aesthetics or philosophy and beauty - it is all in the eye and mind of... as is proven by the other installations in the exhibition. For example, Magali Desbazeilles, Siegfried Canto and guest writer Christine Beigel presented the installation *Tu penses donc je te suis* (You Think, Therefore I Follow You), with its untranslatable pun on "je te suis" (I follow you - I am you) and its reference to Descartes' "Cogito ergo sum." The installation offered visitors the opportunity to hear anonymous, yet intimate thoughts of individuals lost in a crowd. The spectator was invited to walk in the wake of these passers-by, whose images were projected on the floor. It was a work of pure poetry and introspection. In Miguel Almiron's *Anamorphose num□rique* (Digital Anamorphosis), a camera filmed visitors' movements in real time and after being processed, a deformed image from the immediate past was then displayed on a screen. The structural integrity of the body was sacrificed for temporal acuity and repetition.

Three works presented different visions of artificial life (a-life). *Life Spacies II* was the name of an interactive installation by Christa Sommerer and Laurent Mignonneau. Words, chosen by the viewers, were decomposed and turned into a genetic code to create virtual creatures on the screen. These creatures lived in a synthetic world where they moved, foraged, mated and eventually died. There was an endearing contrast between the Pac-man-like appearance of the creatures and the uncanny, Hieronymus Bosch-like jungle they lived in, as if God had been creating with Mac OS on Wednesday and DOS on Friday. In *Quorum Sensing,* by Chen Chu-Yin, spectators were invited to interact with each other in a limited space. Depending on their number and positions, a larger part of a virtual world seething with artificial life forms was unveiled at their feet. The better the spectators' understanding, the livelier and more communicative the creatures became. *Biowall,* by Daniel Mange, was a mosaic comprised of thousands of transparent electronic modules (comparable to artificial molecules). Each of these molecules enabled visitors to communicate with the Biowall surface simply

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by touching it with their finger. This interaction was then interpreted, using an electronic light display. The patterns created by the viewer, using three different modes, then started living lives of their own. Well-known algorithms of a-life governed the lives and decay of the creatures and the wall eventually turned into a rapidly changing, colorful canvas. According to the artist, "The Biowall foreshadows tomorrow's interactive paintings by including the spectator in the creation process."

Genesis, by Eduardo Kac, was by far the most ambitious bio-artistic work in the exhibition. At the conceptual center of the work was a transcription of a verse of the Biblical book of Genesis into Morse code, which was then converted into DNA base pairs. The resulting so-called "artistic gene" was then spliced into a bacterium, which then developed due to spectator intervention. A culture of the bacterium was grown in a petri dish, lighted by a UV lamp. The spectator could turn the lamp on and off, thus creating an environment where genetic mutation was speeded up (with the lamp on) or slowed down. The process of the bacterium multiplying was monitored by a camera and could be seen onscreen. The sentence from the book of Genesis and the DNA code of the gene were displayed on the walls. Spectators could simultaneously listed to DNA-synthesized music, composed by Peter Gena (what's in a name?). Kac was probably wise to assuage the resentment of the religiously squeamish by choosing a verse from the Bible. Some might have thought the artist was playing God, which is as close to sacrilege as one can be, but that was not the point of this work. What matters is the fact that at the heart of our universe, and life itself, lie the fundamental building blocks of information, disguised or expressed as words, genes, individuals, codes, signs, images, sounds, even thoughts. Bits of information can be deliberately or randomly transformed, replicated, interpreted and changed, but the information cannot be destroyed. When dealing with information embedded in a living individual, artists are merely continuing what they have been doing in spoken, written, sounded or projected media. Kac allowed the spectator to become aware of the demiurgical bungling involved in creation and reproduction. And, if we are to be tinkerers, we had better do it in style.

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< Ars Electronica 2002: Unplugged - Art as the Scene of Global Conflict >

Reviewed by Aparna Sharma (freelance journalist),
New Delhi, India, Aparna31S@netscape.net

For the seventeenth century astronomer Johannes Kepler, harmony of the world was a certainty. Inspired by Keppler's epochal *Harmonices Mundi,* artists Hans Hoffer and Christian Muthspiel ventured to place destruction in the celestial cycle as Ars Electronica 2002 got off to an epochal start with an hour-long show, entitled "Harmony of the World," featuring a dramatic mix of fire, live music and video footage of the collapsing twin towers of the World Trade Center.

On the first night, the show also known as the "Linz Cloud of Sound," came as a relief to my eyes, which have been fed a diet of conflict and terrorism, dotted with communal clashes including the excruciating perennial sore, Kashmir. Maybe this relief was indicative of the "utopian quality of art," which director

Gerfried Stocker had earnestly set the festival to encourage. But in my positive response to the stunning audio-visual event, I found myself rather isolated.

Hoffer, who conceived the visualization of the show, repeatedly juxtaposed three images of the collapsing towers in a montage comprised of diverse imagery and graphics. He exploited the images as a concentric complex, composed of multiple layers of meaning with the immediate or visible at the center. Through its meticulous and timely placement of images, the montage established exactly that link between the invisible or implied, and the immediate to the whole. Each repetition steadily opened up the 9/11 imagery, detaching it from the obvious emotional significance that has enveloped it from the moment of its occurrence.

At another level, the repeated use of this imagery raised issue with mass media, which thrives on footage of death, destruction and disaster. In a subtle move towards the end of the show, the two large screens on which the video-track was projected floated away in the Danube, emphasizing the impermanence of mass media images in the face of the visual clutter regularly bombarding viewers. Consequently, the work re-visioned not only the representation, but the very meaning of the event, having merged into the celestial reality, which encompasses the immediate.

Unfortunately, many in the audience took exception to the repeated use of 9/11 imagery. Irresistibly confined within the immediate connotations of the visuals, they rejected the show as being "ironic," "pornographic" and outright dystopic. I remain intrigued by the reactions of the majority of the audience, and without meaning to underestimate or trivialize them, I am inclined to hold that the response stemmed not simply from a personal anguish or collective angst cause by 9/11, the most spectacular avatar yet of terrorist violence in communities unused to it. As the clouds of dust that swelled in the space of seconds settled months later, a self-contained, neatly tagged perception found itself ruffled by a diametrically opposed reality that was, until then, beyond perception. This shock to the system accounts, in my view, for much of the hostility expressed towards the show by the primarily Western audience. In this, they displayed the insularity that simultaneously multiplies and sharpens existing fault-lines of difference, constricting notions of identity. This unwilling engagement, it seems, was symptomatic of the very malaise that Ars Electronica 2002 was out to spotlight, a deficiency that slants perceptions, translating them into imporous attitudes that suffer restricted comprehensibility. Emanating from a limitation of knowledge and nurtured by mis-information, this trend clips any possibilities of constructive synthesis; it either completely relegates or undermines endeavors that break away from the common or "obvious" inclinations.

These fault-lines of difference stand out most noticeably in encounters between civilizations from "advantaged" and "not-so-advantaged" regions of the globe. Popular Western impressions about the "East" (west Asia onward) and Africa have tended to oscillate between two extremes - one seeing Eastern cultures as impoverished, unstable and calamity-ridden, the other seeing them as "exotic" and mesmerizing - rarely transcending the precincts of the Euro-American fortress. This despite the prolonged colonial intersection and the contemporary "global" one. The lures of these lands, tracing well back into yore, make for no more than either mild flirtations with their "colors,"

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"flavors" and "mysteries," or (worse), eccentric and unempathetic attempts at solving their problems.

