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              _____
             |             |
             |   CONTENTS  |
             |_____|
```

< Leonardo Digital Review Notices >
< Leonardo Digital Reviews Classified Advertisements >

ANNOUNCEMENTS
< ASCI: Fall 1994 Speakers for "Art & Technology
  Speaker Series" >
< The computer - why it is changing both art and science >
< The Sculpture City Networkshop FTP-site >
< ISEA 95 Montreal >
< The Center for Visual Creation Training Program >
< Enter the Electronic River - International FAX art
  exhibition >
< Art Futura 94: Cyberculture - Man Amplified >

LEA FORMAT CONVENTIONS
LEA FTP ACCESS
LEA PUBLISHING & SUBSCRIPTION INFORMATION
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         _____
        |                 |
        |   INTRODUCTION  |
        |_____|
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< LEA Editorial Board Announcement >

I am happy to welcome Greg Garvey (CANADA) to the Leonardo
Electronic Almanac Editorial Advisory Board. Greg is not a
stranger to LEA readers, as he has been active in media arts
for several years, and he has also contributed content for LEA
during the last year.

< This issue >

In this issue Sonya Rapoport takes issue with Toni Dove's
perspective on Interactive Computer Multiple Choice
Installation in a commentary. Readers are invited to use LEA as
a forum for exchange of ideas. I present a summary of a recent
survey exploring the topic of visualization of music and sound
in an annotated bibliography. This is an ongoing project, and I
welcome pointers to additional sources. Artemis Moroni and crew
from Brazil provide a view into their internet-based Electronic
Carnival project, implemented at ISEA 94, and continuing until
November 1994.

I include a profile of an exhibition Binary Visions, and of the
artists participating in this "realization of the computer's
potential in the fine arts as foreseen by George Stibitz,
computing pioneer." Roger Malina and the LDR staff provide an
installment of Leonardo Digital Reviews, continuing some
discussions from earlier issues, and informing the community
about a variety of exhibits, events and publications.

< New Editorial Address for LEA and for the
  Leonardo Book Series >

The Editorial Offices for Leonardo Electronic Almanac and the
Leonardo Book Series are moving to Minneapolis, Minnesota USA,
effective November 1, 1994. All subscription-related and
purchasing communication should still be directed to MIT Press.
Hard copy editorial correspondence intended for LEA, and
proposals for the Leonardo Book Series should be sent to:
   Craig Harris

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Leonardo Electronic Almanac
718 6th Street SE
Minneapolis, MN 55414 USA
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The new telephone number will be (612) 362-9390. The electronic mail contact at craig@well.sf.ca.us will remain active until further notice, and I will post a fax number later in the year.

< LEA Mosaic/WWW update >

We're moving forward on developing the World Wide Web resources for LEA and for the Leonardo Journal. Both will be announced soon for access, hopefully in October's issue of LEA.

< Address update >

In LEA 2:8 Stephanie Mason presented an abstract to accompany her MIDI sound examples. At the time of publishing I didn't have Stephanie's complete postal address, so I offer it here to facilitate communication for those who are interested in following up on this work.

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        Stephanie Mason
        5340 Thayer Ave.
        Alexandria, VA 22304  USA
        Tel: (703) 232-4679
        Email: smason@vt.edu
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         |                   |
         |    COMMENTARY     |
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< Interactivity >

Sonya Rapoport
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Berkeley, CA 94705

INTERACTIVITY. A buzz word! You name it! Interactivity has become the Politically Correct (PC) password to "art" projects. There are many reasons why, but I'm here to tell my story in response to Toni Dove's article, THEATER WITHOUT ACTORS - IMMERSION AND RESPONSE IN INSTALLATION in the recent issue of LEONARDO (Vol. 27 #4,1994). I agree with her in that there are objections to creating an artwork with computer multiple choice parameters. Coming from different places and heading to different directions, we each have our own reasons. In defense of the computer protocol that has served us well and is still doing so, I am compelled to speak out:

Interactive computer multiple choice installation (I.C.M.C.I.) allows the creator to expand, both in breadth and in depth, an art concept in which visual ideas can be layered and verbal concepts can intermingle in a visual-verbal "montage". I admit it's "an old form", Ms Dove, but it has never before been realized with such comprehensive impact.

By actively using the computer the viewer/participant becomes involved physically and can grasp more readily what is there. Although there is sometimes no there there,

I do not feel, as Dove does, that I.C.M.C.I "replaces intellectual challenge". This can happen if used as a hook for a shallow art piece, or as a way of playing up to the masses. It is the intellectual challenge in this medium that makes the art work a work of art. Yes, I am an elitist.

I agree creating multiple choice mappings is tedious. Seurat must have been very bored at times. Many fine art professionals (curators in particular) routinely "have trouble" with the work because there aren't even enough choices. Do we need thousands of choices to make the point? Why does Dove even bother since she considers the "metaphor of choice not a compelling one". Let's go back to the reasons why the work may be "art" in the first place. Is there an idea behind the choices? Do their examples excite and stimulate? Are the metaphors rich and original? Do the synapses make connections?

Dove views predetermined choice as "a deceptive fallacy". Maybe "predetermining choice is manipulative and a strategy for control". Why not? Whatever is contributed by the participant is support for the piece that I, the artist, has created.

Dove prefers a "shift in emphasis away from a central linear story." I agree that this is a challenging new format. However, I have trouble with her offering the movie, BLADE RUNNER, as being non-linear. Although there are no visible computers, HEIDI, by Paul McCarthy and Mike Kelley, is a more accurate example.

I.C.M.C.I. is a legitimate "linear" expression falling somewhere between traditional fine art and theater. Dove is heading closer to theater with her "Immersion and Response in Installation". I.C.M.C.I. is why I am where I am and incidentally why she is where she is as well.
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    |    FEATURE ARTICLES     |
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< Visualizing Music & Sound - An Annotated Bibliography >

Craig Harris
686 47th Avenue
San Francisco, CA 94121
Tel: (415) 750-0684

This article provides sources that represent work in the area of visualizing music and sound. While not exhaustive, this annotated bibliography offers substantial background information with respect to the work that has taken place, and is representative of some approaches that people have taken in relating visual material to sonic/musical data. The focus of this survey has been limited to material relating to the visual representation of music and sound, ignoring research and applications in such areas as visualization of scientific data, even when the data is sonic in nature. In addition, this work does not reflect activity in the area of fusing sound and vision as it relates to the human-computer interface, nor is it

concerned with music representation as it relates to
notation and sound editing resources.

This annotated bibliography is substantially enhanced by
perusal of the bibliographies which appear in the
individual articles (not duplicated here). In combination,
they provide insight into how people have thought about
merging sight and sound, and how these perspectives have
been implemented. Main sources consulted include the
journals "Leonardo", "Leonardo Music Journal", "Computer
Music Journal", and also the "Proceedings of the
International Computer Music Conferences", and the book
The Visual Mind: Art and Mathematics. A few commercial
and independent programs are mentioned.

I invite readers to send me comments and pointers to
additional sources at craig@well.sf.ca.us.

Leonardo Journal

Brill, Louis M., "Wavefronts Theatre of Performing Lights:
On Light Shows with Music and Dance", Leonardo 13, p. 307
(1980)
     This article describes work which is based on creating
     visual displays of light and patterns responding to the
     intensity of sound produced by audio tape. This is not
     a computer-based application, and is essentially a
     performance environment resource.

Cook, Dick, "Kinetic Art: The Luminetic System With and
Without Sound", Leonardo 8, No. 1 (1975).

DeWitt, Tom, "Visual Music: Searching for an Aesthetic",
Leonardo 20, 115 (1987).
     This is part of the literature which attempts to
     address some of the aesthetic issues underlying the
     expression of music in the visual domain. The article
     is more theoretical in nature. It appears in the
     bibliography as a reference to some of the issues being
     considered on this topic.

Evans, Brian, "Establishing a Tonic Space with Digital
Color", Leonardo, Electronic Art Supplemental Issue, pp.
27-30 (1988).
    Brian Evans relates the musical concept of tonal
    centers to the visual realm in this article. This is a
    theoretical article.

Galeyev, Bulat, "Farewell Prometheus Readings: Light Music
in the Former Soviet Union", Leonardo 27, No. 4, p. 351 (1994).
    Galeyev describes 25 years of seminars, conferences and
    festivals centering around "light music", held in
    Kazan, and drawing participants from the entire Soviet
    Union.

Grayson, John, "New Materials and Methods for the Musical
Instrument Designer, the Audio-Kinetic Sculptor, Musician
and Composer", Leonardo 3, p. 295 (1970).

Harrison, John and Simon Baron-Cohen, "Synaesthesia: An
Account of Coloured Hearing", Leonardo 27, No. 4, p. 343 (1994).
