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and Interactivity in Museums >
< National Conference of the
    Association for Technology in Music Instruction >

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< LEA 1997 >

                         Craig Harris
Leonardo Electronic Almanac is happy to report that Interval
Research Corporation is continuing and expanding its support of
LEA for 1997. This is exciting news, making it possible for us to
expand our technological resources, and to develop the LEA staff.
LEA welcomes Pamela Flash to the editorial staff. Pamela brings a
diverse background and excellent skills to Leonardo Electronic
Almanac in this year of development. Patrick Maun is taking on the
challenge of redesigning the LEA web site to improve the look,
feel and navigation system. This process will result in making the
vast amount of content much more accessible. Patrick is a new
media artist, and has been involved in a variety of web art and
virtual gallery projects. Brief biography statements appear below.

Pamela Flash

Pamela Flash is an educator, poet and freelance editor. Editorial
and promotional writing experience includes two years with the San
Francisco Bay Guardian and another two with the Bay Area_s now
defunct New Performance Gallery. While working on her own
monologues and performance pieces, Pamela went on to develop a
freelance promotion business writing about the work of local
visual and performing artists. She even did a small amount of
editing for Leonardo in 1986 before going on a West Coast tour
with a Canadian horse-drawn theater group. In 1987 Pamela left
the stage for the classroom, teaching English and education at UC
Berkeley, the School for International Training in Vermont and the
University of Minnesota. Currently employed as an educational
consultant at the University of Minnesota, she spends her time
promoting the kinetic art of effective teaching, raising a young
child, renovating an old house, trying to get used to living in
the middle of a continent and scrambling to steal time for her own
writing.

Patrick Maun

Patrick Maun is a media artist working with combinations of video,
sculpture, interactive installation, online communications, sound,
and still work. His work explores issues in communications,
community, history, and myth. His work has been in both solo and
group exhibitions and festival nationally, in Europe and South
America. Most recently he has shown in the Digital Salon in New
York, and recently had a solo exhibition at the International
Gallery of Contemporary Art in Minneapolis.

< This issue >
This month Greg Garvey provides insight into several of his recent
works. The profile of the New York University Department of Music
and Performing Arts Professions reveals an intensive and varied
program. Leonardo Digital Reviews presents a collection of Book,

Article, Event and Exhibition Reviews. In the Publications section we get to hear about Die Veteranen's new CD-ROM and Web project, 'Venetian Deer'. See the notes in the description for pointers to the article and interview that we published in LEA back in 1994 about their first project. And 'Striking Distance' is a world-wide web publication presenting articles as well as exhibition and studio tour sections. There are several announcements of new programs and upcoming events that I haven't seen posted in the usual places, so I am including them here this month.

Expect to see some dramatic transformations in the coming months, and keep sending in material for publication. Follow that thread of thought that you have been wanting to explore for some time; send in some hyper-media explorations of your recent work.
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            |   PROFILES   |
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< Survey of Recent Works by Greg Garvey >

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URL(s): http://www.lightfactory.org/artists.html

Over the past 10 years my work has focused on interactive computer based installations and computer graphic portraits which both explore the nature of the digital medium and engage the eye, mind and body of the viewer/participant.

Installations such as the SMART STALL or the Automatic Confession Machine, while making satirical use of technology, question our infatuation with the brave not-so-new world of AI, VR, and ubiquitous computing. My work puts the user "on the spot" by requiring a committment or a kind of theatrical "suspension of belief" where the user must make choices presented by the interface that forces an examination of his or her own beliefs and biases in confrontation with the imagined or real agency of computer hardware and software. As Brenda Laurel has noted the potential of computers is "not in its ability to perform calculations but in its capacity to represent action in which humans could participate."

SMART STALL:
The Master/Slave Duchampian Telecommunications Interface

The SMART STALL is conceived as an 'immersive' interactive theatrical experience inspired by Antonin Artaud's 'Theatre of Cruelty.' The user's motion triggers 'orders' and 'instructions' from an abusive semi-intelligent agent suffering from multiple personality disorder. In homage to Duchamp's avatar - R. Mutt - this installation looks like a public toilet stall but actually is a telecommunications terminal. Two non functioning bathroom toilet stalls are equipped with digital white boards which digitize handwritten graffiti which then is transmitted from one SMART STALL to the other remote stall over a T3 line where the message

are projected. SMART STALL was shown as part of 'The Bridge' Exhibition at SIGGRAPH'96 in New Orleans.

GENDERBENDER and the Virtual Personality:
 Scavenging the Trash Heap
 of the History of Psychological Testing

GENDERBENDER 1.0 is loosely based on the Bem Sex Role Inventory (BSRI) (1974) and the Turing test for Artificial Intelligence. GENDERBENDER allows a user to self-administer a gender test of 20 masculine, feminine or neutral traits. The Morph-o-meter and the Tile-o-matic give instant feedback on whether masculine or feminine characteristics predominate in the user's personality by morphing towards a identifiably male or female visual representation. Based on the user's responses the "Computer Psychologist" will display the message "You are a man!" or "You are a woman!" or "You are androgynous!"

It is a kind of time capsule giving insight into how notions of gender are mutable. When personality traits become reduced to and locked in algorithmic descriptions those chosen traits almost inevitably reflect the biases and clichis of what is considered 'normal.' Future releases will introduce a two player internet version and the creation of an online avatar that reflects the gender profile that the user gives it. This avatar can act as a gendered knowbot that will visit chat groups, perform searches and report back to its master and perhaps provide links for actual meat and flesh encounters.

The stand alone version can run on most Macintosh color computers and requires the addition of a Connectix Quickcam. The KIOSK housing the computer is optional as is the two player networked version which requires two Mac computers connnected on a network. GENDERBENDER was exhibited at Image du Futur'96 in Montreal.