Between its insurgent sentiments, eloquently conveyed by Stocker - "Unplugged confronts our own inability to enter into a networked arrangement with 'the others' that goes beyond the exploitation and preservation of our own spheres of influence" Đand its own situation, the latter got the better of this year's festival. Even though the galleries at the Brucknerhaus, the festival's main venue, may have flaunted works from previously under-represented parts of the world, the domination by the North American-European-Japanese triad was apparent from the very outset. With most of the African artworks making for no more than a contrite acknowledgement on behalf of the organizers, they perpetuated, if not legitimated, existing stereotypes. (Ironically enough, at the inauguration a music video had to replace a live performance by an African music group who were stranded in Paris by an Air France Pilots' strike.)

It seems to be in a similar strain, but with more appeal, that Indian artist Ranjit Makkuni's *The Crossroads Project* got transported to compete at the Prix Ars Electronica, held prior to the festival. An elaborate interactive art installation, of which only a small portion was displayed at the OK Centrum, the project examines Banaras - an ancient city by the Ganga river, famous for its prominence in Hindu mythology - using an elaborate multimedia set-up that enables users to travel through the lanes, by-lanes, ghats, mythologies and legends of Banaras. Demonstrating futuristic forms of access, Makkuni improvised information delivery devices to incorporate expressions of traditional Indian arts and crafts - a feature that impressed the jurists and fetched him an award of distinction in the interactive art category. He had intended to translate the very cross-over Banaras is known for - from life to death, from knowledge to immortality, from the relative to the absolute - into a man-machine interface but the sense of touch, central to the installation, and reliance on archetypal content was insufficient and outdated, infusing the work with all the ingredients that make for a familiar clich□.

The project could have explicated the ostensible paradoxes that comprise Banaras Đ at once chaotic, crowded and noisy, yet calming, silencing and therapeutic for those with spiritual yearnings - as well as its legendary experiences. Instead, the buzz surrounding Makkuni's newfangled toys reflected only a fanatic fixation for technology, triggering its reification. Unable to surmount into a realm where form and content meld inseparably, and with an explicit lack of context, the work's very objective stood severely diminished. Besides, the preoccupation with "new" forms of access seemed too elementary at a time when the world of contemporary media art is passionately grappling with the mysteries of artificial intelligence and the intercourse between technology and consciousness.

If the festival's intention was to reveal the penetration and impact of new technologies on societies beyond the West, the attempt was incomplete, if not inappropriate. The export of technology to the developing world may have been meager, but its experience is not devoid of instances and indigenous/self-developed models of adoption that have melded pressing development needs and social, economic and political conditions with technology. The festival's deliberations too, mostly at the symposia, drifted towards commonplace development debates, which start by ostentatiously setting up a premise and

commit to finding solutions, but collapse almost immediately, unable to surpass fixed notions, nurtured within the citadels of fluff. As a consequence they lacked an aptitude to comprehend the intricacies and complex medley of oppositional forces at play in some (not-so-advantaged) developing societies.

Amidst the hackneyed and gloomy recollections of development and digital divides, systemic bottlenecks delaying development (in this case, connectivity) and media wars at times of terror, Ars Electronica unearthed some treasures that would have remained buried without them. Urban Africa Club, featuring emergent styles like Zouglou, Kwaito and Senerap, demonstrated how music in urban African milieus has materialized as a playing field where politics and problems confronting everyday life are negotiated. Rapidly catching up in capitals across the continent (though fairly unknown beyond it), African hip-hop and rap sounds much like its counterparts in the Americas and Europe but results from, and reflects the tension between, traditional and modernizing/urbanizing influences as the African continent, like developing societies elsewhere, finds itself at the crossroads where centripetal and centrifugal forces collide. Music, charged with strong political emotions and smatterings of a religious spillover, seems to be the new extension arm for a generation motivated to end the combat for scarce resources.

The presentation by Saskia Sassen, sociology professor at the University of Chicago, brought to light another intervention. She addressed the nature and possibilities of the contemporary global encounter, identifying what she termed as the "global city," a zone that may span the globe but results from the intersection and juxtaposition of older temporalities and spatialities with newer ones, namely the economic dynamics and opportunities of globalization. She succinctly charted the emergence of the global city, defining it as a political opening ". . . that contains unifying capacities across national boundaries and sharpening conflicts within such boundaries. Global capital and the new immigrant workforce are two major instances of transnationalized categories that have unifying properties internally and find themselves in contestation with each other inside global cities." Sassen's presentation thus contextualized, cut into and provided the much wanted precursor to discussions on possibilities of ICTs at a time when territorial boundaries are being redrawn, not simply in technological and economic terms, but also political. However, her predictions about the possibilities of local cultures and communities in a networked environment were somewhat optimistic, lacking the necessary caution given the virulent forms of fundamentalism emanating from cultural restoration initiatives now sweeping civilizations across the world.

Reservations and wrong turnings aside, some things have to be said. Immediately following yet another inconclusive World Summit on sustainable development, one can only thank Ars Electronica for setting an agenda for spotting and attempting to reconcile two polarities that characterize the globe of today - clashing and splitting on the one hand, converging on the other. The festival, without meaning to repeat the causes and manifestations of networking gaps and overwhelmed by the enormity of its own assertion, gave into the seductions of a largely inductive approach. The consequence was that its discourse arched along an axis that betrayed its ambitions, inevitably finding it impossible not to stray into the futile territory where its sustainable development counterparts consistently land. The festival's agenda would have benefited from more definition, stirring rigorous introspection among those held to be "plugged

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in," without necessarily trying to "catch up" with new technology penetration (or the lack of it) and developments in Asia and Africa. These two continents, in any case, do not enjoy much of a common denominator, either technologically or artistically, with their Western counterparts, given the varying dynamics surrounding both.

Ars Electronica, however, with its well deserved reputation for a nurturing spirit constituting counter culture, did articulate and rephrase questions emanating from the contemporary global encounter - one that has so far been partial. These questions are crucial not only for those across the "divide" but for the global entity in its entirety. Maybe it is time for the gurus of the world bureaucracy to set aside their preoccupation with figures, strategies and plans and turn the development debate around, taking cue from Ars Electronica 2002. The festival did indeed throw down a gauntlet to anyone in the arts whose contemplation of the unplugged was considered, rather than chic; at times, one felt this could have been taken up more firmly by the participants.

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< La Rioja >
By Alejandra and Aeron. Lucky Kitchen, 011 La Rioja, Spain, 2001.

Reviewed by Claire Barliant, cbarliant@yahoo.com

This pleasingly packaged CD, with its burgundy and cream paper envelope, decorated only by a strip of fabric charmingly imprinted with a simple landscape drawing, is evidence that an attempt to achieve something pure can often have a faulty result. The liner notes include a thoughtful commentary written by sound artists Alejandra and Aeron, who spent 3 years in the wine region La Rioja, in northern Spain. Over that period, they gathered recordings of local residents singing traditional Riojan music.