     This article explores the condition of synaesthesia,

and provides some historical accounts. The authors examine the impact upon the fields of art, music and literature.

Jablonsky, Stephen, "Graphic Artworks Based on Music: Musigraphs", Leonardo 12, p. 308 (1979).
Stephen Jablonsky creates graphic art works based on music compositions. He attempts to address some of the formal elements of music, and strives to characterize a composition using the work's formal as well as poetic characteristics. There is an attempt at value-added information, inasmuch as he strives to create a visual representation that somehow clarifies the work in a unique way. His Musigraphs are two-dimensional, static works, and there is no computer or specific new technology used or implied.

Jack Ox with Peter Frank, "The Systematic Translation of Musical Compositions into Paintings", Leonardo 17, No. 3, p. 152 (1984).
As is the case with Stephen Jablonsky, Ox and Frank characterize music compositions in a two-dimensional visual framework - the painting. There is an attempt to establish synesthetic linkage, to analyze music using traditional theoretical techniques, to create a systematic approach to visualizing the music, and to incorporate intuitive means in selecting the visual material. There is no computer mediation in the process. This work embodies a personal approach to the creation of static visual art, and is useful in terms of understanding the individual nature of translating music into the visual realm.

Justesen, Aage, "Pictures Based on Voice Graphs: Pictonoms", Leonardo 11, p. 205 (1978)
Justesen's work is based on the transduction of vocal sounds, and the creation of two-dimensional graphic art works based on the images created in the process. In addition to falling into the same category as Jablonsky and Ox/Frank - characterizing sonic material in two-dimensional, static visual art - Justesen creates a direct sonic link by using the sound itself as the catalyst or trigger for the visual representation.

Kostyniuk, Ron, "Electric Light Audio-Kinetic Artworks: 'Ecological Biomes' ", Leonardo 12, p. 45 (1979).
Kostyniuk discusses his work fusing both visual and aural elements in four-dimensional artwork - adding the third dimension of his kinetic sculptures, with time - the requisite for incorporating sound - acting as the fourth dimension. This work is in the same vein as Cook and Grayson. Kostyniuk further tries to establish an organic fusion of elements, hence the characterization as Ecological Biomes.

Nicolas Schoffer, "Sonic and Visual Structures: Theory and Experiment", Leonardo 18, No. 2, p. 59 (1985).
There is both a theoretical and an application-oriented aspect in Schoffer's work. He was primarily a visual artist, approaching music from that vantage point in creating sonic and multimedia environments. He did use the computer in modeling his collective choreography,

and some of his work utilized recorded sound to affect sculptural activity in the visual domain. This finds its strength in the way that Schoffer envisions the direct connection of sound and vision to create multi-dimensional art works.

Peacock, Kenneth, "Instruments to Perform Color-Music: Two Centuries of Technological Experimentation", Leonardo 21, No. 4, pp. 397-406 (1988).
    Peacock provides a detailed survey of technological developments and specific implementations in the area of associating colors to music source material. A variety of projects are profiled, and Peacock describes the various approaches that people have taken in linking colors to sonic elements, to notation, and to music instrument development. The article provides valuable historical information, and I recommend perusal, if only to be familiar with work in related areas.

Pierre Y. Karinthi, "A Contribution to Musicalism: An Attempt to Interpret Music in Painting", Leonardo 24, No. 4, p. 401 (1991).
    Karinthi's work falls into the same category as Jablonsky, Ox/Frank and Justesen, deriving two-dimensional, static visual art from musical sources. Karinthi establishes a mapping of musical elements to the visual arts, including such components as pitch, chord and timbre being mapped to color, graph and intensity or luminosity, respectively. This is another personal, systematic approach to visualizing classical and romantic music. There is no new technology suggested in his approach.

Pocock-Williams, Lynn, "Toward the Automatic Generation of Visual Music", Leonardo 25, No.1, pp. 29-36 (1992)
    In this article Lynn Pocock-Williams describes her research involving the integration of sound and image. She has created a computer software system to automatically translate sound into image, using a rule-based technology. This resulted in the development an "abstract visual 'language', based upon color, linear movement and geometric shapes, to give graphic expression to the music" (p. 31 of her article). She attempts to provide additional insights into the music by representing abstract imagery which relates directly to the music source. At the time of the writing of the article Pocock-Williams was using only pitch and duration in the music analysis, extracting MIDI data and transforming that information through her own system. Some of the components of this system include the processing of MIDI data to create animated visual representations of musical information; the automatic nature of the process; and the attempt to characterize some aspects of musical structure by linking musical phrases with the phrases of animation. The visual material appears to be selected from a library of animations, suggesting that, at least in the manifestation at the time of this article, the visual animations have been previously generated, and are arranged and/or transformed by the sound. The orientation of the project seems to be towards an

aesthetically pleasing work of visual art, or sonic/visual art, with a view towards synchronization of the sonic and visual elements - not direct generation of visual material from the sonic component.

Snyder, Robert R., "Video Color Control by Means of an Equal-Tempered Keyboard", Leonardo 18, p. 93 (1985).
    As the title suggests, color is controlled using a keyboard controller, and the connection between the visual and sonic elements is established through the controller. In fact, the sonic element is nearly incidental, and the key element is the use of a controller which is ordinarily used for music as the controlling element for visual effects.

Theo Goldberg and Gunther Schrack, "Computer-Aided Correlation of Musical and Visual Structures", Leonardo 19, No. 1, p.11 (1986).
    This article describes a project which has both a theoretical dimension and a practical application. One of the ways that Goldberg and Schrack achieve a connection between the aural and the visual is by developing a frequency-time distribution of sound objects, representing them graphically by massaging the data using a series of modeling, rendering and viewing software modules. They describe how they attempt to create an isomorphic relationship between aural and visual structures. It seems that much of their work creates visual art, some of which is static. The exact nature of the music and its role is ambiguous, and is seemingly described elsewhere in an article by Barry Truax at Simon Fraser University. The work, as represented in this article, does not reflect a deep understanding of music.

Vadnerkar, S. V., "A Code for Representing the Occidental Musical Notation in Pictorial Art", Leonardo 9, p. 140 (1976).
    A system is proposed for relating music notation to representation in the visual realm.

W. Garner, "The Relationship Between Colour and Music", Leonardo 11, No. 3, p. 225 (1978).
    This is a theoretical work which attempts to draw a correlation between the octave and its division into twelve semitones, and the spectrum of visible light. It is listed here as another attempt to derive a correlation between the senses using mathematical principles.

Wagler, S. R., "'Sonovision': A Visual Display of Sound", Leonardo 3, p. 443 (1970).
    Wagler works with optical and electronic technology to produce visual displays which are "color correlated to sound by projecting a krypton or helium-neon laser light beam on to a translucid screen or opaque surface." The laser beam points towards a speaker, and the vibrations produce the motion which the light beam reflects on the screen. The method of transduction is based on creating a visual reflection of a composite audio signal. In this kind of representation there is no knowledge or understanding of music voices, independent pitches, or musical structure.

Whitney, Sr., John., "Fifty Years of Composing Computer Music and Graphics: How Time's New Solid-State Tractability Has Changed Audio-Visual Perspectives",
     Leonardo 24, No. 5, p. 597 (1991).
     This pioneer in computer graphics has written extensively about color in motion, and correlations with music/sound. As expressed in this article, his work stresses algorithmic or generative processes. By using the same processes to create both sonic and visual material, Whitney maintains that a deep connection is created. The experiments that he conducted with his brother seem to be more oriented towards proving and demonstrating principles, and not in developing specific reproducible hardware and/software.

Zajec, Edward, "Orphics: Computer Graphics and the Shaping of Time with Color", Leonardo, Electronic Art Supplemental Issue, pp. 111-116 (1988).
     Zajec "discusses ideas and techniques for the fluid articulation of color in time", and draws parallels with the language of music. He raises such issues as thematic transformation and modulation, and proposes a language of light and sound. The work is primarily theoretical, with some experimentation in one art work described in the article. A correlation between aural and visual material is being drawn, but the description of a musical language is not sophisticated, and the visual analog is abstract. There is a real time component to the activity, but the forming principle focuses on thematic transformation.

Leonardo Music Journal

Evans, Brian, Elemental Counterpoint with Digital Imagery. Leonardo Music Journal 2, pp. 13-18 (1992)
     In this article Evans continues his work bridging the aural and visual realms (see article above). Here he proposes and illustrates a formal approach to abstract animation based on contrapuntal music techniques. He also compares his approach with some of the other work represented in this bibliography (Whitney & Zajec), and in that sense is a useful overview. The imagery is abstract, as was the case with both Whitney & Zajec. To the extent that one is attempting to create visual representations of discrete musical lines, and to establish a structural similarity in both aural and visual realms, Evans' proposals are worth attention.