A Portrait of Choreographer Mark Morris

A work such as 'A Portrait of Choreographer Mark Morris 1994-96' is created by frame grabbing or digitizing the subject live saving full frame images directly to disk. I usually start with a full length shot and then move in for a variety of closeups from different angles. I digitally cut and paste these different views into a composite image which effectively renders different resolutions that I orchestrate to create a false or artificial depth of focus. In fact the patchwork quilt of different angles and resolutions invites the close scrutiny of the viewer. Earlier portraits were printed using a Tektronix thermal wax printer moret recent work is printed using the IRIS Ink Jet printer at Cone Editions in Vermont.

THE AUTOMATIC CONFESSION MACHINE: A Catholic Turing Test

This stand alone Kiosk housing a computer resembles an automatic banking machine where the user must kneel, confess committed sins and receives. a printout indicating how many Hail Marys and Our Fathers must be said for digital absolution and silicon salvation.

As the title of the piece suggests the Catholic Turing Test has two fold inspiration: (1) the artist's experiences as a youth with the Catholic Sacrament of Confession and (2) the Turing Test for Artificial Intelligence. This test for judging whether or not a computer can be said to think was first proposed by Alan Turing, in his essay 'Computer Machinery and Intelligence' which appeared

in the philosophical Journal Mind in 1950.

This work challenges the sinner in the confessional to decide
whether or not a priest or a computer programmed to act like
priest is hearing the confession. In doing so the user/sinner can
experience the ectasy of forgiveness in a Manichean system
governed by the binary logic of good and evil where quilt, shame,
sin, and salvation, are all input variables that determine the
catechism of output: namely how many Hail Marys and Our Fathers
must be said for redemption.

The Automatic Confession Machine: A Catholic Turing Test was first
exhibited at SIGGRAPH' 93 as part of the Machine Culture
Exhibition. In 1994 the ACM was awarded first prize in the 1994
Toronto Digital Media Awards and was included in Image du Futur in
Montreal and ISEA' 93 in Minneapolis. It has been covered by such
diverse publications as WIRED, and the National Geographic
Magazine and has been exhibited across the North America and
Europe including Montreal, Boston, Charlotte - North Carolina,
Lisbon, Montreux, Zurich and Linz Austria.

[Editor's Note: A detailed profile of Greg Garvey's Automatic
Confession Machine: A Catholic Turing Test appeared in LEA 2:7,
July 1994.]

BIOGRAPHY
Greg Garvey is Associate Professor, Chair of the Department of
Design Art and Coordinator of the new programme in Digital
Image/Sound at Concordia University in Montreal. He was a member
of the Artistic Organizing Committee for ISEA' 95 in Montreal and
Co-Chaired the Conference Committee with Cynthia Beth Rubin. Mr.
Garvey previously lived and taught in the Boston area, where he
was Co-Artistic director of the New England Computer Arts
Association (NEWCOMP) and was a Fellow at the Center for Advanced
Visual Studies at MIT where he earned his Masters of Science in
Visual Studies Degree.
****
< Music for the XXI Century -
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Chair. Department of Music and Performing Arts Professions. Noted
author and pianist

Kenneth Peacock
Director, Music Technology Program. Computer music and acoustics.

Dinu Ghezzo
Director, Music Composition Program.

Robert Rowe
Associate Director, Music Technology Program. Composer and
designer of interactive music programs.

Esther Lamneck
Director, NYU New Music Ensemble and NYU Music Program in Italy.
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       |       LEONARDO DIGITAL REVIEWS        |
       |           February 1997               |
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Wilson
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< Book Review: Dimensions of Creativity
    Edited by Margaret A. Boden >

MIT Press, Cambridge, MA, 1996. 243 pp.,
Paperback, $14.00. ISBN: 0-262-52219-5.

Reviewed by Wilfred Niels Arnold
E-mail: WARNOLD@KUMC.EDU

Some creative people are appreciated in their lifetimes. Others
are recognized much later, often with reluctant and belated
praise. As Jonathan Swift remarked, "When a true genius appears in
the world, you may know him by this sign, that the dunces are all
in confederacy against him." For these reasons, and others more
academic, understanding the very nature of creativity is an
intriguing and worthwhile goal.

Those who have chosen to work in this field have usually been as
lonely as their subjects. The number of books seems remarkably
small, although every now and then these scholars are invited to
arts and humanities symposia, and thence to publish in
proceedings, as token representatives on the processes of
discovery. The present volume is relatively unique in that it
arose from a special project in which an interdisciplinary group
of investigators was sponsored for five years by the Renaissance
Trust. This book, eight chapters by seven contributors, is the
fruit of that labor.

Margaret Boden, School of Cognitive and Computing Sciences,
University of Sussex and this collection_s editor declares in her
introductory piece that there are many differences among the
themes and approaches of the chapters. This is true. The format is
too small to expect an encyclopedic coverage but a decent review

of the literature is missing and the volume ends up as a bit of a jumble.

The conjunction of creativity and mental illness has been bandied around with some pretense at quantification since the last half of the 19th century (Cesare Lombroso). Bipolar affective disorder is a 20th century favorite in some circles and long lists of artists and scientists, deemed to have suffered from this disorder, have been assembled and pushed by disciples of this poorly founded exercise. In the final chapter of "Dimensions of Creativity", Hans Eysenck, embraces this working hypothesis and expands it. He offers a curve depicting the proportion of the general population plotted against a continuum of psychic states ranging from empathy and altruism, through conformity, to manic depressive disorder and schizophrenia. This quasi-mathematical graph has the charm associated with drawing in the sand with a pointed stick, but less precision.

I believe that the consensus of serious studies suggests that there is no cause and effect relationship between insanity and creativity, but that some forms of mental illness are not incompatible with creativity in the long run. Moreover there is no indication of sickness being a prerequisite. On the contrary, frank or masked neurotic tendencies are the bane of creativity. The productivity of scientists and artists with episodic illness is usually associated with their periods of wellness.