In their poetic description of this endeavor, Alejandra and Aeron decry the limitations of a studio documentary of folk music, insisting that rather than "pinning dead butterflies," their project "drew them loosely in mid flight." Operating under the theory that music made for and by the people is fluid rather than static, the artists recorded each song, or sometimes fragment of a song, in a natural setting rather than in a studio. Though the idea is beautiful and sincere, the result is not quite as compelling. Track 10, "Por que no hablais de amor? Jose Sings a Sad Love Song in the Plaza in Front of the Logano Cathedral," is practically drowned out by the sound of the street. Many of the recordings are so faint that I found myself constantly fiddling with the volume control. Although the artists do provide a translation of the lyrics for one lovely song, "Ay, Manole (the song of the twelve months)," translations of others would also have been helpful.

But such complaints miss the point of the CD, which is not trying to be Harry Smith's anthology, nor is it aimed at satisfying sociologists who are hungry for details. Insofar as one can stand the somewhat pretentious conceit on which the album is based, it can at times be quite pleasant, evoking the sometimes festive, often mournful atmosphere of La Rioja. At its best, it succeeds as a quiet meditation on the passage of time and the erosion of an indigenous culture as it gives in to change.

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< EREIA >
performed by Doctor Nerve and the Sirius String Quartet, composed by Nick Didkovsky. Cuneiform Records, Silver Spring, MD, U.S.A., 2000. ISBN: 2-914-34200-4.

Reviewed by Curtis Bahn, crb@rpi.edu

Dr. Nerve: Greg Anderson, bass; Leo Ciesa, drums; Nick Didkovsky, electric guitar; Yves Duboin, soprano sax and flute; Rob Henke, trumpet; Micheal Lytle, bass clarinet; and Kathleen Supove, keyboards.

Sirius String Quartet 1999 (Sections 1 and 3): Joyce Hammann and Mary Whitaker, violins; Ron Lawrence, viola; Tomas Ulrich, cello.

Sirius String Quartet 1997 (Section 2; recorded live at *EREIA*'s premiere at the FIMAV '97 festival in Victoriaville, Quebec): Todd Reynolds and Liz Knowles, violins; Ron Lawrence, viola; Mary Wooten, cello.

EREIA is a huge undertaking and a great accomplishment for composer/performer Nick Didkovsky, extending both his compositional voice and the limits of his ensemble, Dr. Nerve. The piece was written in three large sections, each with a number of smaller movements. The first was composed for the Sirius String Quartet alone, and in the second and third sections, Sirius is joined by Dr. Nerve.

Starting with a folk-like, angular violin duet accompanied by pulsing hand-claps, *EREIA* establishes the tight, rhythmic language and canonical approach to layered complex textures that is found throughout the disk. The second movement of the first section, a halting, plaintive violin solo, begins to reveal the great dynamic and expressive range of the composition. The unison downbeat of the rhythmic assault of the third movement rips you out of your chair and leaves you romping through an odd-metered Stravinsky-esque landscape that stops as suddenly as it starts. The last movement in the first section, a slow, sustained texture slowly rising into a warped odd-meter chaconne of sorts, in no way prepares us for what is to follow . . .

A screaming wall of full-band free improvisation introduces us to the texture of the second section, where Dr. Nerve first joins the Sirius String Quartet. This second section pulses with the intensity of the live performance at *EREIA*'s premiere at the FIMAV '97 festival in Victoriaville, Quebec. The choice of combining the live performance with the studio recordings of the first and third sections was an unusual decision, but an effective one. This section is a "conducted improvisation," consisting of solo and small ensemble improvisations punctuated by sections of material drawn from the first and third composed sections. All the members of the ensemble deliver powerful solos, with exceptional moments by Reynolds and Lytle. Clearly, this section was enjoyed by all, and at times one can hear the reactions and laughter of the audience urging the music on.

The third section of *EREIA* is a through-composed movement for full ensemble, consisting now of Dr. Nerve and the Sirius String Quartet (1999 personnel). The section starts with a quiet sonic mass of long, smooth, slowly evolving tones now eerily devoid of

the energy of the over-arching free solo statements we grew accustomed to in the second section. The sound mass slowly climbs, growing increasingly dense in a process similar to the last movement of the first section. Finally, building to the top of a long musical arch, the ensemble remains on a single held sonority, spilling over with a frothing frenzy of drums, bass clarinet, sax and trumpet. The next movement, again featuring the multi-layered rhythmic approach seen throughout the work, culminates with a strong unison ensemble line soaring over a rhythmic ostinato played by the cello, bass, piano and drums that grooves so hard one would swear it was almost a simple "back-beat" - until one tries to tap their foot to it. This launches into a strong, regularly metric groove played by the bass, cello and drums with a burning trumpet solo (I am afraid to say it is in 4/4, but it could be . . .). This extended movement travels through a wide range of characters - the solo, ensemble and rhythmic textures feature, among other treats, another intense violin solo by Todd Reynolds and an extended, screaming guitar solo by composer Didkovsky. In the last movement, the bass, cello, bass clarinet and drums play an irregular, odd-meter vamp, with ever increasing canonical layers of strangely interlocking rhythmic strata, ultimately building to a wild trumpet solo, riding on top of the texture and holding on for dear life.

EREIA traverses a wide terrain of textures and material - from insane, left-footed, eclectic, electric rhythmic grooves to quiet, detailed, introspective, acoustic landscapes; grooving, algorithmic compositional textures and carefully executed free improvisation; meticulously recorded live performance and energetic, raucous studio productions. The mix of electronic sounds and processing with natural acoustic sounds in the second and third sections is masterful and clear, often leaving one to wonder which is which. The ensemble has the intensity and drive of a rock band - an unusual feat considering the technical difficulty of the music, much of which is generated through algorithmic compositional processes. Grooving on these extreme, angular, multi-layered structures is a feat such as only Dr. Nerve (and friends in the Sirius String Quartets) can accomplish.

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< Art, Science, Technology: A New Step in St. Petersburg >

Reviewed by Mikhail S. Zalivadny, nikitin@spb.cityline.ru

The twentieth international Educational Informatics and Sustainable Development Problems conference took place in St. Petersburg and Minsk, Belarus, on 13-14 April, 2001. The conference was dedicated to the fortieth anniversary of Yuri Gagarin's space flight and to the sixtieth anniversary of the St. Petersburg State University of Air/Space Structural Devices (GUAP). The conference brought together more than 600 participants from St. Petersburg, Minsk, Arkhangelsk and other cities and towns.

Among the conference subjects, GUAP and the St. Petersburg State Conservatory presided over a special section devoted to relationships between art and computer technologies. Participants presented reports examining problems such as teaching possibilities in music education, copyright protection for musical works placed on Web-sites, graphic modeling of

sight-and-hearing synaesthesia in music (with reference to Joseph Schillinger's ideas concerning this problem) and discussion of various aspects of the multi-media virtual guide of St. Petersburg at the time of Pushkin, being prepared by GUAP in collaboration with the Institute of Russian Literature (Pushkin House).

These reports were followed by a large-scale concert of electronic music, given by the Hotoyama Itiro Electronics, Acoustics and Music School Studio (affiliated with the Conservatory) and the new computer music studio organized at the St. Petersburg State College of Music. One of the central events at the conference was the presentation of the Cybervelo project by specialists and students of GUAP. The technical basis of this project is a real bicycle connected to electronic devices that give the "cyclist" a wide range of possibilities for travelling in the virtual world (demonstrated on a monitor display), e.g. across the environs of a French ch%teau, along the streets of virtual New York, Tokyo, Hong Kong, etc., or even flying over virtual mountains. Shortly after the conference, one could observe the humorous (but very symptomatic) sight of an ordinary television set in the Cybervelo-equipped lecture hall, standing switched off.