McLean, Barton, "Composition with Sound and Light", Leonardo Music Journal 2, pp. 19-22 (1992)
     This article describes the McLean Mix performance system, which includes a MIDI-keyboard-controlled Sparkling Light Console (SLC). This system produces "abundantly varied colored patterns of pulsed lights in linear and textural configurations", linked with a MIDI music system. This allows the musician to create MIDI control signals, using that information to create maps onto the control of the light system. There also seems to be the possibility for creating independent mappings on the keyboard, with regard to any of the purely

musical aspects of the keyboard design. McLean maintains that this work invites "direct analogies between a single discrete point of light and a single discrete musical tone, between the rhythm of a light pattern and the rhythm of a musical phrase, and between the color of light and the timbre of a musical tone". The imagery is abstract patterns of projected light. There is no attempt to correlate pitch to a position on a screen, for example. Furthermore, since this is a performance system, the interests in drawing a correlation between sight and sound concentrate on creating an aesthetically pleasing effect. There is no attempt to portray the visual material as a musical representation of the composition.

The Visual Mind: Art and Mathematics
Goffredo Haus and Paolo Morini, "TEMPER: A System for Music Synthesis from Animated Tessellations", in The Visual Mind: Art and Mathematics, A Leonardo Book, pp. 171-176 (Cambridge, MA: The MIT Press).
   This work utilizes mathematical principles to make the correlation between aural and visual realms. This is similar to Whitney's approach, for example, in that there is a fundamental algorithm or generative component which attempts to link sight and sound directly.

International Computer Music Conference (ICMC) Proceedings
Demers, Louis-Philippe, "A Performance Instrument for Lighting", Proceedings of the 1991 International Computer Music Conference, pp. 471-474 (San Francisco, CA: International Computer Music Association).
   Demers' work is important because it is an automated system based on the control of a lighting performance instrument using MIDI. This concept is similar to the McLean work described above, but Demers' system provides an interactive graphical programming environment. This approach facilitates the audio and visual linkage, but the orientation is still primarily towards the algorithmic or generative musical principles. The correlation with the musical material, or the material from which both the aural and visual material are derived, can be extremely direct, and as explicit as required by the circumstance. However, it is still a stage lighting performance system, designed to create a visual effect on the stage which relates to the musical material performed. This is not notation, nor can it really be viewed as music representation in its current application.

Mont-Reynaud, Bernard, "SeeMusic: A Tool for Music Visualization", Proceedings of the 1993 International Computer Music Conference, pp. 457-460 (San Francisco, CA: International Computer Music Association).
   Bernard Mont-Reynaud describes his work that began at Stanford University's CCRMA, and continued at Studer Editech, a company which builds audio recording and studio editing resources. In creating SeeMusic, the "goal was to build a multi-purpose visualization tool to serve the needs of auditory perception research and its relation to the development of new applications in music and audio". Mont-Reynaud takes an approach which

analyzes the musical signal, and builds a paradigm for interpreting that signal, transforming it into visual representations using a synthesis by convolution procedure. This method is combined with what the author calls the dual representation - a spectral image and a pitch image - "with user-controlled convolution relations between the two. Generally speaking, this provides a correspondence map between sound data, viewed as log-frequency spectrograms, and MIDI data or musical score data, viewed on the same coordinate system."

Computer Music Journal

Whitney, Sr., John., "To Paint on Water: The Audiovisual Duet of Complementarity", Computer Music Journal 18, No. 3, p. 45 (1994).

   Whitney provides an update on his work merging music with visual art. The complementarity refered to in this article is based on a common foundation of harmony, resulting in a new art form, where "one can design and execute visual and musical patterns in an inter-reactive form of temporal union". Whitney uses his own specialized program, developed by his associate Jerry Reed, which he suggests is functional as a real-time performance instrument controlling both sound and graphics.

Programs and Products

Lightworks Graphics Synthesizer
138 North Main Street, Suite 111
Sebastopol, CA 95472
Tel: (800) 892-3325

   This is an Amiga-based graphics synthesizer which builds a studio editing and performance system using MIDI. The Lightworks Graphics Synthesizer does not correlate music score information with a music representation. The orientation is more towards establishing a flexible environment to create visual or audio-visual art works. The literature suggests that there is much control over the visual representations, and in some way it may be possible to create color and geometric displays which relate to musical structure. Here as well, by using MIDI as the control protocol, there is a relatively facile and standardized method for establishing the audio and visual analogs. There is further suggestion that one's music could be better comprehended by using the synthesizer to graphically interpret the music. There is no explicit mention in the literature to anything that would indicate that there is any musical understanding inherent in the system.

Music Animation Machine
Stephen Malinowski
P.O. Box 13622
Berkeley, CA 94701

   Stephen Malinowski's Music Animation Machine (MAM) is essentially a system for preparing piano roll style, animated visual representations of musical scores. This is another MIDI-based system using a

note/duration/velocity/track(voice) paradigm to create
pitch-based, colorized representations of music. In
some of Malinowski's examples color relates to a
specific track or voice within the composition. In
other instances he relates color to relative amplitude,
in an attempt to reflect different characteristics of
the music. There is nothing in the Music Animation
Machine which reflects changing the color intensity
within a musical note - notes are either on or off.
While there is mention in the MAM of an attempt to
visually represent musical structure, there doesn't
seem to be anything reflected in the music examples
which does anything other than the most trivial,
graphically-observable structure in the
representations.
****

< Fancy at Net - The Electronic Carnival >
Artemis Moroni - Joseo Augusto Mannis - Paulo Gomide Cohn
Email: artemis@ia.cti.br

The Electronic Carnival is a network project that is
taking place all over the world from August to November,
1994, with a grand Openning Ball - a Carnival Cry - during
ISEA'94. This network event is being hosted by UNICAMP -
Instituto de Artes, in Campinas, Brazil, supported by the
Centro de Computacao of this university. Interactions are
expected to occur mostly in text format, but the
participants are encouraged to use other means such as
music and images.

The participants are supposed to interact as actors in a
play or buffoons in a carnival, living a fancy (or
several) and acting all the time as the characters or
personages chosen by them. Such interactions may be held
in public (through the list) or in private, like in a
masquerade party. The only constraint is that interactions
should be among characters and not their authors.

IS IT A "TRUE CARNIVAL"?
Carnival has existed since antiquity, with its noisy
dances, masks and licentiousness. In Brazil carnival is
characterized by the collective euphoria manifestation, by
the popular relief, and by the naive humor of the crowds
that go to the streets to sing their sufferings and
gladness.

Carnival has been seen as a period of order subversion,
irreverence, and where we usually meet people playing and
dancing fancy dressed in any allegory that they mind:
objects (sometime ago I saw a buffoon dressed as a
coffin), personages, characters, individual or in
"blocks", in which all the participants use the same fancy
dress or the fancy is related to a theme (the Dolls' Block
always appear, with men dressed as ridiculous women); or
just playing the carnival. What is this? It is to dance,
to sing, to do what they wish for some time.

Indeed it is not a requirement in a carnival that the
buffoons act as the characters or allegories that they
have chosen. In this way it is quite possible for us to
meet a nut dancing with a devil. Certainly in this case
the buffoons are not "vivifying" their fancies. These are

just clothes that they picked out for a party. But to act
as a character does not invalidate a carnival. After all,
who has already gone to an Electronic Carnival? In this
manner the Electronic Carnival has an extra characteristic
comparing to the brazilian carnival, the participants
should act as their characters - and they did! - but
nothing would obstruct them from appearing as themselves.
In fact, the Land of Themselves was introduced by the
Conceptionary, where ...

        The Land of Ourselves
        Time, time! The new time arrived! The reason is dead!

All persons here are in themselves, throwing their own
self to the net. Each one closes in himself as if he or
she were a barrel, sinking in theirselves as in a well,
closing hermetically with the bar of theirselves, ferment
in their own leaven. Nobody has tears to the pain of the
others. We are ourselves until our bones...

THE CHARACTERS
Some characters were created for "instigating" the ball:
+ the Electronic Mutant, a being that appears as feelings
expressed through words;
+ the Conceptionary, (Peer Gynt, Henrik Ibsen) that deals
with different conceptions, several concepts;
+ and Dona Flor, well known brazilian personage that lost
her first husband in a carnival ball (Dona Flor and her
two husbands, Jorge Amado). In this way we tried to
present several approachs for the elaboration of the
characters, exploring or not the specificity of the
electronic means, suggesting and amplifying the
possibilities. And so the characters have appeared and
interacted, in a funny and glad electronic party.

The Electronic Mutant

What a silence...
Strange, very strange...
What can I be in this means?
Text, images, music...
Ideas, feelings...
Well, I am the Electronic Mutant.
Today I am the Waitness.
Waitness is plain of patience, curiosity.
What is going to go on? Where are the others? I would
like to know them.