The index is deficient; there are only 39 entries. This is inexcusable because the construction of a useful index, once the function of special editors, is now greatly facilitated by word processors. The book is nicely produced and has a very attractive cover. However, the excitement of the title and the promise of a more quantitative approach are not delivered by the contents. It will strike most readers as more of a progress report to the sponsor from the funded members of the self-styled Achievement Project.
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< Book Review: Aesthetic Criteria,
    by Sheldon Richmond >

Aesthetic Criteria: Gombrich and the Philosophies of Science of Popper and Polanyi
By Sheldon Richmond
Rodopi B.V.
Amsterdam and Atlanta, Georgia, U.S.A.
1994. 152 pp.
$30.00/Hfl. 45.00. ISBN: 90-5183-618-X

Reviewed by Istvan Hargittai
E-mail: hargittai@ch.bme.hu

This book is Volume VI in the Series in the Philosophy of Karl R. Popper and Critical Rationalism (Series Editor Kurt Salamun). It is based on the author's doctoral dissertation on critical philosophy and sets about the ambitious project of discussing the art philosophy of Gombrich using as tools the science philosophies of Karl Popper and Michael Polanyi. The author attempts to show that the critical theory Gombrich_s art derives from Karl Popper's philosophy, while the study of Gombrich_s aesthetics advocates Michael Polanyi's anti-critical philosophy. He concludes that Gombrich's anti-critical philosophy of aesthetics fails for the same reason that Polanyi's anti-critical philosophy of science fails.

These are heavy statements and there are also heavy twists in the discussion. The idea of confronting art philosophy with science philosophies is especially intriguing. I believe that a thorough review might be as long as the book which is remarkably short considering the magnitude of problems it discusses. However, the book is very readable and the questions it raises are very interesting.

This volume devotes considerable space to Michael Polanyi in addition to Popper, and while I find that this is where its main merit lies, it is also where I would like to make some comments. First of all I am rather unhappy with the summary characterization of Polanyi's science philosophy and, in particular, by its characterization as a failure. According to Richmond, Polanyi claims that science is based on commitment, as opposed to questions and critical discussion. Polanyi has indeed called attention to the personal participation of the knower in all acts of understanding, but he also argued that this would not make our understanding subjective and he stressed that knowing is objective.

That Polanyi's philosophy of science continues to be so useful for scientists may have a lot to do with his background as one of the preeminent physical chemists of the 1920s through the 1940s. Of his many contributions, the most important is perhaps his work with H. Eyring which was published in the "Zeitschrift fur physikalische Chemie" in 1931. This work presented the first potential energy surface for a chemical reaction. See also the book, M. Polanyi, "Atomic Reactions," Williams and Norgate, London, 1932.

Richmond notes that "Polanyi was a chemist in his youth. As a chemist he had much trouble getting some of his theories accepted." This is a rather simplistic description of the scientist Polanyi prior to his becoming the philosopher Polanyi. In fact, Polanyi, who was born in 1891, got his medical doctor's diploma from the University of Budapest in 1914, just in time to serve in W.W.I as a medical doctor. He then got his doctorate in physical chemistry in 1918 in Budapest. Following a mix of alternately quiet and turbulent decades, he resigned his chair in physical chemistry at the University of Manchester in 1948, moved to the humanities, and got a professorial appointment, without lecturing duties, at the same University. At that time he was already 57 years old.

It is remarkable that he had so much originality and impact in his new field of epistemology. But his contributions to chemistry were Nobel Prize-level and he had difficulties in getting his theories accepted to the degree only that all true pioneering work faces. In Budapest he did some work with the future Nobel laureate George van Hevesy, and in 1920 he went to Berlin at the invitation of Nobel laureate Fritz Haberr. One of his pupils was the future Nobel laureate in physics, Eugene Wigner with whom he published a paper in 1925 about association and dissociation containing quantum mechanical considerations at a time when quantum mechanics was just being born. He also did important work in adsorption phenomena, properties of materials, and X-ray analysis. Polanyi_s most lasting contributions were in reaction mechanisms. His transition to philosophy had been gradual with the breakpoint in 1948.

Polanyi's teachings on epistemology continue to be valid and have great utility for many scientists today. Richmond's studies in confronting Polanyi's science philosophy with Gombrich's

philosophy of aesthetics, whatever the conclusions, open new
perspectives in appreciating Polanyi's works in epistemology.
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< Book/Event Review: Chaos and Wise Women >

Review by Trudy Myrrh Reagan
E-mail:TrudyMyrrh@aol.com

Artists Using Science and Technology recently sponsored a seven-
artist San Francisco exhibit focused on fundamental patterns in
nature. At the Canessa Gallery January 20, 1997, the artists put
on an evening of talks by Ralph Abraham, author of "Chaos, Gaia,
Eros" and Leonard Shlain, author of "Art and Physics". The
"Macrocosmos, Microcosmos" exhibit mounted on pre-1906-earthquake
brick walls, the sound of hard rain on the skylight, electric
lights dimming erratically, the kerosene lamp backup flickering on
the table, all provided a magical setting for Ralph Abraham to
discuss chaos. He came with no set patter but allowed audience
questions to shape the direction of the talk.

The concept of Chaos as mathematicians use it is not the same as
the one we normally associate with the word, Abraham told us. It
is not "disorder that you don't understand." Nor is it simply
what the Greeks taught, the "space between earth and the heavens."
Chaos is a method for deconstruction. Because the order that
society has projected onto nature has trashed the environment in
the process, the concept of chaos is used to reveal the order that
really exists. "What chaos theory is trying to do," declared
Abraham, "is to develop a cognitive strategy to visualize and
compute the *spoken language of nature,* in order to live more
harmoniously with it."

Abraham, who began developing the mathematics of what he called
"dynamical systems" in the 1960s, is one of the early adventurers
into the field of chaos. His aim has been to study space-time
patterns in a new way, which better than previous methods moves us
out toward the horizon of complexity ("where it gets *really*
messy"). One fundamental idea is that of "bifurcation". An
equation called a "seed" creates a "tree" which is a pattern
graphed most often by computer. This is a fractal-like process.
The pattern gradually changes as the seed is given slightly
different beginning values. Suddenly, a large jump, a sudden
forking in the curve, appears. This is the bifurcation. Its
fascination lies with the infinite transformations possible.
Patterns mapped on supercomputers, like natural ones, never repeat
exactly. This is similar to the way in which the creative impulse
allows for a certain amount of apparent disorder.