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< Art and Optics: Toward an Evaluation of David Hockney's New Theories Regarding Opticality in Western Painting of the Past 600 Years >
The New York Institute for the Humanities, New York University, New York; 1-2 December, 2001

Reviewed by Wilfred Niels Arnold, warnold@kumc.edu.

David Hockney, one of the most accomplished of contemporary artists, is in a new limelight because of a recent scholarly pronouncement: Hockney is convinced that many of the old masters, starting as early as the fifteenth century, employed optical devices such as lenses, mirrors, cameras obscura and cameras lucida for mechanical assistance in outlining subjects directly onto paper, canvas or wood panel.

The nature of this process would anticipate a confident line as well as an accurate perspective within the range of the instrument. The artist might make several drawings (for example, a separate one for each figure in an ensemble), arrange them into the desired composition and then complete the painting by applying pigments. The alternative process, in a view cherished by most historians and curators, posits that the successful artist would "eye-ball" the subject and, with wonderful coordination of hand and eye, construct an outline drawing. After long years of apprenticeship in a workshop, the emerging master was supposed to render these sketches with increasing dexterity and speed. For architectural settings and highly patterned segments (tiled floors, checkered tablecloths, leaded windows, ceiling joists), the painter might follow the rules of one-point perspective formulated by Brunelleschi (1377-1446) and begin by laying down geometric guidelines on the drawing surface with a pencil and ruler. An equally laborious method, the use of viewing grids and proportional graph paper, as illustrated by DŸrer (1471-1528), would also be "acceptable" to their modern admirers.

Commentators of this persuasion find no support for optical projection and assert that "tracing" by an old master would be unthinkable; suggestions of "cheating" have even been overheard in museum halls. In contradistinction, Hockney believes that any artist who had seen the projected image and possessed the means would have embraced the optical projection technique because it provided a new and exciting two-dimensional view, and was less arduous to use than mathematical and drafting devices. He also draws a connection from the camera obscura of van Eyck (1370-1426) all the way to the Kodak slide projector of Andy Warhol (1928-1987).

This is the substance of Hockney's recent lectures, interviews and a book, *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters* (October 2001, Viking Press). Several of his colleagues have assisted him. Most notable among these is Dr. Charles Falco, a physics professor at the University of Arizona, who brought scientific expertise to the project and also provided the resources for understanding the working hypothesis by a wider audience. In this context, I would add the masterful book by Philip Steadman, *Vermeer's Camera: Uncovering the Truth behind the Masterpieces* (Oxford University Press, 2001 - see my review in the June 2001 Leonardo Digital Reviews). By exploiting the great precision of Vermeer (1632-1675), Steadman was able to reconstruct the architecture of the subject room and to measure absolute sizes from extant museum pieces of furniture, maps and other pictures that the artist incorporated into his domestic scenes. The geometric evaluations indicate that Vermeer worked optically rather than through the painstaking mathematical methods of perspective.

Awareness and anticipation about the Hockney/Falco endeavor had been intensifying ever since Lawrence Weschler's long article in the *New Yorker* (January 2000, pp. 64-75), "Onward and Upward with the Arts: The Looking Glass," which spawned further media attention. With admirable timing and aplomb, Mr. Weschler then organized the Art and Optics Conference, sponsored in part by the Sloan and Norton Family Foundations, at the Tischman Auditorium of New York University Law School. The conference was open to the public and free, on a first-come, first-served basis, starting at 9:00 am on Saturday, 1 December. I was fortunate to arrive just in time, thanks to Michael Henchman and his colleagues from Brandeis University, and we were all amazed at the long line of attendees that subsequently grew down the hall, out the front door, and even along the sidewalk. Some of the overflow crowds were accommodated in the neighboring Greenberg Lounge with television coverage piped live. Estimates circulated of over 2,000 people. The enthusiasm was unabated on Sunday morning and those of us who had secured reservations from the previous day trotted in under fierce looks from the long queue.

The conference was organized into seven sessions and designed to bring Hockney, Falco and their principal supporters (including Steadman, John Spike, Chuck Close and Martin Kemp) into the same auditorium with oppositional art and science historians (including Keith Christensen, Walter Liedtke, Svetlana Alpers and David Stork) for a full public airing of their disparate views. There were an additional 20 invited presenters, the majority of whom were both instructive and entertaining. They ranged, however, from a delightful contemporary practitioner of camera obscura techniques, Abelardo Morell, through fence-straddlers and egocentrics, to those who addressed subjects quite outside Hockney's working hypothesis. More than one speaker tried to gain notoriety by declaring that we were addressing the wrong subject,

but they were felled by silence. Small enclaves within the multitude clapped when they thought that points were made on their side. After each session, several questions were taken from the floor on aisle microphones, but many of these struck me as exercises in building self-confidence by young local artists and historians. A few of the mature artists on the panels were better at responding to questions than offering prepared speeches.

It was quite an event, with the most instructive responses coming from Hockney and Falco. The opening session was introduced by Weschler, who had recently suffered a torn ligament and now used his single aluminum crutch to visual effect in calling the audience to order. The first item on the agenda was the American premiere screening of a BBC documentary on Hockney's thesis (which was listed as 75 minutes, but was so good that it seemed much shorter). Hockney had obviously worked hard on it - the cinematography was exquisite, the sets were beautiful and a few well-chosen "experiments" set the stage. Brief talks by Falco and Hockney followed the screening, with succeeding sessions entitled "General Perspectives," "Scientific Vantages," "Experts on Individual Artists," "Artists' Responses" and "Wider Perspectives."

The tide of battle went back and forth and it was announced that developments and their aftermath would appear on the conference's website, www.Artkrush.com. Hopefully, transcripts of the proceedings will also be available - this is all the more important given the ample but deficient coverage of the conference in the popular media. A case in point is the *New York Times* story, "Paintings too Perfect? The Great Optics Debate" (4 December, 2001). Therein, Sarah Boxer highlights objections from invited participants to Hockney's working hypothesis (although she calls it a theory), but fails to report on clarifications and refutations to the criticisms. Just as too many art historians lack even the introductory elements of physics and the scientific method required to comprehend such evidence, so journalists have a difficult time reporting what happened at this conference because they are unable or unwilling to do the work of learning and evaluation.

David Stork noted that the camera obscura demonstration across the hall revealed a nice image, but worried about the intensity of the theatrical lights used to illuminate the bowl of fruit. With sarcasm and derision, he projected on the auditorium screen a cartoon slide with hundreds of candles, remarked on the fire hazard, and asked where Vermeer got his light in seventeenth century Delft. "The Sun!" said Hockney, and indeed one of the first things Hockney had brought up at the opening was "sun in the face" and the wonderful shadows. Stork also tried to rubbish the concave mirror lens hypothesis by postulating that a huge and improbable glass bubble would have been needed in order to manufacture the correct curvature and overall size required for the whole painting. From the aisle microphone, Falco gently reminded him that much smaller optical devices could be used to create multiple drawings, which he and others had been at pains to explain earlier.