                        The Electronic Mutant
                        Waitness

Dona Flor

Dear friends, the cassava's cake that I make indeed has no
recipe. I learned making, trying and tasting till it
reaches the point. (Wasn't loving that I learned to love,
wasn't living that I learned to live?)

Sugar, salt, grated cheese, butter, coconut milk, the thin
and the thick, you need both. (Tell me my friends: why we
always need two loves, why just one doesn't suffice for
our heart?)

The quantities, at your taste, each one has his own, with
more sugar or with more salt, isn't it? The mixture must
be very thin. Hot oven.

Here is the recipe that hardly is a recipe, just a
message. Try the cake. If you like, tell me.
                         Floripedes Paiva Madureira dona
Flor dos Guimaraes
                         School of Culinary "Savour and
Art"
                         Director

The Flash

This is Flash
Well, I'm here. But where are the others ?
Is this the right place ? I can't see anything, just
darkness.
          Isn't people supposed to show up ?
       I think I'll stay a little longer,
         maybe something will happen soon.
     For those of you who can manage to see it,
        here is a tiny picture of me.
                         Flash, also waiting.

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end
                         Flash
                         Marcelo Cohen -
flash@inf.ufrgs.br

Frankie Noir

Oh bother, another carnival. My name is Frankie Noir, and
I am the angstful party-goer, a stand-up tragedian, an
existentialist comic character. My humor is in my
sadness.

Hablo espanol poco.
Mowie po-polsku bardzo malo.
The death of every party,
                         Frankie
                         garret@ollie.uta.edu

Hamlet

But to my mind,
               ... though I am native here
     And to the manner born, it is a custom
     More honour'd in the breach than the observance.
     This heavy-headed revel east and west
     Makes traduced and tax'd of other nations:
     They clepe us drunkards, and with swinish phrase
     Soil our addition; and indeed it takes

```
     From our achievements though perform'd at height,
     The pith and marrow of our attribute.
                              Hamlet


The Ex
------
     Tell me about your sadness!
     I need to laugh a little...
Frankie Noir, dressed stunningly in black with a
Chaplinesque moustache...
     You seem to be interesting!
     I, the Ex, dressed with a seducing long white dress,
without a Chaplinesque moustache, and a nothing
existentialist way of life, am very curious about you.
                              The Ex
                              The breath of every life


Roy Batt
--------
selection process
In desperation I seek the Supreme Being...
I cannot give the game away, yet the panic is barely below
the surface.
I look into your eyes for hope but I cannot trust any
face, still...
I will know when the connection is made.  To endure (the
irony)...
                              Roy Batty
                              GLENN ANDERSON
                              "weasels laugh with their eyes
open."
                              GANDERSO@fox.nstn.ns.ca


Rachael
-------
It's an experience to live with fear, isn't it, Roy?
     One more kiss, dear...
     One more sigh,
     Only this dear,
     Is Goodbye...
Better lucky this time, Roy.
Here, you can try even the eternal life...
                              Rachael


The Unit Circle
---------------
I walk the rainy streets of the inner city, huddling in a
trenchcoat, a large sphere on unit proportions for a head,
but I shall dance and sing at the Carnival!
                              The Unit Circle


diane fenster
-------------
the point
the point is to be
invisible
or blinding
nothing in between
  -author unknown
                              Diane Fenster
                              fenster@mercury.sfsu.edu
```

The Conceptionary

The absolute reason expired last night, at 11:00 p.m.
I mean, we lost the reason.

Now, it's clear that to this escape will follow a
revolution in the world. Those who were considered
mad,passed to an absolutely normal stage since last night,
in complete use of their reason, as is configured in this
new phase. Going ahead, we verify that, in the same
moment, all the persons considered sane are mad.

Time, time! It arrived the new time! The reason is dead!
Life to the new reason!

                         The Conceptionary

Supermale
----
prowl
the _supermale_ prowls the gritty Brazilian beaches in
search of the young, black beauty who will bear their
progeny...
eventually they move to America
                         brad brace
                         bbrace@netcom.com

Aliena

To The Unit Circle
     I walked the avenue 'til my legs felt like stone
     With an open mind on unique proportions for the world
     At night I could hear the life in my veins
     Glad and whispering as the rain in the streets
     Desiring to dance and sing in the Carnival!
                         Aliena

Teen Cleopatra

     For Set's sake, what am I doing here?
     To hell with Ptolomeu, I bet he caused this!
     Lost in this crazy world... The pyramids here are
square! What a madness! No hiroglyphics in any place. No
sand in the desert. I don't understand this place. How can
a country be so populous? I don't know how far I am from
Alexandria! I don't know anything! What can a plain
empress do in a such disturbed world?

     Can you help me? I'm so confused. I need a husband
who understands this madness. Just in this way we will
succeed in defeat the romans! Would anybody like to govern
the world?
                         Teen Cleopatra
                         Andreia Moroni
                         artemis@ia.cti.br

fiona x
----
what is it to be human?
a girl, leda, fucked a swan, had bestial sex.
subsequently, she gave birth to clytemnestra who murdered
her first husband. afterwards clytemnestra gave birth to
orestes. bestiality; husband murder; patricide; incest.

then, with a jerk which ripped at their nerves & muscles &
threatened to turn their bodies inside out, they entered
alien space...

                    fiona x

The Unhappy Translator

Caetano said:
     They were the other romantics, in darkness
     They made a cult of another middle age
     Located in the future not in the past.
     Being incapable of following
     The blah blah bubble of economics recited on
television.
     Yes, YOU ARE.
                         The Unhappy Translator

Chuck Tomlins
----
to Diane...the hunter
Fare thee well, o Diane,
Keeper of the forest.
Go you well into the folds of Thalo Green...
And,
        to me,
               the STAG,
                        be kind-
For even now i feel the pain
Of arrows aim
                    BEWARE THE STALKING MOON

                    Chuck Tomlins
                    art_cbt@vax1.utulsa.edu

THE PARTICIPATION
To join, please send a message to
     listserv@cesar.unicamp.br
with
     subscribe carnival-l CHARACTER - YOUR NAME (optional)
in the body.

From the messages exchanged by characters, a multiauthor
electronic book will be produced. The names of those
participants who wish to remain anonymous will not be
listed, all the others will appear in the book.

THE *.* GROUP
The Electronic Carnival is a proposal from the *.* Group.
Asterisk Point Asterisk: An abbreviation that in Computer
Science stands for All
Point All, or simply Everything, or Anything, adopted by a
group of diverse
profile people accomplishing specific parts in complex
artistic and
technological projects. The *.* Group exists since 1989,
and their projects
includes Fractal Music, Robot's Choreographies and
Drawings, and ludic
interactive installation with robot for children.

ACKNOWLEDGMENTS
We would like to thank Maria Ivete Lovato from the Centro

de Computacao of Unicamp for her strong support in this
list management. We would also like to thank Maria
Aparecida Ferreira from Centro de Documentacao da Musica
Contemporanea (CDMC) of Unicamp for her precious help in
the messages organization. We would also thank Prof. Sara
Lopes, from Departamento de Artes Cenicas of the Instituto
de Artes of Unicamp, who helped us to characterize the
Electronic Carnival.
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            |            |
            |  PROFILE   |
            |_____|
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< Binary Visions - Exhibition and Artist Profile >

Mary Lou Bock, Director
The Williams Gallery
8 Chambers Street
Princeton, NJ 08542
Tel: (609) 921-1142
Email: wmgallery@aol.com

October 8 - November 19, 1994
Tuesday - Saturday 11:00 to 5:00 & by appointment

"BINARY VISIONS: a realization of the computer's potential
in the fine arts as foreseen by George Stibitz, computing
pioneer." The show features new works of six
internationally recognized artists, who have mastered the
computer's use as a powerful new medium in the creation of
their art.

ABOUT THE ARTISTS:
In the 1940's and 50's George Stibitz of Lyme, Connecticut
pioneered the development of binary digital computing, and
foresaw the eventual use of computers in the arts. The
exhibit "BINARY VISIONS: includes some of Stibitz'
exploratory work with computer art, and, in a
demonstration of the accuracy of his foresight, features
the work of six contemporary artists who have realized the
potential of the computer as an artistic medium. The
exhibit is presented in cooperation with the Zoler Gallery
of Penn State University, who will be showing additional
examples of these artists' work at the same time.

GEORGE CRAMER, nationally known artist and sculptor from
Madison, Wisconsin, has chosen to work with processes and
images which allow him to include many conflicting
historical, tribal and universal concepts of the value of
art in his work. He uses the power of the computer to
bring order to issues of our society which often seem
chaotic or frightening. Often the final images of his
computer output are produced by traditional methods (e.g.
lithographs, monoprints), as well as by "traditional"
computer output media such as ink-jet printers. He has
long been associated with the University of Wisconsin at
Madison.