Applications? One is the geometric modeling of an enormous
electric power grid in Japan (as he said this, the gallery's
lights faltered slightly). Although the engineering company chose
not to make use of the chaos analysis, two other areas of success
have been in human physiology and population studies.

Abraham was asked about chaos, psychedelic agents and brain
function. He replied with some passion, "There are 'heads' like me
in the math world who are very interested in the cortex, what
cells connect to what, and how a drug changes the dynamics, the
strength of connections between them. I'm into it, it's my life,
but just as a problem, it's good for modeling some important
stuff, mimicking nature." He recommended the new book by Irving
Laslow, "Whispering Pond", which postulates that an immaterial
field that interacts with minds and connects "seeds" in it. It may
have behavioral rules, like fluid mechanics and explain

synchronicities.

"What is the status of chaos theory in the math world?" he was asked. "The math profession is hoping chaos will just go away, but--levees boil before they burst. This field of math is boiling!".

Abraham and his colleagues are bringing their results to the rest of us, hoping it will promote cultural change, and also hoping that a backlash by lovers of imposed order won't kill it. He talked about an international gathering in Graz in 1989 which featured art and music inspired by chaos. "It looked and sounded and felt different. A new paradigm will arrive at the door of science last. The scientists will find it out from the artists."

About his own book, _Chaos, Gaia, Eros,_ he said briefly that it was about the influence of the Greeks' most important religious tradition, that of Orphism, on modern thought. I must outline the book's thesis, for it ties in well with the next talk: In it, Abraham describes early partnership-Goddess cultures, and then contrasts these cultures with the model in which dominators worship a monotheistic male deity. The Orphic tradition bore the influence of goddess cultures that preceded it, and its sacred trinity was "Chaos, Gaia, Eros." Abraham_s book describes the modern use of the words chaos, gaia, and erodynamics in new scientific disciplines. Curiously enough, practitioners in mathematics/physics, ecology, and behavioral sciences independently chose these names. Abraham considers this a good omen.

Leonard Shlain, author of _Art and Physics,_ also spoke to us of male-deity cultures and the recent resurgence of values considered feminine. He expects his latest book project, _The Alphabet vs. the Goddess,_ to be out in 1998. Shlain sees the origin of male domination and its recent erosion somewhat differently. When humans first turned from hunting to agriculture, women gained status. Goddesses, egalitarianism and female lineage were the rule. This disappeared completely about 3,000 BCE. Why? Shlain disputes the widely-held view that horse-riding invaders swept down from the steppes and slew the Goddess cultures because "the history of such invaders is that they adopt the more sophisticated culture."

Shlain claims that "The new misogynist societies were based on writing." The first societies to use writing had clumsy systems, only known by a priestly few. The big change, with the suppression of goddess worship, came with the invention of the alphabet, when many men learned to read (and women were "not expected" to do so). With the alphabet came holy books and patriarchy. "Is it an accident," Shlain asked, "that the first four of the Ten Commandments are to promote monotheism and writing over graven images?"

Brain function enters into this. The human brain size at birth is limited by the hole of the birth canal. To expand function without bulk, the hemispheres of the brain have taken on different roles-- in this humans are unique. The left brain specializes in time- related (linear) functions, good for tracking animals, the male specialty. Whereas the woman's talents were right brain, pictorial, emotional and nurturing, men found being cold-blooded advantageous for slaying lovable animals. Left brain dominates right hand, the hand that plunges the knife, and the hand that kills writes. Law and science are left-brain, Shlain asserted. He surprised us by observing that in rustic Sparta, where it was

illegal to set the laws in writing, women actually fared better
than in cultivated Athens.

Early Christians valued women, but as Christianity grew into a
religion of texts and doctrinal disputes, women's status fell.
Women gained ascendancy again in the illiterate Dark Ages with the
cult of Mary, chivalry, and the prominence of brilliant women in
holy orders. With the invention of printing and the sudden surge
in literacy, as with introduction of the alphabet before it, a
wave of misogyny was brought on. Protestants forswore images and
the worship of Mary. Both Catholics and Protestants spent the 15th
through the 17th centuries murdering hundreds of thousands of
"witches." "Kill your wise women?? Any other culture in the world
would have thought this was nuts!" Shlain remarked.

Images are now back. Photoreproduction in all its forms has done
the same for images as writing did for words. No contemporary book
is as influential as images of the mushroom cloud, the Earth from
space or the fetus sucking its thumb. Art (including entertainment
and advertising) is more important than the written word. "The
content doesn't matter as much as the use of the neglected,
affective portion of the brain," said Shlain, "Feminism goes with
the iconic society. The first TV generation is the one that burned
bras."

He closed with an unsettling remark: "The introduction of a new
communications technology drives societies crazy. Look at radio
and the rise of Nazism, with Hitler's voice blaring."

Aren't we in the midst of such a revolution at this moment?
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<   Article Review: The neurobiology of kinetic art,
    by S. Zeki and M. Lamb >

"The neurobiology of kinetic art"
S. Zeki and M. Lamb,
Brain (1994), 117, p607-636

Reviewed by Roger F Malina,
E-mail: mason@mitpress.mit.edu

Neurobiologist Semir Zeki recently made me aware of an article on
the neurology of kinetic art he wrote for a 1994 issue of the
journal Brain. At the crux of his article is the idea that motion
perception is an autonomous visual attribute (like color, form and
possibly depth) and that this perception is separately processed
in the brain. This attribute, Zeki argues, is involved in kinetic
art and artists who create kinetic art, have tried to exploit it
both instinctively and physiologically.

The original scientific research Zeki presents in his article
focuses on a large number of visual areas in the cortex of the
macaque monkey and particularly on the one specialized for visual
motion. He discusses how the work of specific artists seems to
exploit specific features of cortical processes- including
Duchamp, Tingueley, Calder, Bridget Riley, Gabo, Demarco, Moholy
Nagy, Pol Bury, Belik, Takis and others. These artists, Zeki
feels, are exploring the organization of the visual brain with
techniques unique to artists. He postulates that kinetic art
provides fertile ground on which to begin an exploration of the
relationship between the physiology of visual perception, brain
activity and the aesthetic experience of visual art. Implicit in
this approach is the supposition that physiological stimulation of
specific visual areas of the brain can create aesthetic

experiences.