Along these lines, I feel that one of the most compelling pieces of supporting evidence for Hockney's hypothesis comes from pictures in which the foreground and background are in focus but the middle ground is fuzzy, implying that a lens system was moved in a two-stage process. Walter Liedtke announced that the ceiling joists in Vermeer's paintings were running in the wrong direction, counter to Delft houses of that era. He thereby threw

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himself on the sword of Philip Steadman, who has an architectural colleague in Holland busily assembling data that support the realism of Vermeer, and who actually lives in such a house of that vintage. Sidney Perkowitz, a physics professor at Emory University, presented a very good primer on optics, but again many in the audience were reluctant to get started. Christopher Tyler, a neuroscientist from San Francisco, gave a reasoned and balanced presentation on perspective, but the paintings on which he has worked and now reported were not among Hockney's examples. Ellen Winner, a developmental psychologist from Boston College, showed us some drawings of horses in motion by an autistic child - interesting, but any connection with the theme escaped me. Linda Nochlin spent all of her ten minutes showing two slides of herself in a wedding dress - a photograph and then a commissioned painting by Philip Pearlstein. An assistant was instructed to bring the dress on stage and Nochlin declared that this was "scientific evidence." The next day, Pearlstein himself appeared on another panel, supposedly selected as a figurative painter who eyeballs his subjects and hates to be associated with photorealism. This tandem exercise was belabored by the wedding dress picture appearing for yet a third time. Nica Gutman, a conservator of paintings from the Philadelphia Museum of Art, made an important contribution, reminding us that Thomas Eakins (1844-1916) relied heavily on chemically fixed camera images and slide projections onto his canvases for tracing although Eakins (along with his widow) did his best to deny using the technique. This speaks against the criticism espoused by some historians about Vermeer's methods, i.e. based solely on the lack of written documentation. In this vein, John Spike referred to a contemporary description of the studio of Caravaggio (1569-1609), which includes description of an item resembling a camera obscura but is rarely commented upon in later literature.

Closing remarks by Falco and Hockney expressed their appreciation of the event and all the views presented. Last words by Lawrence Weschler echoed the audience's delight with the experience. He declined, however, to follow through on his metaphorical promise to the media of either burning Hockney at the stake or declaring him pope. Rather, he shouted, "I'm cured," and forthwith threw his crutch off the stage.

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< Seventh Annual Meeting of the International Society for the History of the Neurosciences (ISHN), Los Angeles, California, 1-5 June 2002 >

Reviewed by Amy Ione, ione@diatrope.com

Contemporary projects frequently demonstrate that brain research at the end of the twentieth century has stimulated the artistic imagination. Although our excitement about current work tends to overshadow historical examples, this was not the case at the seventh annual meeting of the International Society for the History of the Neurosciences (ISHN). Indeed one of the most compelling features of the conference was the degree to which combinations of art, science and technology were simply assumed.

This was immediately evident during the opening reception, held in the rare book room of the History and Special Collections Division, Louise M. Darling Biomedical Library at UCLA. A special exhibit was set up and included (among other things) Hideomi

Tuge's study; an atlas of the brain of a pianist, Chiyo Tuge (1908-1969); an 1880 anatomical wax model of the left side of the head and neck in dissection; and Percival Bailey's copy of the Edwin Smith surgical papyrus. Now treated as a "work of art," due to its value and significance, the unknown author of the papyrus, a surgeon, systematically described the examination, diagnosis and feasibility of treatment for 48 cases. Several of these cases discussed the brain, meninges (coverings of the brain), spinal cord and cerebrospinal fluid for the first time in recorded history. Generally regarded as the first record of historical attempts to understand connections between the brain and the human body, the papyrus' empirical approach to the problems under investigation has been studied extensively. It is perhaps not surprising that Percival Bailey, a later neurologist, owned a copy of this document, which contained the first written reference to any part of the brain, in this case the cortex. Interestingly, the Edwin Smith papyrus is also a copied document. It is usually dated to about 1700 BCE and is said to be a copy of a much older surgical treatise, dating back to the pyramid age of the Old Kingdom (about 2686-2181 BCE).

Stanley Finger's fascinating paper, entitled *The Power of a Musical Instrument: Franklin, the Mozarts, Mesmer and the Glass Armonica* was particularly noteworthy, as was the subsequent counterpoint demonstration-concert of the glass armonica by William Wilde Zeitler. As Finger explained, the playing of glass has a long history. Early Pythagorians experimented with glass bowls filled with increasing quantities of water, and the history of the East Indian Jal Tarang (a set of tuned glass or porcelain bowls struck with mallets) similarly illustrates a long interest in the creation of music with glass bowls filled with increasing quantities of water.

Benjamin Franklin's (1706-1790) contributions to the playing of glass are not as well known. Franklin, an inventor who was keenly interested in music, brought his extensive knowledge to the problem of how to eliminate water tuning and constant evaporation from the playing of glass bowls. His solution, the elegant glass armonica, eliminated water tuning by having each glass made with the correct size and thickness to give the desired pitch without being filled with any water. In addition, Franklin made the set of glasses more compact and playable by nesting them inside each other, mounted on a spindle which was turned by a foot treadle. Franklin claimed the glass armonica was his most satisfying invention, yet history shows he also contributed to its demise.

Briefly, as Finger explained, Wolfgang Mozart composed for the glass armonica in its prime and Franz Anton Mesmer integrated the music into his s□ances. Eventually, however, Mesmer's claim that this music could promote healing by propagating a mystical fluid that he called animal magnetism throughout the body raised questions about the instrument's sweet sound. It seems Benjamin Franklin was included on a panel of respected scientists who examined Mesmer's claims and their rejection of these claims discredited mesmerism. Ironically, when Franklin debunked Mesmer's claims, he was also a key player in creating the environment that led to the instrument's long association with madness.

Zeitler, a classically trained musician, quickly brought this story to life. His informal presentation began with a few compositions and then mixed audience questions with musical pieces (including his own compositions). The ensuing discussion touched on everything from the "feel" of the instrument when

playing to the physics of the pitch. During this stimulating discussion, we learned that Zeitler built his own instrument (at a cost of about $13,000) and needed to teach himself to play, since the glass armonica is far from being in the musical mainstream today.

Also of note was the session held at the Getty Museum. This year, the scholar theme at the Getty is "Frames of Viewing: Perception, Experience, Judgment," with the goal of opening "a dialogue between different approaches to perception: the historical, psychological, and physiological." Larry Kruger, a Getty scholar and a research professor of neurobiology in the School of Medicine of the UCLA Medical Center, began the session with an examination of the impact of quantification in physiological science and the birth of photography. Frances Terpak, of the Getty, then walked us through the recent show, "Devices of Wonder: From the World in a Box to Images on a Screen." This exhibition clustered together optical devices, scientific instruments, rare natural history books, zoological, botanical, and mineral specimens, trompe l'oeil paintings, games, toys, prints, ephemera and even a seventeenth-century Wunderkabinett that unfurled its rich collection of naturae and artificia. As Terpak explained, fascinating and difficult-to-classify cultural material demonstrates how wondrous devices existing at the interface between art and science can reflect, refract, diminish, magnify, stretch, dissolve, project and animate objects to reveal how enhanced perceptions have occasioned new forms of consciousness in different historical moments.