DOROTHY SIMPSON KRAUSE is Professor of Computer Graphics,
Department of Design at Massachusetts College of Art in
Boston, and corporate curator for IRIS Graphics, Inc. Her

work manipulates historical and contemporary images, enlarging on their ethical, social and political meanings by combining, layering and merging them into provocative statements. She says, "I challenge the viewer to look beyond the surface to see what is hidden. My creative process in intuitive and experimental. I push the boundaries until I know I have something worth pursuing." Her work has been widely shown and published, and she occupies the post of Artist in Residence at the Kodak Center for Creative Imaging.

BARBARA NESSIM of New York City is an internationally known artist and educator whose works have been collected and/or exhibited at the Smithsonian, the MOMA of Sweden, The Dusseldorf Kunst Museum, the Louvre, Time and Newsweek magazines and many private collections. She holds the Chair of the Illustration Department at Parsons School of Design in New York. Her works are primarily figures directly drawn on the computer, but often hand colored in watercolor or acrylics. While her works represent familiar objects and humanistic figures, they convey considerations of human endeavor, social and interpersonal issues and accomplishment.

JOAN TRUCKENBROD is a faculty member of the Art Institute of Chicago, who has exhibited throughout the United States and in Germany, Switzerland and France. She uses the computer to synthesize images which address the behavioral roles defined for/by women. "I sketch out figures and weave them together with old family photographs and outlined images from fashion magazines, catalogues and newspapers to illustrate that media figures have a subliminal effect in forming attitudes and behavior in men and women." Her striking use of color and manipulated imagery combine to produce powerful and stimulating works.

MARK WILSON of West Cornwall, Connecticut, uses the computer to create complex images by direct use of the digital nature of the computer medium. Indeed, his pictures would not be realizable in any other medium. Rather than attempting to disguise the pixel, the basic element of computer output, he uses it as the central element in his work. After the initial image is generated on a computer screen, it is mapped. pixel by pixel, into a geometric surface and then "projected" into perspective space. The resulting image is plotted on paper or canvas. This technique reveals a new visual geometry that could not have been displayed before the computer became part of the artist's media.

ROMAN VEROSTKO is chairman of Liberal Arts, Professor of Art History and Software Artist at the Minneapolis College of Art and Design. After a long career in traditional art, he has developed the concept and practice of "epigenetic art": that is, the development of computer software designed to express his personal artistic preferences and to generate totally original works of art automatically. He is one of the very few artists who actually cause the computer to create original art. His software is an extension of his own visual ideas, and creates works glowing with mystery and iconic qualities. The work is executed by a color plotter, which can also

produce Chinese brush strokes through Verostko's
modifications to its mechanism. The pen lines and brush
strokes, while executed by the machine, exhibit the
expressive qualities of the artist's hand.

GEORGE STIBITZ: FATHER OF THE MODERN DIGITAL COMPUTER
GEORGE STIBITZ may be considered the father of the modern
digital computer. He was born in Pennsylvania in 1904.
After earning his MS in physics in 1927 he completed his
PhD in 1930 and accepted a position with Bell Laboratories
in New York City. In 1937, after observing the
similarities between the "on-off" positions of electronic
relays and the binary "one or zero" notation in
mathematics, he constructed a one-digit binary calculator.
Named the "Model-K", the "K" stood for the kitchen table
on which it was assembled in 1937. His colleagues
expressed interest as to whether this little relay
calculator could be expanded to perform complex
mathematics, and in 1939 the Complex Calculator was
completed and put into use at the Laboratories.

World War II provided the impetus to construct more
complex computing machines and Stibitz and his associates
developed systems used in many applications, bringing
about enormous savings in human labor. Considered the
father of the modern digital computer, he has received
many degrees and honors including the IEEE's computer
pioneer award in 1982.

His interest in the use of the computer as an artistic
medium developed as he realized the powerful manipulative
techniques of form and color which it provided. He says,
"If Leonardo da Vinci and Van Gogh had had computers we
could now reproduce the "Last Supper" or the green pool
table (now turned brown), with colors unchanged by the
passage of centuries." The private works of Stibitz,
shown in this exhibit, and his explanatory comments,
display his charm and fascination with the boundless
capabilities of the medium. Both the artistic and the
intellectual communities owe a great debt to George
Stibitz.

The Williams Gallery's involvement in the integration of
the computer art movement with traditional art has been
far reaching. Along with traditional sculpture and
painting, Mary Lou Bock, Director, has been curating Art &
Technology and Computer Art shows since 1986, including
exhibits for corporations, museums and private groups
across the country. In a review written by Eileen Watkins
in the Oct. 28, 1994 edition of the Star Ledger she says,
"The Williams Gallery of Princeton has established itself
as one of the foremost showcases in the United States for
computer art." And in the Aug./Sept. 1994 issue of
Computer Artist Magazine, the arts editor mentions the
Gallery's "...long-standing promotion of the computer as a
tool for the fine arts."
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            |                                |
            |   LEONARDO DIGITAL REVIEWS   |
            |        SEPTEMBER 1994           |
            |_____|
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< Email to the LDR Editor >
Sonya Rapoport
6 Hillcrest Court
Berkeley, CA 94705

Roger Malina's "A Review of Some Recent Interactive Art: Keep
it
out of the Art Museum" (LEA:LDR, vol.2 no.6 June 1994) and Mike
Danoff's "Do Interactive Art Works Belong in Museums?" (LEA:LDR,
vol.2, No. 7b, July 1994) are ambivalent about the museum as an
ideal place to exhibit interactive art. I understand the caution.
However, I suggest visiting the University Art Museum in
Berkeley, California, USA. A CD exhibition, "Retrieving the
Future", has recently been installed in a relaxed and spacious
setting in the lobby of the theater gallery. Two booths,
attractive and functional desk-like structures, with comfortable
caned arm chairs serve as workstations for visitors to interact
with the weekly changing computer programs. Ceramic sculpture
seats for spectators surround the area. A pleasant staff person
nearby is eager to assist. Co-curated by Tony Reveau and Pacific
Film Archive curator Steve Seid. To September 1994.
****
< Do We Still Need Curators?
  A Comment On the Future Role of Curators in the Electronic
  Arts >

Annick Bureaud
Curator (ART-EL), editor of the IDEA (International
Directory of Electronic Arts)
Email: bureaud@altern.com

DO WE STILL NEED CURATORS?
Some thoughts and remarks after ISEA '94, Helsinki

It has been said that the museums and other likewise art
institutions were no longer the place to exhibit art
(electronic art, current art of course). (see the editorial
by Roger Malina in LEA:LDR, vol.2 no.6 June 1994)

It has been said that art schools and art programmes in
universities were no longer suited to teach electronic art
(or try to transmit any knowledge and skills).
(See Roy Ascott's presentation at this years International
Symposium on the Electronic Arts in Helsinki (also presented in
LEA 2:8))

It has been said that the role and place of the electronic

artists were radically changing in the electronic/cyber era. The artist might be no longer this sole person producing unique and rare objects with great monetary value but is more someone (with another name still to be proposed) who initiates processes and creates contexts within which some kind of collective creation may/might occur.

It has been said that the place and role of the public/audience are also evolving with interactive and networking artworks.

But what came to my mind, after this ISEA '94 in Helsinki, is that the place and role of curators are also obsolete. Do we still need curators whether they are institutional or independent ones? Do we still need people who select artworks and put them together in some kind of confrontation and deliver them to an audience in a public space? Clearly not, due to the change of the artworks themselves.

The role of Curators

The time has come to question the role of the curators and the way we display electronic artworks.
What struck me in Helsinki is that we are now facing two kinds of artworks : the "public interactive" art and the "private interactive" art which in any case can't be proposed in the "old fashion" way to their audience.
To the second category belong CD Rom and other multimedia works and works offered on the net. These deserve to be seen in private homes or spaces with the possibility to be navigated over and over again and not only during 10 minutes in a museum space (how any longer can you stay in a museum when 10 people at least are queuing behind you?). These works are more like books in the way they are "consummed" by the public. You would not expect someone saying that it "knows" a book after 10 minutes of reading in a bookstore ?
For these we no longer need "curators" who exhibit them in public spaces but some kind of "reviewer" who helps the public selecting in a forthcoming large production of this kind of works. This is done in Leonardo Electronic Almanac with Leonardo Digital Reviews. The problem we are facing is that LEA is read by only a small amount of electronic enthusiasts and doesn't reach the "general" audience. The challenge of the new "curators" is to facilitate the access to a broader audience to this type of work (by new kind of "lecture" room or "electronic" stores or galleries ?).