Zeki takes seriously the idea that artists are carrying out
applied research which helps study the organization of the visual
brain and notes that an understanding of the relationship between
the brain and its manifestation in art is beginning to emerge.

Designers of Web sites need to do their homework - or hire
a neurobiologist !!
==
< Exhibit Review: Digital Salon Exhibition,
    Sponsored by Siggraph >

SIGGRAPH's Fourth Annual
Gallery at the SVA (School of Visual Arts), NYC.
Nov. 11 - Nov. 25, 1996

Reviewed by Flash Light
Artist, New York City
Contributed to LDR by special arrangement through
Art & Science Collaborations, Inc. (ASCI)
E-mail: asci@octet.com

The works in "Digital Salon Exhibition" can be divided into three
categories: digital prints, digital programs, and digitally
controlled sculpture.

Although a common assumption is that "computer art" refers to
digital prints, to me, prints only represent a beginning to
digital art's possibilities. Among the prints included in this
exhibition, I liked "Subway & Body Parts #3- Desire," by Melanie
St. James, Petra Karadimas' "Jimmy," and Victor Acevedo's "The
Violinist," which imparted a 3-D quality and suggested the
relationship between music and mathematics.

Computer programs allow interaction and are inherently more
involving than prints, hence they seem to offer more promise for
distinguishing computer art from earlier art forms. Philip
George's layered images are among the most compelling examples of
computer art, and they were here animated by Ralph Wayment's
programming. Also intriguing was Youn Lee's "The Land of Time."

The computer sculptures were the most successful in this gallery
setting. Among them Chuck Genco's "Eye Box" was notable. From
inside a beautifully crafted wood and brass box a glass eye
randomly blinked its mechanical eyelid. On the inside of the
cover: Ptolemy's map of the solar system. The eye perhaps
contemplated progress toward a helio-centric view.

Peter Terezakis' "Rubaiyat" was more ambitious. The intention of
this grid of patinated electrical boxes and conduits was to vary
the multi-layered sound it generated in response to viewer
movement. The tonal changes produced by any particular motion were
hard to discern, but the fact that one wanted to experience such
interaction suggests the potential power in the theoretical bases
of this work. This was also true for many of the other works in
this collection.
==
< 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, CD-
ROM, 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@mitpress.mit.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 FEBRUARY 1997 >
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       |   PUBLICATIONS    |
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< Striking Distance >
URL:
    http://strikingdistance.com

Striking Distance is a World-Wide-Web publication that includes
the following features:

C3I MAGAZINE: Beginning as a bi-monthly, with monthly updates, C3I
will utilize the full array of multimedia Web capabilities to
present articles, essays, columns and discussions.

EXHIBITION AREAS: Each month we will present two solo exhibitions
and one artist curated group exhibition. The emphasis will be on
artists who are emerging, merit increased visibility and are
under- or un-represented. The exhibitions run for two months and
thus overlap new exhibitions opening the following month. The
range is broad, the quality high, the presentation in depth. The
artists are encouraged to take maximum advantage and control of

the situation within the technical capabilities of the site. We
encourage acquisition. Artwork may be purchased directly from
Striking Distance.

TEST SITE: This feature will focus on the presentation of
multimedia and internet specific projects.

STUDIO VISIT: On point and in-depth, these artist interviews and
discussions will be conducted by artists. This regular feature
will offer users a choice of audio, quicktime movies or text
formats.

PERSPECTIVE: What it was. What it could be. How it became what it
is. How they saw it. How they see it. How they did it. Up close
and in depth with art world figures who were there and can tell it
like it was.

ARCHIVES: An index and complete documentation of past issues,
articles, interviews and exhibits. Available on audio tape, video,
CD-rom and would you believe text.

THE WAREHOUSE: A visual catalog of art works available through
Striking Distance. The works presented in our exhibitions, past
and present, are available for sale. We will also offer a number
of other artworks and editions for sale. Striking Distance is a
secure site and will soon accept major credit cards.
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< Venetian Deer - a new CD-ROM by Die Veteranen >

Die Veteranen
Systema Verlag BMBH
Frnakfurter Ring 224
80807 Munich, Germany
Tel: 0341-141650
URL: http://www.systhema.de/veteranen

Die Veteranen announces the availability of their new CD-ROM
"Venetian Deer". Long term LEA readers may recall a profile of
their first Art CD-ROM (LEA 2:10, October 1994), and an in-depth
interview that I had the opportunity to conduct at ACM Multimedia
1994, appearing in LEA 2:11, November 1994. Their newest Art CD-
ROM is not only available, but previews can be found on their web
site. Those who are familiar with the first project will recall
that one of the interesting features of the CD-ROM was its venture
into the medium as interactive art. It was not simply a catalog or
museum of works, but people were invited to participate and
interact with the works on the disk in a variety of ways. It seems
that this approach carries through to their newest project, as
described in the material below.

Connection
Venetian Deer is the outrageous proposal by the Veteranen for a PC
party. Venetian Deer is an attack on multimedia conventions. Armed
with a mouse, you can produce your own samples, and even dance to
the results: turn your PC into a POP machine.

Record your own sounds and mix them to form a "poem in sound"!
Paint your own "pop-art" creations with the mouse, add them to the
CD, and create your own "electropoetry"! Play with colours, shapes
and sounds on the CD - the pictures are just waiting for radical
modification by means of the microphone, keyboard and mouse.

The phonebook is the CD-ROM's memory. You can select specific
pieces there, in addition to exploring the numerous possibilities

offered by the CD-ROM.

Cut!
Stock, Hausen and Walkman provide a musical theme for each piece,
the long version of which can be heard on the audio track. Music,
linear and sampled. Whatever takes your fancy.

Self-running mode
You don't have to go interactive: self-running mode switches in
after two minutes.

The party goes on - a CD with Internet link. You can exhibit the
pieces which you have composed yourself with the aid of the CD on
the Veteranen homepage, communicate with the band and with other
users of Venetian Deer, and download the contributions of other
party guests.