Genevive Aubert, the third speaker of the conference, spoke on "Photography and Cinematography before 1914: The Neurosciences Discover Multimedia." Impressively outlining how the use of film came to be a part of neuroanatomical and neurophysiological studies, Aubert explained that, at the beginning of the twentieth century, a few pioneers such as Van Gehuchten in Europe and Weisenburg in America assembled the first collections of motion pictures of neurological patients. These films allowed patient conditions to be documented over time and aided classroom education.

Christopher G. Goetz's paper on "Historical Cinematographic Documents in Neurology" further developed this topic. Introducing early film documents on neurological diseases from the archives of the American Academy of Neurology, the Movement Disorder Society and a number of private collections, this paper acquainted the audience with additional information about how film documented neurological conditions and captured diseases as diverse as post-encephalitic parkinsonism, locomotor ataxia and numerous movement disorders. What was most fascinating about this paper was that the documents presented insights into the creative methods of early neurologists and showed how carefully they recorded the clinical signs of many disorders that are no longer regularly seen. In addition, his presentation showed that modern technology now allows field investigators to document neurological disorders worldwide and thus this information is no longer confined to isolated geographical regions.

The final paper in this session was "Brains, Bodies, and Mad Scientists: Hollywood does Neuroscience," by Sheryl Ginn. Introducing clips from *The Lady and the Monster* (directed by Eric von Stroheim, 1944), *Fiend without a Face* (filmed in 1958 and directed by Arthur Crabtree) and other genre films, Ginn exposed the distorted "scientific" information the general public receives from horror films and used this genre to convincingly

explain why it is not surprising that scientific literacy in America is considered so abysmal.

A short review cannot do justice to this excellent conference. Topics were far-reaching and the high quality sessions included papers such as "Early Neuroscience: Chinese, Arabic and Islamic Medicine;" "The Politics of Science;" and discussions of key figures in historical neurology (e.g. Hughlings Jackson and Santiago Ram—n y Cajal). Within this context, it was refreshing to see the ease with which the organizers, speakers and attendees integrated art and technological innovations with the history of neuroscience. Indeed, I find it difficult to offer constructive criticism. To be sure, I was disappointed that the Getty session did not include discussion of eye/brain connections, but this is really a minor point given that the session certainly was in step with the thrust of the event.

I would urge those interested in historical connections between art and neurology to look at the program (http://www.ishn.org/), and at Zeitler's glass armonica webpage (http://www.glassarmonica.com/).

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< New Music for Player Piano >
by Godfried-Wilelm Raes, Joachim Brackx, Hans Roels and Kris De Baerdemacker. Logos Publiek Domein/Public Domain 004, Gent, Belgium.

Reviewed by Mike Mosher, mikemosh@well.com.

The computer-driven player piano affords composers new opportunities to create pieces based on mathematical propositions, playing in a manner that is difficult even for trained pianists, yet it fits into and enlarges existing traditions of piano music.

"Take an integer. If it is even, divide it by the number 2. If it is odd, however, multiply it by the number 3 and add 1. Now, after a sufficient number of recursions, we always arrive back at the number 1." This proposition is applied by Godfried-Wilelm Raes as an algorithm for musical composition in his "Jumpy Variations" (1995). "Movement 1: Tendering" is dynamic and reminiscent of the free jazz of Cecil Taylor, until the energy gradually winds down as the calculations approach 1. "Movement 2: Tropes" uses the logarithm of particularly large numbers applied to the initial algorithm that generates the music, creating the impression that the generated bursts of notes are random. "Movement 3: Totems" has so much quiet that at times it is difficult to discern the notes holding the composition together.

These pieces are followed by Raes' "Fortepiano" (1973) for two player pianos. The player pianos are enlisted to play the notes fortissimo, then immediately pianissimo, creating a bouncing effect. The melody is based upon a repetitious four-note motif, like something Erik Satie would teach a young niece in order to infuriate her mother; one can imagine Uncle Erik lustily plays along, insouciantly suppressing a smile.

Joachim Brackx says of his "Dualistic Solitude II" (1998-99), "The player piano starts a conversation with itself, fast and mechanical - a machine chit-chat, regularly interrupted by moments of doubt and alienation." Yet, this twittering machine seems more pensive than chattering.

Hans Roels' angry "Sailing the Waves of Down Below" (1997) is full of rapid keyboard runs and subjective passion, as are Kris De Baerdemacker's three studies from 1999. "Study #1" is a study in seriality, with repetitive motifs built of eighth-notes; "Study #3" is memorable for its opening funereal chords; "Study #5" employs its propulsive glissandos to produce a jazzy feel, a soundtrack for a Bugs Bunny cartoon of pursuit and unexpected double-takes.

Evidently, a computer-controlled piano still has the range and subtle majesty of the instrument in trained human hands. In this collection, the mechanical element does not get in the way, but liberates the human player from replicating very complex and difficult music.

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< Air, Light and Utopia: The Modern Movement in Architecture >
VHS color video, 53 minutes. Available from Films for the Humanities and Sciences at (1) 800-257-5126 or www.films.com.

Reviewed by Roy R. Behrens, ballast@netins.net.

In architectural history, the term "Modern Movement" refers chiefly to the work of European architects in the period between the world wars. Many of their projects were factories, among them Peter Behrens' work for AEG (1909), Walter Gropius' Fagus Factory (1913) and his Dessau Bauhaus (1926) (a school in a factory, really) and the Van Nelle Factory by J. A. Brinkman and L. C. van der Vlugt (1931), all of which appear in this video.

Using on-location visits to architectural landmarks throughout Europe, combined with clips from interviews with architects and historians, the video identifies some of the reasons behind the Modernist preoccupation with factories, low-cost housing and the prudent and efficient use of new materials and technology. Its architectural examples are surprisingly rich in their breadth and number, with discussion and scenes of such pivotal works as Erich Mendelsohn's Einstein Tower (1924), Gerrit Rietveld's Schroeder House (1924), Konstantin Melnikov's Rusakov Workers' Club (1929) and Le Corbusier's Villa Savoye (1931). The central focus of the film is on Europe and, with the exception of Frank Lloyd Wright, who both influenced and was influenced by European Modernists, there is little, if any, discussion of the contribution to Modernism by U.S. architects.

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< Paris 1900: Une Capitale des Arts >
VHS color video, 14 minutes. Available from Films for the Humanities and Sciences at (1) 800-257-5126 or www.films.com.

< 1900: Art at the Crossroads >
by Robert Rosenblum, et al. Harry N. Abrams, New York, NY, U.S.A., 2000. 445 pp., cloth. ISBN: 0-8109-4303-4.

Reviewed by Roy R. Behrens, ballast@netins.net.

These are two very distinct but related items - one a brief collection of scenes of the 1900 World's Fair in Paris (filmed on location by the Lumiere Brothers); the other a plush and informative book on the same subject, in which is described and depicted (in 500 illustrations, with 300 in full-color) "the collision of styles and generations" that came together in what was then the largest international exhibition of contemporary art ever assembled.

A major attraction was the Grand Palais, which offered a mammoth centennial view of French art since 1800, from the allegories of Neoclassicism to Auguste Rodin's *Gates of Hell* to the work of the once-controversial Impressionists. Arranged to move out from the base of the Eiffel Tower (a legacy of the previous World's Fair), the 1900 Exposition Universelle premiered a palace lighted by 10,000 electric lights, the first moving sidewalk (like the ramps we use in airports now) and, along the banks of the Seine, reenactments of living conditions in other times and exotic places.