The "public interactive" art (usually called installations) on the other hand needs high end equipment, maintenance and can't obviously be seen at home but it too deserves generally more than 10 minutes to explore. Considering the difficulties to find the equipment for the event's organizers, we need to find new ways to exhibit them. To my point of view there could be some experiments to try, if not solutions: these works could be permanent or long terms installations; they could be settled in the very place where they were produced (or in places where equipment and maintenance are provided); they could be exhibited where the audience is (airports as suggested by Roger Malina, shopping malls, etc.). In other words, these

works, like monuments or stained glass (this is the only
comparison which comes to my mind), are truly no longer
objects moving from an artist to a gallery to a museum all
around the world but spaces that the traveling public comes
to visit like any other monument or public sculpture.

This change in the very nature of artworks and the fact
that electronic art is at the moment really combining high
and low culture and can truly meet different groups of
audience (and not only the contemporary art circus) mean
that curators of all kind have to reconsider their role and
task. It does not mean that curators will disappear (as nor
will do the artists). We shall always need organizers of
some kind but they might more become facilitators than
curators.

After museums, art schools and the like, exhibitions are
dead. The challenge is that now, in this transition period,
we still need "something" (call it exhibitions) helping to
go from the older model to a new one still to invent. And
in any case we shall need some kind of "professionnal"
meetings (like trade shows) to "discover" the new art works
(this might be the role of ISEA in the future) or we can
just travel from one production center to another.

If you have any good ideas on what the new model(s)
should/could be and on how we can go through this
intermediary period, let me know as I also belong to this
independent curator group !
****
< World Wide Web Site Review: New York Artline >

by Paul Hertz <email paul-hertz@nwu.edu>

New York Artline (NYAL) is a gopher server on New York City's
popular panix service. Gopher clients can find it at
<gopher://gopher.panix.com/11/nyart>. Since many of the links
are to WWW sites, you may get better mileage from Mosaic or some
other Web browser. Assembled in his spare time by neon artist
Kenny Greenberg (kgreenb@panix.com), the site is still under
construction, but provides links to an intriguing cross-section
of WWW arts sites, some promising informational areas, and the
possibility of contributions from the arts community.

To a commuter, a train station's value is mostly in where the
trains go. To a student of architecture, the trains may be little
more than the functional motive for design, to be appreciated in
itself. Meanwhile, the afficionado of fast food may care little
for either design or destination, but seek the non plus ultra of
hot dogs. In some instances, train stations even become a hub for
social life.

On line hypertexts have a similar, diverse appeal. NYAL's track
is still being laid, but it is already a good jumping off place for
other destinations--on line galleries, magazines, resources, and
artist's home pages. The design is straightforward, utilitarian even.
Its clarity is commendable.

As for the information served on site (the "traditional" value
of an Internet site): it tantalizes, but does not wholly satisfy.
This is hardly the fault of the developer, who describes NYAL as
not just a collection of links, but "an area where arts organizations,

NYC artists, and artists who work with technology can post
information." NYAL has kiosks for mail-in announcements of events,
still waiting for mail. There are lists of galleries, where a reviewer
would probably be welcome. Mr. Greenberg has served up a few brief
texts on his own interests, "The Neon Internet Roadside Diner." I,
for one, would welcome his building a full-fledged resource area on
neon. In short, NYAL could become a community, not just a
crossroads, if organizations and artists contribute to it.
****
< Conference Review: "Music & Multimedia '94" –
   Installment 3 >
Castro Theater, San Francisco, May 7, 1994

Presented by the San Francisco Chapter of the National Academy
of Recording Arts & Sciences, Inc. Held in association with
the 37th San Francisco International Film Festival. Co-
sponsored by Mix Magazine, Interactive Records, and the
Multimedia Development Group.

Reviewed by Mason Wong,
(Email: mas@cea.berkeley.edu)
*** This is the third installment in an ongoing series of
reviews of the conference. ***

The evening session of the conference included
premiere presentations of many multimedia music works.
Reviews of those presentations follow in
this and the next sections of this report.

PREMIERES

"AVRe," (pronounced "aviary") presented by the
artist Thomas Dolby (Headspace), stands for "Audio Virtual
Reality Engine," a software utility which Dolby hopes
to integrate into video games in the near future.
While much effort and attention is paid to the graphics
and action of today's video games, Dolby often finds their
music soundtracks either boring or shallow. In response
to this, he has created an interactive music generator
which is sensitive both to specific elements of a game and
to players' input. His demonstration involved a
rudimentary outline of a hypothetical video game plot,
where an adventure character stumbles into a haunted
cave with both treasures to uncover and obstacles to avoid.
As Dolby followed one path of the adventure, the accompanying
music evolved along with the plot and the setting.
To punctuate the uniqueness of AVRe, Dolby reset the
game, and took not only a different path along the game's plot,
but also a different pace, and the accompanying music
followed suit. After his impressive display, Dolby
conjectured (perhaps idealistically) that through the
interactivity of his product, "the game player, however
musically unskilled, is suddenly empowered to produce music."
Dolby's company, Headspace, can be reached at USA (213) 876-
0358.

"Grammy's Interactive," presented by Chris Andrews (UniDisc, Inc.),
is the National Academy of Recording Arts and Sciences entry
into the multimedia world. Included are lengthy video clips
of 40 performances from past Grammy Awards shows. The
structure of the interactive archive follows the halls and
walkways of a large auditorium, where stage performances

can be viewed, and library archives can be accessed. Video
and audio clips from winning artists are available, along
with biographies and discographies of many recording artists.
A trivia game tests your knowledge of the music industry.
Beyond the great music and classic video footage, the music
industry has never seemed so bland and unlively in this
yawn of a computer program -- perhaps due to a weakness within
interactivity itself, especially when applied to an established
realm of quality, passive entertainment. This title runs
on the PC Windows platform and is currently available.

"Tommy," presented by Greg Smith (RoundTree Book Publishing
Group), is a CD-ROM based interactive "rockumentary" of the Who's
musical of the same name. In conjunction with Kardana
Productions and Pete Townsend, this title is packed with
video clips, interviews (both past and current), with lyrics,
script segments, critique, and everything that is "Tommy,"
from the original 1968 Broadway musical, to the
film, to the ballet. This sophisticated and colorful
program can be experienced in two manners: "couch potato mode
and director mode," as Smith puts it. In the passive mode,
the music blares as digitized photos and related animation
flash by on the screen. In the interactive mode, the viewer
can access detailed accounts of the work. This exciting title
is slated for release on November 1, 1994.
****
<   Book Review: Der Prix Ars Electronica 93. Internationales
    Kompendium der Computerkuenste (International compendium
    of the computer arts) >
by Hannes Leopoldseder (ed.). Veritas-Verlag, Linz 1993.
196 pp., illus., Hardback. ISBN: 3-7058-0086-8.

Reviewed by Rainer Volz, Grillparzerstr. 96, D-60320
Frankfurt a. M., Germany. (Email: 100016.1300@compuserve.com)

Since 1989, the organizers of the Prix Ars Electronica have published
an annual reference volume for the festival and competition. This
book, in German and English, is intended to provide a comprehensive
overview of the competition and, simultaneously, of the state of
the electronic arts. The book presents profiles of about fifty
participating artists and their works.

The reference volume is organized into categories parallel to those
of the Ars Electronica competition: computer graphics, computer
animation, interactive art and computer music. Sections begin with
an introductory essay on the respective category, followed by
qualifying entries and the statements made about them by the jury.
Each entry is about two pages in length, and consists of a short
biographical notice, the artist's comments about his or her work,
some technical exposition, and one or two accompanying illustrations.
The last two chapters in each section contain biographical materials
about the jury members, and lists of participants in each competition
category.

There are a considerable number of artists showcased in this
publication, thus making the book useful as a reference guide to
current trends and individual works in the computer arts. However,
the works are limited somewhat by the traditional format of the printed
book. Interactive pieces and works of animation can only be represented
by stills; of course, the music section abstains altogether from any
illustrative material. A separately sold videotape (VHS/PAL) does
provide selected animations, graphics and interactive artworks

from the Ars Electronica.
****
<   Exhibit Review: "Truth and Fiction: A Journey from
    Documentary to Digital Photography" >

Reviewed by BLee, 3016 Filbert St. #2, Oakland, CA, USA, 94608

"Is the volume loud enough for you?" I asked the tall
slender charcoal-haired woman to my left. We were seated
at the interactive CD-ROM station at the Mexican Museum.
She smiled, and we launched into a discussion of
her technophobia, her husband's genius, and
Pedro Meyer's CD-ROM title, "I Photograph to Remember,"
in front of which we were seated. She observed as I adeptly
clicked my way through the bilingual screens of his digital
photo album and randomly accessed Meyer's family history; I
focused for a time on the section about his father, and then
his mother, both diagnosed with cancer.