Art can, pop must
"POP" goes Pentium - and your ears tingle: the Veteranen have been
joined by musical reinforcements. Together with the famous - or
infamous - Manchester duo Stock, Hausen and Walkman, the band
takes you off on a voyage of discovery through its interactive
universe. The Veteranen invite you to a Cross Media Pop Party. At
last, you can take your computer to a party. The CD also contains
30 minutes of music by the duo Stock, Hausen and Walkman. Fully
linear, to take with you and for later. Guaranteed to make you
dance.

Click! Start the CD, and the party takes off! Create! This mixed-
mode album (CD-ROM/audio CD) turns your PC into a "pop machine".
Mix your own samples with the colours, shapes and sounds on the
CD!

Communicate! Display your pictures on the Veteranen homepage, and
download other people's compositions!

Visuals, interface, programming, sound effects) 1997 by Die
Veteranen. Music) 1997 by Stock, Hausen and Walkman. First
edition) 1997 by Systhema Verlag GmbH, Munich.
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                 |  OPPORTUNITIES   |
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< LEONARDO MUSIC JOURNAL - Editor-in-Chief Position >

Grace Sullivan
Leonardo Music Journal
Email: grace@sfsu.edu
URL: http://www-mitpress.mit.edu/Leonardo/lmj/rfp.html

Grace Sullivan, Managing Editor of Leonardo Music Journal, has
announced the extension of the deadline in the search for an
Editor-in-Chief. All proposals need to be received by March 21,
1997. Below is a summary of the position posting. Details can be
found at the URL listed above.

[Editor's Note: There has been some confusion about the nature of
this position. Interested people should note that this is not a
full-time editorial position. Read through the rfp carefully for
financial details.]

LEONARDO MUSIC JOURNAL (LMJ) is searching for an individual or a
team to serve as Editor in Chief of the journal and its World Wide

Web site.

Since its inception in 1990, LMJ has served as a forum for
innovative research in new and experimental music and musical
languages, sound art, the evolution of music and the relationship
of music and the audio arts to new media and technology. The
Editor-in-Chief position is to be filled by an individual or group
with a demonstrably broad and established base in experimental
music and the audio arts who will strengthen and focus the
journal's current role.

This new position is to be part-time and will involve content
solicitation and development. The Editor(s) in Chief will work
with the LMJ Editorial Board, Executive Editor Roger Malina and
Managing Editor Grace Sullivan. Currently established
responsibilities of the future Editor(s) in Chief are as follows:

1. recruitment of potential co-editors and editorial advisors and
appointment of new members to the LMJ Editorial Board
2. annual solicitation and selection of a curator for the LMJ CD
3. solicitation of content for the print journal, the World Wide
Web site and <strong>Leonardo Digital Reviews (a feature of the
online journal Leonardo Electronic Almanac
4. establishment of a pool of peer reviewers for articles and
selection of appropriate reviewers for new content
5. service on the Advisory Board of the International Society for
the Arts, Sciences and Technology (ISAST)
6. service on the Leonardo Book Series Editorial Board
7. assistance in fundraising for and marketing of LMJ.

Because this is a new position, many aspects of the job---from
working processes to long-range goals--- remain to be defined by
the individual or team chosen to fill the position. It is to be
emphasized, however, that the overall nature of the job will
involve generating ideas and making contacts rather than engaging
in detail-oriented, hands-on editorial work. Day-to-day
management, coordination and editing will continue to be handled
by the existing editorial staff.
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           |   ANNOUNCEMENTS   |
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< Music and Notations:
   Multidisciplinary Musical Meetings 97 >

Music & Notations: Multidisciplinary Musical Meetings 97
GRAME, 9 rue du Garet - BP 1185
69202 Lyon Cedex 01, France
Tel: +33 (0)4 72 07 37 00
Fax: +33 (0)4 72 07 37 01
E-mail: grame@rd.grame.fr
URL: http://www.grame.fr/RMPD/RMPD97/presentation_ us.html

March 21-23, 1997

A wide range of artistic and scientific disciplines make use of
notational systems. This is true for music; it is also true for
chemistry, mathematics and choreography. These notational systems
have multiple and deep relationships with their discipline. They
reflect a state of knowledge as well as a vision of the world, but
they are also a decisive element in the evolution of their
discipline.

The third of the Multidisciplinary Musical Meetings aims at taking
stock of the evolution and the roles of music notation as well as
its interactions with our thought and practices, by bringing
together composers, musicologists, performers and music
historians. The question of notation will also be examined from
the point of view of other disciplines like dance, linguistics,
cognitive sciences, mathematics and computer science.

The program includes about twenty talks (with a special
contribution of composer I. Xenakis), debates and demos as well as
an exhibition on Music Notation. For more information, or to
register, please visit our URL.
****
< Media~Space! >

Media~Space!
Public Netbase
Institute for New Culture Technologies
Museumsquartier, Museumsplatz 1
A-1070 Wien/Vienna Austria
Tel: ++ 43-1-522 18 34
Fax: ++ 43-1-522 50 58
URL: http://www.t0. or office@t0

The Web-server Public Netbase has opened its new location
Media~Space! in the Viennese Museumsquartier. Public Netbase is
an award-winning not-for-profit internet service provider. This
expansion of services will allow for an increase of accessible
terminals, more presentations of Austrian and international media
and network art and a growing number of lectures, workshops and
training programs.

Invited guests for 1997 include: Krystian Woznicki (D, JP), Erik
Davis (USA), Stelarc (AUS), Critical Art Ensemble (USA),
GashGirl/Francesca da Rimini (AUS), Association of Autonomous
Astronauts (I, UK), Mark Dery (USA), Ingo Gunther (D, USA),
Toshiya Ueno (JP), Linda Dement (AUS) and others.