The book, which coincided with a major exhibition at the Royal Academy of Arts (London) and the Guggenheim Museum (New York) that ended in September 2000, is a stunning review of the artists (nearly all painters and sculptors) whose work was significant at the turn of the century, either because they were already established and soon to decline or because they were just then emerging as experimental Modernists. Among the most valuable parts of the book is a 70-page section titled "Biographies," which features rare photographs of and brief biographies about more than 190 artists.

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< Arte Vision: Una Historia del Arte Electr—nico en Espa–a (Art Vision: A History Of Electronic Art In Spain) >

Artists: Eugnia Balcells, Grupo 3TT, Esther Mera, Carles Pujol, Ant—n Reixa, Jaime Vallaure and others.

CD-ROM edited/published by MECAD (Media Center of Art and Design), Barcelona, 2000 (in English and Spanish). Available in Mac and PC formats, 800 X 600 screen.

Reviewed by Fred Andersson, konstfred@hotmail.com.

This CD-ROM, on the subject of the history of electronic art in Spain, was produced by the MECAD center in Barcelona. Consequently (given the strong regionalism in this very heterogeneous country), the perspective is more Catalan and Basque rather than Spanish. As a matter of fact, Madrid has always been of less cultural significance than the rebellious provincial capitals in the north: Barcelona (long since recognized as the "petit Paris") and Bilbao (chosen for the Guggenheim museum).

The historical perspective is ambitious indeed, ranging back to the 1950s with the design and abstract painting of the collective

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Equipo 57 (Juan Cuenca, Angel and Jos Duarte, Augustin Ibarrola and Juan Serrano) and the experimental films of the Andalusian Jos Val de Omar (1904-1982), with their atmospheres of Catholicism and madness (for example, *Fire in Castille - Tactile Vision of the Frightful Wasteland* from 1958).

The CD has two navigation routes: by artists (83 names) and by media. The media route is divided into various sub-categories: experimental film, video, holography, copy art, audiovisual installation, interactive installation, mediaperformance/metaperformance, digital photography, computer art and digital animation, net art and interactive media. Most of these categories are rather problematic, overlapping and ad hoc, as is the very concept of electronic art. They may, however, provoke interesting questions and discussions. For instance, should we use the concept of electronic art in a purely technological sense or in a more historical sense of emerging ideas, anticipating technologies not yet seen? The editors of the CD-ROM mention the historical connection between modern electronic art and the Futurist movements of the early twentieth century, but this does not explain the connection between electronic art and the paintings of Equipo 57.

On the other hand, the visual material and texts are substantial and of a very high quality. The interface is nicely designed, multi-navigational and easy to use. It covers a broad range of topics and artistic developments and each topic is accompanied by a generous bibliography. However, I would welcome more chronological surveys or timelines to get a clearer picture of developments and influences as well as something to provide a wider international context, i.e. the relation of Spanish art to international movements. As usual in nations on the European periphery (e.g. Spain, Sweden, Poland), national trends are mostly recognizable as variants of international ones, and this is exactly what makes a comparative attitude interesting.

Compare Manuel Barbadillo's constructivist, computer-generated pictures with similar achievements in the 1960s and 1970s by Swedish and French artists like Beck and Jung, Vera Molnar and Torsten Ridell; compare the copy art (photocopy techniques from the late 1960s onwards) of Marisa Gonzalez with the conceptualism of Hanne Darboven and the collages of Barbara Kruger or the Czech artist Jiri Kolar; compare the gay media performances by Konic Thtr (Alain Baumann/Rosa Sanchez) and Marcel-li Antunez (Antunez Roca) with Stelarc's likewise robotic but much more grave and gray manifestations. The work of Grupo 3TT (Jos Rosales, Fernando and Viktor Garc'a) might be described as a Spanish version of Bill ViolaÕs work, in view of the emotional religious iconography of their videos.

Artistic creativity as an expression of or a protest against religious and political totalitarianism is actually one of the key features that makes Spanish art worth attention as a distinct cultural phenomenon, and this is vividly documented in this CD-ROM. All in all, it is a fine technical and pedagogical achievement, and I would highly recommend it for institutional and private use.

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< Playtime >
by National Health, Cuneiform Records, U.S.A., 2001

< Barcode Music >
by GŸnter Schroth, Archegon, Germany, 2000.

Reviewed by Robert Pepperell <pepperell@cwcom.net>

To combine two of the most potent genres in music must have seemed like a good idea in the 1970s, when a number of jazz/rock "fusion" outfits started to appear on the fringes of the contemporary music scene. National Health typified this kind of pacey, often frantic, style of composition and performance, which ultimately seemed to appeal to neither of its constituencies. This album contains a series of live recordings made during a 1979 U.S. tour by one short-lived line-up of the band (which went through many personnel shifts in its 5-year existence).

The jazz/rock fusion genre, although technically arresting, tends, to its detriment, to combine the complexity of jazz with the pretensions and indulgences of rock. What results is a dense, intense, but largely sterile sound-scape that makes up for what it lacks in soulfulness with cleverness. National Health demand the most attention when they allow musical phrases to relax and develop (as in parts of the title track, "Playtime"). But more often, their compositions project an intricate dissonance that distances the uninitiated listener.

This CD contains detailed sleeve notes by the band's drummer about the context in which the recordings were made.

"All electronic sounds are 100% barcode controlled," runs the strap line on GŸnter Schroth's album from experimental music label Archegon. This could be taken either as a polemical statement on the contemporary music industry or as an assurance of the methodological integrity of this product. Either way, it is slightly disappointing that *Barcode Music* sounds like what you would expect barcode music to sound like. As presented through the apparatus of GŸnter Schroth, the bar-coded patterns of domestic products produce an industrial "scronk" of wet synthetic noise. Consequently, hearing this record is like listening to an alien sound-effects CD, parts of which are hauntingly evocative and others distressingly intrusive.

ISAST NEWS

< OLATS News >

1 - Pioneers & Pathbreakers : Katsuhiro YAMAGUCHI,
by Christophe Charles
http://www.olats.org/setF4.html

The roots of technological and electronic art are often thought as a "Western" practice, North-American mainly because it is the best documented, Western European at the very best. Very few people are aware that in Japan, a group of artists and art critics were at the very same time experimenting in the same way, with the same questions but in a different culture.

Katsuhiro Yamaguchi is one of this key figure, co-founder of the group "Experimental Workshop" (Jikken Kobo) that included visual artists, musicians, performers, etc. He worked with light, "multimedia" installations, took part in the Osaka Expo in 1970 and went on with video works.

2 - Pioneers & Pathbreakers : R. BUCKMINSTER FULLER,
by Victoria Vesna
http://www.olats.org/setF4.html

"Bucky" makes a "come back" to the artistic and intellectual scene today. And this is justice. Referred to as an architect, inventor, scientist, engineer, mathematician, educator, philosopher, poet, speaker, author, consultant, economist, futurist, transcendentalist, designer, he was a tireless writer, inventor, lecturer. Among his prolific inventions, we'll recall the geodesic dome ; among his visions, we'll remember the "Spaceship Earth" and the Dymaxionú Map, more up-to-date than ever. It is about time to (re)discover R. Buckminster Fuller.... and to read him. An extensive bibliography ÷by and about Buckminster Fuller÷ is provided in this notice.