As narrator, Meyer reveals his devotion and reaction
to his parents conditions. Music is used sparingly
as an accent or transition. Dominant subjects in
these black-and-white images are hands (holding,
supporting, touching, serving) -- the hands of his mother,
of his father, and of himself. Meyer uses hands as a metaphor
to reveal the closeness of his family and the inner
strength that this bond provides.

Besides this CD-ROM station, the exhibit
includes ninety Iris ink-jet prints of Meyer's
digitally altered images, hung on
the white-washed walls of the Mexican Museum. There
is a separate body of work on Mexico and the United
States; Meyer's observations communicate our cultural
differences through a lens of spirituality. The
American popular culture (excluding first nation
people) is plagued by spiritual poverty, while the
Mexican culture (specifically, the Mixtec people of
Oaxaca located in the hills North of Mexico City)
is spiritually rich. Some of the Mexican images are
printed on a paper medium called papel amate (fig
tree paper). This paper is handmade by the Indians
of San Pablito and is endowed by them with religious
significance. In this exhibit, Meyer weaves together
the art of the Indian shaman with digital technology.
The remainder are printed on Arches paper.

While sitting in front of Meyer's second CD-ROM title,
"Documentary Fictions/Digital Truths," a roaming
guard inquires, "Is the volume loud enough for you?"
I nod yes and looked over at the young photographer
sitting next to me; he stares at the screen intoxicated
with the novelty of the work. Taking turns at the mouse,
we examine in detail twenty or so of Meyer's ninety exhibit
images. We listen to Meyer explain the conceptual
process behind his colorful mythical images of Oaxaca,
Mexico, and his tragic yet comical black-and-white
photographs of the United States. He further questions
the truths and myths surrounding the documentary
aesthetic, by including one unaltered photograph that
looks digitally processed. Meyers also includes
a sampling of his personal correspondence, from

friends in various disciplines, regarding their thoughts
about the digital revolution and representational
reality.

"This sure is a different kind of photo exhibit; the
brochure calls it an art exhibition catalogue. I think
this digital stuff is the way of the future and it's
about time I started to learn more about it," my new
companion volunteered. "Yeah," I said. My mind was
following my ears through the gallery space. I could
hear two other CD-ROM stations, plus numerous other
conversations, all competing to be heard.

For the first time, the cultural environment of
the gallery space was truly transformed for me. While
I was aware of and a participant in the physical
community of the museum space, I had been culturally
transported to Mexico via the electronic medium of the
CD-ROM. The pristine silence of the traditional gallery had
departed and was replaced by a festival of sounds.
Personally, I prefer the communal celebration, but
each gallery and curator will ultimately have to face
the challenge of electronic media. No doubt, certain
traditionalists will prefer to follow the airlines' example of
installing headphones with independent volume controls, so
we can all return to our own egocentric worlds.

"Truth & Fictions: A Journey from Documentary to
Digital Photography," is a traveling exhibition curated
by Jonathan Green director of the California Museum of
Photography. The Exhibit runs through October 2, 1994,
at the Mexican Museum, San Francisco, California, USA.
For more information, call USA (415) 441-0404. This
project is rich in layers and you'll want more than
one visit with Pedro.
****
< Leonardo Digital Review Notices >
....
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, 508 B Connecticut St, San Francisco, Ca 94107, USA.

Event and exhibit organisers, 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 davinci@uclink.berkeley.edu We are particularly seeking
reviewers who can review material in other languages than
English, materials on line, and in multimedia formats.

Unsolicited reviews are not accepted by LDR.
****
< Leonardo Digital Reviews Classified Advertisements >
....
This space could be yours- send email to
davinci@uclink.berkeley.edu for information on rates and
conditions
....

AUTHOR LOOKING FOR WORK IN GESTURE RECOGNITION

I am writing an article on gesture recognition by computer.
The article will include gesture and movement analysis
by computer, especially as it may be used in the
arts, theatre, dance, and musical performance.
Any sources of info would be much appreciated.
David Voss
dvoss@aaas.org

[Harris: Two issues of Computer Music Journal, Volume 14
Numbers 1 and 2, were devoted to New Performance Interfaces
(MIT Press). Other sources of information are:
     Mark Coniglio (CalArts)- coniglio@well.sf.ca.us
     Ed Severinghaus and Chris Van Raalte:
         BodySynth
         142 20th Ave, #2
         San Francisco, CA 94121-1308 USA]
....
ASCI: Art, Science Collaborations Inc is an association of
artists which champions interactive, kinetic and new
technology-based art making and encourages collaborations
between artists and scientists. Contact Cynthia Pannucci, PO
Box 040496, Staten Island, NY 10304-0009 USA
....
ARTISTS MOSAIC SITE
You can find an digital art exihibition of my works in
technion.

http://www.technion.ac.il/avi-rozen/avi-pics1.html   or
-------------------||-------------/index.html

avi rosen
artist.
....
LEONARDO ALMANAC: International Resources in Art, Science and
Technology, Ed C Harris, MIT Press ISBN 0-262-58125-6
journals-orders@mit.edu
....
AUTHORS AND READERS - IF YOU DISAGREE OR WANT TO ADD TO ONE OF
THE REVIEWS - WE WELCOME EMAIL TO THE EDITOR TO
DAVINCI@UCLINK.BERKELEY.EDU
....
< END LEONARDO DIGITAL REVIEW   SEPTEMBER 1994 >
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                   |   ANNOUNCEMENTS   |
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< ASCI: Fall 1994 Speakers for "Art & Technology
   Speaker Series" >

ART & SCIENCE COLLABORATIONS
Great Hall at Cooper Union, NYC
Tel: 718/816-9796

We are very pleased to have been invited by Cooper Union
to continue producing our "Art & Technology Speaker
Series" in 1994-1995. This monthly series is unique in
its presentation of the eclectic breadth of what's

currently happening in this rapidly growing field. Its
public setting extends ASCI's mandate of creating programs
that increase public awareness, understanding and
appreciation for this type of art.

Last year, the series began with James Seawright, one of
the first artists to use electronics in sculpture and also
included architect Deborah Natsios, whose work is inspired
by insects; glass artist James Carpenter, whose designs
transform space through natural light interacting with
dichroic glass; and Agnes Denes, pioneer in the
ecological/ environmental art movement.

This fall, our series began with another pioneer who
continues to examine and use leading-edge technologies to
express her artistic vision. Lillian Schwartz (September
21st) is probably best known for her work in establishing
the computer as a medium for artistic expression, and for
being first in this medium to have a work acquired by The
Museum of Modern Art. She is now working in the area of
virtual reality and through her research and use of
computer technology, she has made several important
contributions to the field of art history.

10/11: "ACOUSTICAL RESONANCE: FROM THE MACRO TO THE
MICRO," John Dirscoll
11/8: "INTERACTIVE ARCHITECTURE," Christopher Janney
12/14: "CRAVE NEW WORLD," Kyong Park

All l-hour presentations are highly visual
(slides/videos/computer), in-depth looks at the career
and/or projects of speakers and allow for questions and
answers at end. Speakers begin at 7PM. There is a $5
public admission charge.
****
< The computer - why it is changing both art and science >

Roger Malina
Email: rmalina@cea.berkeley.edu

I am currently working on a talk and paper on the topic
"The computer - why it is changing both art and science".
I am particularly interested in developing arguments about
how tools change the way we see things, and how tools
extensively used by both artists and scientists result in
unusual cultural change.

Artists and scientists over history have explored the use
of new technologies and tools for doing their work. Most
tools are not useful to both artists and scientists. In a
few periods in history, new tools have appeared that have
been taken up by both artists and scientists, and as a
result both artmaking and science have been changed. In
addition artists and scientists have developed a common
vocabulary and shared way of seeing things, based on the
common experience of the use of these new tools. Clear
examples might be the Renaissance development of the
mathematics of perspective, and the 19th century
development of photography and film. It is now clear that
the digital computer will have far ranging effects on the
kinds of artforms and art that many artists will make in
the future, and also is changing the way many areas of

scientific inquiry are carried out and indeed has led to
new the creation of new scientific fields. In this talk I
will discuss and provide examples of the new kind of art
and science enabled by the use of digital computers.

I am interested in hearing views on this topic from LEA
readers, contributing ideas, inputs, and references.
****
< The Sculpture City Networkshop FTP-site >

Menno Rubbens
ATTILA Foundation
The Netherlands
Email: attila@well.com

The Sculpture City Networkshop FTP-site is now open to
participants of the Networkshop. The goal of the workshop
is to create a virtual city with models of Sculpture
Buildings. Sculpture Buildings are models that are at the
same time buildings and sculptures. The main condition is
that the initial design process is not dominated by
functional and or constructional parameters. The Sculpture
Buildings will float in cyberspace without having a top or
bottom, without having an entrance or exit for as long as
they stay in cyberspace. The Sculpture City will grow
either with your new submissions or with your mutations
of previously submitted models.