Weekly (e~scape lounge) and monthly multimedia events are
netcasted via cuseeme and realaudio technology; check it out at
http://www.t0.or.at/e~scape/lounge.htm
****
< Horizons in Computer Music >

Horizons in Computer Music
Jeffrey Hass
Simon Recital Center
Indiana University School of Music
Bloomington, Indiana 47405
E-mail: hassj@indiana.edu
URL: http://www.music.indiana.edu/

March 8-9, 1997

Indiana University Computer Science Department and School of Music
is hosting a weekend of lectures and live performances that span
the field of computer music from its earliest beginnings to the
cutting edge. The event will include lectures and pieces by
pioneering composers Max Mathews, Charles Dodge and Roger
Dannenberg.

Abstracts and Biographies:

Max Mathews
     "Live Performance of Traditional Music with Radio Baton"
Computer performance of music was born in 1957 when an IBM 704 in
NYC played a 17 second composition on the Music I program which I
wrote. The timbres and notes were not inspiring, but the
technical breakthrough is still reverberating. Music I led me to
Music II through V. A host of others wrote Music 10, Music 360,
Music 15, CSound, Cmix. Many exciting pieces are now performed
digitally.

Starting with the Groove program in 1970, my interests have
focused on live performance and what a computer can do to aid a
performer. I made a controller, the radio-baton, plus a program,
the conductor program, to provide new ways for interpreting and
performing traditional scores. In addition to contemporary
composers, these proved attractive to soloists as a way of playing
orchestral accompaniments. Recently I have added improvisational
options which make it easy to write compositional algorithms.
These can involve precomposed sequences, random functions, and
live performance gestures. The algorithms are written in the "C"
language.

In my lecture, I plan to play a few recordings of early computer
music, to give live demonstrations using the radio-baton to
accompany soloists, and to do a current improvisation with the
radio-baton.

Charles M. Dodge
     "Timbre, Timing, and Tuning
          A 30-year Retrospective of Composing Music With Computers"
Mr. Dodge will discuss some of the uses he has made of computers
in a series of works that has evolved over three decades. The
emphasis will be on the use of the computer in those musical
situations where it was desirable to implement unusual notions of
timbre, timing, and tuning. Included among the specific works to
be discussed are Dodge's Speech Songs (1972), Any Resemblance Is
Purely Coincidental (1980), The Waves (1984), Viola Elegy (1987),
Violin Etudes (1993), and Fades, Dissolves, Fizzles (1996). Baird
Dodge will be present to play illustrative passages from the viola
and violin works.

Charles Dodge gained recognition early in his career for his
orchestral and chamber music. He went on to become one of the
first composers to realize the vast potential of the computer for
broadening the composer's palette. He began his experiments with
direct digital synthesis of sound as a graduate student in the
late 1960's. His Speech Songs, completed in 1972, startled the new
music world with its charming and humorous use of synthetic
speech.

Since those early days, Dodge has shown a particular interest in
the relationship between the human voice and its computer
counterpart. His works have incorporated the sounds of live,
recorded and synthesized voices articulating texts by such writers
as Mark Strand, Samuel Beckett, and Virginia Woolf. He has also
composed a series of works combining acoustic instruments with
computer sound on tape, including his widely-performed Any
Resemblance Is Purely Coincidental which sets together a computer-
synthesized Caruso voice with live piano accompaniment.

Roger Dannenberg:
     "Can Computers Understand Music?"
I plan to discuss what it means to understand music (a research
area in itself) and to demonstrate two systems that illustrate

some degree of music understanding. The first is the Vivace
Personal Accompanist, a commercial product based on my patent for
interactively accompanying live performers. The second is a new
system that learns to make real-time classifications of jazz
performance style.

Roger B. Dannenberg is a Senior Research Computer Scientist on the
faculty of Carnegie Mellon's School of Computer Science, where he
received a Ph.D. in 1982. He is internationally known for his
research in the field of computer music. His current work
includes research on computer accompaniment of live musicians,
interactive media, high-level languages for sound synthesis, and
computer support of curriculum design. Recent musical efforts
involve real-time computer graphics and computer music systems
that interact with live musicians.
****
<   Bachelor of Science in Visualization
     at the Minneapolis College of Art and Design (MCAD) >

Bachelor of Science in Visualization
Minneapolis College of Art and Design (MCAD)
2501 Stevens Avenue South
Minneapolis, MN, USA
Tel: 612/874-3760 or 800/874-6223
E-mail: admissions@mn.mcad.edu
URL: http://www.mcad.edu/

Beginning in September 1997, the Minneapolis College of Art and
Design (MCAD) will offer a two-year Bachelor of Science in
Visualization, the first degree of its kind in the nation. MCAD
President John S. Slorp comments, "Reliance on text alone is
rapidly diminishing. Signs, symbols, visual codes, stimulations
and simulations, abound. Visualization in advertising,
entertainment, business training, education, politics and daily
communication is becoming more and more sophisticated.
Visualizers are a special new breed of intelligent interpreters.
They are persons who link people, create bridges for communication
and clarify the complex."

This new degree acknowledges the power of Visualization as a
communications tool that is being used more and more frequently in
the marketplace as well as in education and entertainment the new
degree program offers pre-professional training in visual
persuasion and information techniques applicable to the fields of
advertising/marketing, science/technology, entertainment,
education and corporate communications. This program will enable
students to practice visualization on both individual team
projects and will provide opportunities for students to achieve
technical and artistic expertise in an academic environment of
science and humanities.
****
<   JIM'97 - Extended Deadline Announced >

Journees d' Informatique Musicale
Computer Music Conference
Bibliotheque de la Part-Dieu, Lyon - France
Email: jim97@rd.grame.fr
URL:
     http://www.grame.fr/jim97

Conference Dates: June 6 - 7, 1997
New Deadline for submissions: March 10, 1997

Due to many requests, the JIM'97 submission deadline for papers,

posters and video presentations is extended to March 10 1997.
All the information concerning this year JIM (including the call
for contributions) is available at http://www.grame.fr/jim97.
****
< Fourth Brazilian Symposium on Computer Music >

Fourth Brazilian Symposium on Computer Music (SBC&M)
Aluizio Arcela
University of Brazil
Department of Computer Science
70910-900 Brazilia-DF, Brazil
Tel: (061) 348-2705
Fax: (061) 273-3589
E-mail: arcela@cic.unb.br
http://www.cic.unb.br/sbc97i/html/sbcmi.html

Date: TBA

This international symposium is concerned with spreading and
contributing to the consolidation of music science in Brazil. We
promote the publication of papers, compositions and tutorials
resulting from research relating music to computer science.
Symposium organizers invite researchers to present their work,
whether artistic, scientific, or technological, that relates to
this year_s theme of "Music and Technology with Networks." Invited
speakers include Max Mathews, Center for Computer Research in
Music and Acoustics, Stanford University.