3 - Pioneers & Pathbreakers : New on the Palatnik Site
http://www.olats.org/setF4.html

Abraham Palatnik's Artwork in Public and Private collections
(Text in French)

"Art and Technology" by Abraham Palatnik. Translation from Portuguese into French by Catherine Tresgots
(Text in French)

4 - Repres & Ressources : review of the "Alphabet" cd-rom,
by Anne Clotilde Boussand
http://www.olats.org/reperes/reperes.shtml

"Alphabet"
Murielle Lefebvre, Fr□d□ric Durieu & Jean-Jacques Birg□, adapted from Kveta Pakovskaâs work, NHK, Syrinx, 1999, Mac & PC

This CD-ROM intended for both children and adults shows an animated and colourful alphabet inspired by East-European creators. Full of surprise in sounds and graphics. Letters dance, disappear, eat their co-letters and generate sounds when rolled over. Worth discovering !

5 - Fondements Culturels de la Mondialisation (Cultural Roots of Globalisation) : bibliography
http://www.olats.org/fcm/fcm.shtml
A first bibliography regarding the Cultural Roots of Globalisation is now online.

6 - Special announcement : exhibition "Lanterna Magika" in Paris
Within the frame work of "Bohemia Magica, A Czech Season in France", the Espace Electra is proposing the exhibition "Lanterna Magika : New Technologies in Czech Art of the 20th Century", showing works by Josef Svoboda, Zdenek Pesanek, Zdenek Sykora, Frank Malina, Woody Vasulka, Michael Bielicky, Federico Diaz,

Petra Vergova and Floex. Two of those artists are documented in the Leonardo/Olats Pioneers & Pathbreakers projects : Svoboda and Leonardo founder Frank Malina. This excellent exhibition is a unique opportunity to see the works of the Czeck pioneers in kinetic art and "multimedia interactive" performances. Espace Electra, 6, rue R□camier, 75007 Paris Everyday but Monday - 12h - 19h until January 5th 2003

ANNOUNCEMENTS

< LEA 2003: Open call for papers >

The Leonardo Electronic Almanac (ISSN No: 1071-4391) is inviting an open call for papers to be published in 2003. The LEA Editorial Board seeks proposals for:

* Theoretical Discussions: *Original* essays documenting research, critical commentary in areas of discussion such as nanotechnology, cyberart, cyberfeminism, hypertext, robotics, bio-art, artifical life, genetics. This list is by no means exhaustive, and proposals need not be limited to these areas.

* Artists Statements / Gallery Commissions: International artists are encouraged to submit statements or proposals for *original* for exhibiting new media artwork. Curators are welcome to propose thematic exhibitions.

LEA encourages international artists / academics / researchers / students to submit their proposal for consideration. We particularly encourage authors outside north america and europe to send proposals for articles.

Proposals should include:-

- a 150 - 300 word abstract / synopsis detailing subject matter - a brief bio (and prior works for reference). - names of collaborators (if suggesting a thematic issue / curated gallery) - any related URLs - contact details

Please send proposals or queries to:
Nisar Keshvani
Editor-in-Chief
Leonardo Electronic Almanac
http://mitpress2.mit.edu/e-journals/LEA
lea@mitpress.mit.edu

by 15 January 2003. (Pls note - Response to proposals may take upto 4 weeks).

< LEA Special Issue CFP - Consciousness Studies East And West >

In recent years, there has been a surge in interest in the study of consciousness, especially within the scientific community. Such studies explore the definition and nature of consciousness from points of view of neurobiology, psychology and psychiatry.

Often, however, such explorations lead to more questions than answers, and a vast divergence of opinion on what actually constitutes consciousness Ð is it entirely a biological entity, or something that is shaped not only by biology but by other factors? What roles do experience and environment play in the development of consciousness, if any?

At the same time as this surge in interest, there has been greater interest on the part of the scientific community in exploring points of view from other cultures and traditions, especially those with strong contemplative aspects, on the nature and workings of consciousness. One result of such interest has been the development of conferences between Western scientists and prominent spiritual leaders, including the Dalai Lama, in order to further investigate the meaning and nature of consciousness in different cultures and contexts, and the implications of such studies for the world and humanity at large.

For this special issue of LEA, we are interested in discussions of consciousness in the context of Western philosophical and scientific traditions and how such theories might relate to, complement or contradict presentations according to contemplative religious traditions such as Buddhism, Hinduism, Sufism, etc. We are also interested in works by artists that explore such themes, especially those utilizing technology and technology-related ideas.

We are interested in the following types of articles:

1.Theoretical discussions

Discussions relating to the nature and functions of consciousness, either according to scientific perspectives or according to an established spiritual contemplative tradition. These discussions may be of a theoretical nature but should be supported by solid citations and references as much as possible. As the intention is to compare, contrast and explore points of convergence between scientific and contemplative views, we are especially interested in work that explicitly discusses such points. Although contributors' opinions are welcome, we would like the discussions to rely on generally accepted scholarship and theories, whether within scientific or spiritual traditions. These articles can be anywhere from 1,000 to 4,000 words.

2. Artists' articles

Shorter discussions of specific technology-related artworks that explore the convergence of ideas related to consciousness, spirituality, etc. These can be between 500 and 1,500 words.

We are planning this issue for publication in early 2003. If you have any questions or ideas for submission, please contact Patrick Lambelet by 30 Dec 2002: plambelet@tiscali.it

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< Two New Leonardo Books: Uncanny Networks by Geert Lovink & Virtual Art by Oliver Grau >

The Leonardo Book Series and MIT Press are pleased to announce the release of two new books, Uncanny Networks: Dialogues with the Virtual Intelligentsia by Geert Lovink and Virtual Art: From Illusion to

Immersion by Oliver Grau.

Uncanny Networks: Dialogues with the Virtual Intelligentsia by Geert Lovink

For Geert Lovink, interviews are imaginative texts that can help to create global, networked discourses not only among different professions but also among different cultures and social groups. Conducting interviews online, over a period of weeks or months, allows the participants to compose documents of depth and breadth, rather than simply snapshots of timely references.

The interviews collected in this book are with artists, critics, and theorists who are intimately involved in building the content, interfaces, and architectures of new media. The topics discussed include digital aesthetics, sound art, navigating deep audio space, European media philosophy, the Internet in Eastern Europe, the mixing of old and new in India, critical media studies in the Asia-Pacific region, Japanese techno tribes, hybrid identities, the storage of social movements, theory of the virtual class, virtual and urban spaces, corporate takeover of the Internet, and the role of cyberspace in the rise of nongovernmental organizations.

Virtual Art: From Illusion to Immersion by Oliver Grau
Although many people view virtual reality as a totally new phenomenon, it has its foundations in an unrecognized history of immersive images. Indeed, the search for illusionary visual space can be traced back to antiquity. In this book Oliver Grau shows how virtual art fits into the art history of illusion and immersion. He describes the metamorphosis of the concepts of art and the image and relates those concepts to interactive art, interface design, agents, telepresence, and image evolution. Grau retells art history as media history, helping us to understand the phenomenon of virtual reality beyond the hype.

CREDITS

LEA

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The LEA World Wide Web site contains the LEA archives, including all back issues, the LEA Gallery, the Profiles, Feature Articles, Publications, Opportunities and Announcements. It is accessible using the following URL: <http://mitpress2.mit.edu/LEA>

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