Please keep the following in mind:

1. Only "put" Sculpture City related data.
2. Everything you "put" on this ftp-site must be
    compressed into one file. Next to this file
    you must submit a text (.txt) file with the
    same name as the model in which you print your
    name and a brief description of your submission.
3. Submissions may include text and/or pictures.
4. The data formats are (in order of preference):

    Models: .prj (3dstudio project file)
                 .3ds (3dstudio mesh file)
                 .dwg (AutoCAD drawing file)
                 .dxf (Autodesk Drawing eXchange Format)
                 any other 3dstudio or AutoCAD compatible
                 format

    Pictures: .gif (Compuserve)
               .tiff
               .tga
               any other ms-dos compatible format

    Text   .txt (ASCII)

5. If you submit a mutated model of someone else
    please state clearly with model has been mutated
    and how.

6. All actions on this ftp-site are logged.

The address and access for the ftp-site follows:

    dutiq50.tudelft.nl

```
     login:    attila
     password: attila
```

The password can be changed during the workshop although
we hope that won't be neccessary. If you are unable to
login please contact me.

The Networkshop is supported by:

The European Community
Autodesk Software
Dell Hardware
CAD-tc, Technical University Delft
****
< ISEA 95 Montreal >

ISEA 95 Montreal
307, rue Sainte-Catherine Ouest, bureau 515B
Montreal, Quebec H2X 2A3
Canada
Tel.: 514-990-0229
Fax: 514-842-7459
Email: isea95@er.uqam.ca

The Sixth International Symposium on Electronic Art (ISEA)
will take place in Montreal Sept 17 - 24, 1995, on the theme
Sens emergents / Emergent Senses. Artists, scientists, scholars
and educators from throughout the world will discuss the emerging
new art forms, the social, cultural and ethical implications of
these developments, and the new partnerships that are being
created between artists and technology. The program will include a
conference of invited speakers, panel discussions, and artists'
presentations; exhibitions of new visual and media artworks in
various museums and galleries; workshops, on a variety
of topics, including robot sculpture, virtual reality, copy-art,
multimedia and hypermedia, network-art; music and performance
art; an "electronic cabaret"; an evening of electronic cinema and
on-demand screenings; and a market for new media art productions,
offering publications, artist books, tapes, CD-ROMS, etc.

December 31, 1994 Deadline for proposals: Exhibitions, Performances,
Network projects, Workshops.
March 1, 1995 Deadline for Papers, Roundtables, and Poster sessions.
April 24, 1995 Deadline for Electronic Cinema.
June 1, 1995 Deadline for the "new media market"

All proposals may be submitted in English or French.
The full Call for Proposals can be found at the LEA ftp site.
The file name is isea95.call.
****
< The Center for Visual Creation Training Program >

Patty Seger, Director CVC
Email: CVC@erc.msstate.edu
Tel: 601-325-1610.

The Center for Visual Creation is housed in the
NSF/Engineering Research Center for Computational Field
Simulation in the Mississippi Research and Technology
Park, adjacent to the Mississippi State University campus.
The Center has set up two, three, and five day training
classes in their Silicon Graphics studio.

An SGI basics course is offered on Saturdays and Sundays
prior to weeks offering introductory classes to give
persons with no Unix experience an opportunity to become
familiar with the operating systems and how to organize
files, do back-ups, and use peripheral devices. Showcase
software that comes with all SGI machines is used as an
introduction to presentation graphics and on-line
multimedia slide shows. Students have 24 hour access to
the lab and its hardware.

The CVC Facility has a lab of:
* 	16 SGI Indigo2's
* 	SGI 4-Processor Onyx with a RealityEngine2
* 	Barco 1200 Projection System
* 	CD Authoring System
* 	Scanners
* 	Video Editing/Recording Suite
* 	Virtual Reality Boom
* 	IRIS / and LaserMaster large format color printers

Training is avialable in the following software systems:
* 	Alias Power Animator, Alias Auto Studio, Eclipse
* 	AMAP - Growth Generating software mostly used in
landscape design, urban planning, architecture, land-
use studies
* 	ArborText - hardware independant technical publishing
* 	AutoDesk - AutoCAD / 3D-Studio
* 	ELECTROGIG - Complete Line
* 	Flame - Discrete Logic's On-Line video editor
* 	Matador - Parallax's powerful 2D paint and rotoscoping
package
* 	Mosaic - An internet interactive delivery system
* 	Photoshop - Adobe's 2D Paint package
* 	Renderman - PIXAR's 3D rendering engine language
* 	Scientifc Visualization / Grid Generation
* 	SoftImage - Complete Line
* 	Wavefront - Complete 3D animation line including
* 	Particle Systems and Inverse Kinematics...
* 	Wings - Autometric's 3D Landform Simulation Software
* 	XaosTools - Complete line

A full course listing and registration form is available
on Mosaic at http://www.erc.msstate.edu/CVC
For short course info email: CVC@erc.msstate.edu
For information on pursuing a graduate MFA degree in
Electronic Visualization, email:lin@ra.msstate.edu
For information on pursuing a graduate MS degree in
Digital Design, email:fazio@sarc.msstate.edu

Tax Deduction
All Expenses of a continuing education course (including
registration fees, travel, meals, and lodging) taken to
maintain and improve professional skills related to your
trade or business are tax deductible, subject to the
limitations set forth in the Internal Revenue Code.
****
< Enter the Electronic River - International FAX art
   exhibition >

Lilian Bell and Nils Lou, Coordinators
Linfield College

McMinnville, OR 97128 USA
Email: abell@linfield.edu, nlou@calvin.linfield.edu

Show installation OCT 3 to 28
FAX # +1-503-434-2523
Faxes may be sent until OCT 15

This international FAX art exhibition focuses on how the
arts can alter the shaping of electronic technology. It is
based on the theme "The River as Metaphor - New Channels".
The show is open to artists, poets, philosophers --
creative minds of any type. Transmit your visual,
philosophical and electronic energy downstream for a
shared esthetic consciousness.   Composite FAX images may
be transformed and re-transmitted to complete the flow.
Please provide a return FAX #, name and address.
****
< Art Futura 94: Cyberculture - Man Amplified >

ART FUTURA 94 (Realidad Virtual, S.L.)
C/ Almirante, 26. 3=A7
28004 Madrid, Spain
Tel: 34.1.523.05.09
Fax: 34.1.523.33.09
Email: rvsl@solea.quim.ucm.es

September 28 - October 15 1994
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 | ACKNOWLEDGMENTS |
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Leonardo/ISAST gratefully acknowledges Interval Research
Corporation and Thom Blum/Muscle Fish Audio Multimedia
Software, for their support of Leonardo Electronic Almanac.

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 | LEA |
 | FORMAT |
 | CONVENTIONS |
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The following describes the format or markup conventions used
in creating Leonardo Electronic Almanac. The function of these
conventions is to facilitate perusal through the text, and to
make it easier to create conversion programs to various text
readers.

=====: Section Heading Delineation - full line character
sequence
*****: Item Delineation within Section - full line character
sequence
<: Item Title - search for the character "<" followed by two
spaces
|_ or _|: This sequence takes you to the next SECTION TITLE.
Item titles and author/contributor names appear exactly the
same in the Table of Contents and at the location of the actual

item.
Section names appear in all capital letters, and with this
issue will appear with all letters in sequence with no spaces
(PROFILES, REVIEWS, etc.).


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|      LEA       |
|      FTP       |
|     ACCESS     |
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The following are the specifics about ftp access:

    ftp mitpress.mit.edu
    login: anonymous
    password: your_email_address
    cd pub/Leonardo/Leonardo-Elec-Almanac

Files for the Leonardo Electronic Almanac Gallery are currently
kept in the directory pub/Leonardo/Leonardo-Elec-Almanac/Gallery.

This is an evolving system. Check the README file for the most
current information about the contents in the system, and for
the most current information about all of the ftp services.
Submission Guidelines and Past issues are available via ftp.


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|      LEA       |
|  PUBLISHING &  |
|  SUBSCRIPTION  |
|  INFORMATION   |
|_____|
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< LEA Editorial Address >
 Craig Harris
 Leonardo Electronic Almanac
 718 6th Street SE
 Minneapolis, MN 55414
 Tel: (612) 362-9390
 Email: craig@well.sf.ca.us

< LEA Business Address >
 Leonardo Electronic Almanac
 508 Connecticut Street
 San Francisco, CA 94107

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Leonardo subscribers is $25.00

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number, telephone and fax numbers, and e-mail address. Please
send VISA/MasterCard information as well.
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Leonardo, the International Society for the Arts, Sciences
and Technology

Leonardo Electronic Almanac is published by:

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 55 Hayward Street
 Cambridge, MA 02142 USA

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========== <  End of Leonardo Electronic Almanac 2(9)  >
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