SUBMISSION GUIDELINES:
Submissions are invited for papers, concerts or tutorials.

Papers:
Topics of interest include Algorithms for Composition, Data
Structures in Music, Music and Technology with Networks,
Music and Artificial Intelligence, Multimedia Programming,
Synthesis and Processing of Audio, Real Time Music Systems
Systems for Music Education, Studio Reports, Product
Demonstrations. Papers can be submitted in standard or hypertext
formats. For more information about paper submission, e-mail
Jonatas@dsif.fee.unicamp.br. or visit Web site.

Concerts:
Concerts, Demonstrations and on-line compositions may be submitted
via tape. For more information about concert submission, e-mail
conrado@guarany.unb.br. or visit Web site.

Tutorials:
Topics of interest for tutorials and workshops include
Fundamentals of Computer Music, Algorithmic Composition, Methods
for Constructing Timbres, Music and Technology with Networks,
Techniques of Acoustic Projection

DEADLINE: March 28, 1997
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< Fourth International Conference on Hypermedia
   and Interactivity in Museums >

The Fourth International Conference on Hypermedia
and Interactivity in Museums (ICHIM97)
David Bearman, Conference Organizer
The Louvre, Paris, France
E-mail: dbear@archimuse.com
URL: www.louvre.fr/ichim97
          www.archimuse.com/ichim97

September 1-5, 1997

As with previous ICHIM conferences, the focus of this year_s
conference will be on the ways in which hypermedia and interactive
experiences can enhance museum visits and museum publications as
well as serve as the foundation for enhanced curatorship and
scientific research.
****
< National Conference of the
    Association for Technology in Music Instruction >

National Conference of the Association for Technology in Music
Instruction (ATMI)
Cleveland, Ohio
Timothy Koozin, ATMI Program Chair
Department of Music
University of North Dakota
Grand Forks, ND 58202
Email: koozin@badlands.nodak.edu.
URL: http://www/music.org/atmi/

November 13-16, 1997

The annual Association for Technology in Music Instruction (ATMI)
conference and joint meeting of the College Music Society
routinely attract over 350 faculty, administrators, publishers,
and music business personnel who share interest in music_s
relationship to higher education. Through presentations, panels,
and performance sessions, the conference provides opportunities to
consider the philosophy and practice of music as an integral part
of higher education. In formal sessions, open forums, and
dialogues with colleagues, the meetings provide opportunities for
participants to share insights and perspectives on teaching, hear
new and unusual music, discuss American musical life and culture
and consider future directions of the art of music.

The 1997 conference, to be held in Cleveland, Ohio, will involve
papers, panels, workshops, discussions and an electronic poster
sessions on all aspects of innovative use of technology in music
instruction. Of particular interest are papers and presentations
that focus on internet applications, distance learning,
multimedia, creative pedagogies and technological tools for music
learning and composition. This year, for the first time, the
conference will also host a computer-based poster session, in
which presenters give "hands-on" presentations of research, new
interactive music lab software, work in progress, and examples of
student work.

ATMI serves as a forum for the scholarly presentation of technical
information by and for specialists in the field of computer-
assisted instruction (CAI) in music. Another of ATMI's goals is to
deliver such information to an audience of nonspecialists who are
users of music CAI.

SUBMISSION GUIDELINES: All proposals will be submitted for blind
review and authors are encouraged to exclude references to
individuals or institutions that might compromise this process.
Proposals for papers should include clear statements of
theoretical background, methodology, and conclusions. Panel
proposals should include a complete description of the content to
be covered, panelists and their affiliation, and confirmation of
panelists' participation. Proposals should be no more than 2,000
words in length and should include a detailed listing of required

equipment and operating system(s). Email submissions are
especially encouraged. To submit proposals by regular mail, send
five copies. Individuals whose proposals are accepted must be
members of ATMI to present at the 1997 conference. Abstracts for
accepted proposals will be published on the ATMI website, with
links to other sites as desired.

DEADLINE: April 25, 1997.
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 |   ACKNOWLEDGMENTS   |
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LEA and Leonardo/ISAST gratefully acknowledges Interval Research
Corporation for its continuing support of Leonardo Electronic
Almanac.

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 |        LEA       |
 | WORLD WIDE WEB   |
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The LEA Word Wide Web site contains the LEA archives, including
all back issues, and the Leonardo Electronic Gallery. The Profiles
and Feature Articles have been extracted from the back issues, and
reside in their own sections of the site. It is accessible using
the following URL:
        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:
    ftp mitpress.mit.edu
    login: anonymous
    password: your_email_address
    cd pub/Leonardo/Leonardo-Elec-Almanac

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 |        LEA       |
 |   PUBLISHING &   |
 |   SUBSCRIPTION   |
 |   INFORMATION    |
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Editorial Address:
 Leonardo Electronic Almanac
 718 6th Street SE
 Minneapolis, MN 55414-1318
 Tel: (612) 362-9390
 Fax: (612) 362-0097
 Email: harri067@maroon.tc.umn.edu

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 The MIT Press Journals

55 Hayward Street
 Cambridge, MA 02142 USA

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< Ordering Information >

Leonardo Electronic Almanac is $15 to Leonardo/ISAST members and
to subscribers to the journal Leonardo. The rate for Non-Leonardo
subscribers is $30.00

Send orders to: journals-orders@mit.edu

Please include full mailing address or MIT Press account number,
telephone and fax numbers, and e-mail address. Please send
VISA/MasterCard information as well.

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MIT Press for details.
========= < End of Leonardo Electronic Almanac 5(2) >
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