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                 |  INTRODUCTION  |
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< This issue >

                            Craig Harris
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The profiles this month reflect a fascinating diversity of
activities. Joel Slayton, Director of the CADRE Institute (Computers
in Art and Design/Research and Education) in San Jose, California,
presents his work "Telepresent Surveillance", "an experiment in
automated surveillance technology". We have a video clip installed
in the LEA Gallery, and  LEA readers can view more by going directly
to the web site for this piece. Minnesota artist Rochelle Woldorsky
presents "Transitional Landscapes", a work that explores the
dramatic impact of landscape development on our lives. The web
version of this piece includes a group of still photos, and I will
be installing some video clips shortly. I went to two installations
of this work, and both times was struck by the impact of the images
of cars and trucks on the road, seeming to drive through the ghostly
images of the children playing in the same space but different time.

Philip Blackburn, program director for the American Composers Forum,
presents a profile of a diverse performance/forum event, reflecting
a collaboration between artists from the USA, Canada and Japan. The
profile of the upcoming 17th VideoArt Festival of Locarno,
Switzerland, provides a view into the broad scope of the event.

Leonardo Digital Reviews contains journal and book reviews this
month, including a review of one of Clifford Pickover's recent
books. Cliff also announces publication of another book in our
publications section, "Fractal Horizons: The Future Use of
Fractals". Art + Science Collaborations, Inc. (ASCI) in New York
City has initiated a dialog component in their web site, ASCI
Interactive. ASCI Director Cynthia Pannucci is hoping to create an
active discussion venue, and is encouraging people to visit the site
and to participate.
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                 |              |
                 |  PROFILES    |
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< Telepresent Surveillance >

Joel Slayton
CADRE Institute
San Jose State University
One Washington Square
San Jose, CA 95192 USA
Tel: (408) 924-4368
Email: joel@well.com
URL: http://surveil.sjsu.edu

Telepresent Surveillance is a computer-media installation that was
on exhibit at the Krannert Art Museum in Champaign, Illinois,
November 17, 1995 to January 21, 1996. Telepresent Surveillance is
an experiment in automated surveillance technology. The merging of
telepresence and surveillance technology creates a new form of
access and participation in public spaces. The installation involves
three integrated systems: 3 autonomous robot probes, wireless video
transmission and telepresent viewing via the internet. Programmed
movement behaviors for each probe are activated by human presence

within their defined and shared proximities. A 5 ft. diameter helium filled balloon tethered to the probe suspends a miniature CCD camera and wireless AV transmitter. Real time video output from each probe's perspective orientation and real time movement is displayed on monitors. Video output is digitally sampled and then accessed by a remote host server located at the CADRE Institute in San Jose, California. Continually updated images are incorporated into this self editing World Wide Web site for telepresent viewing. The robot probes operate as completely autonomous surveillance devices. Each probe is programmed with interactive movement and tracking behaviors that uniquely characterize an individual personality. The robot probes act in concert with the environment, audience and one another. Individual behavior is predictable only at the systems design level. Actual behaviors are highly conditional and are derived from the interactive influences the probes experience at the site. The objective is to create a community of surveillance machine agents that permit observable 'emergent behavior' to arise.

Technical Details
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The robots each have a custom designed infrared/sonar system that is used to track the humans in its working radius. The rotating head of this sensor contains a tightly focused passive infrared sensor that triggers a Polaroid ultrasonic ranging device, which has a working range of 13 inches to 30 feet. As the scanner rotates it detects a warm body via an ultrasonic ping. Connected to the rotating head is a simple positional encoder that resolves 8 angular wedges of rotation. A Basic Stamp computer is used to store range and vector information, and selected targets for observation. It then sends the appropriate vector data to the Stamp that controls the robot's movement.

The controller Stamp computer uses the vector data transmitted from the sensor to orient the robot such that the overhead video camera/transmitter is pointed more or less at the selected target. The robot is driven by 2 motorized wheels at the sides with a caster at the front and the rear. Speed and direction of the motors are controlled directly from the Stamp via PWM driven motor bridge driver chips.

Collision avoidance is accomplished with 44khz ultrasonic transmit/receive sensor pairs. There are 4 systems per robot, 2 facing forward and 2 facing back. These sensors were adapted from a surplus device intended for automobile use. In the car they had a module mounted to the mirror that would show a bar graph of the distance to the nearest object as you back up. Each dot on the bar represented 1 foot. By connecting the output of the 2nd dot on the display to the Stamp computer we have immediate warning of an impending collision from 2 feet away so that an avoidance routine can back the robot away.

Joel Slayton is Director of the CADRE Institute (Computers in Art and Design/Research and Education), a interdisciplinary academic and research program at San Jose State University. CADRE is dedicated to exploration of computers and interactive media technology. He has collaborated with various individuals, corporations and institutions to produce many large and complex performance artworks and installations which incorporate innovative forms of media technology. Joel Slayton's art works involving computers and media technology have been presented internationally.
*****************************************************************
<  Transitional Landscape  >

Rochelle Woldorsky

2512 Stevens Avenue South
Minneapolis, MN 55404
Email: woldo001@gold.tc.umn.edu

"Transitional Landscapes" deals with land development and loss of natural landscape.  Land as a  commodity with no connection to the past or natural integration of one life  style into another.  Housing development on a massive scale consumes whole  communities with no connection to its past.  The automobile demands  bigger and more accessible roadways, and in the process alienates and divides communities.

In this work I have taken a direction toward weaving together the past and the present.  I am recording the transition of County Road 18 in Eden Prairie, Minnesota from a 2-lane winding road into a major 2-lane highway.  The road has changed over the  years and was primarily a rural road through farm country up until the 1980's when the farmland was sold off quickly for suburban development.  The increase  in traffic on the road and the plans for development of suburbs further out  pushed the passage of a new highway through.  This highway significantly changed the character of the landscape and divided the community on either side.  The  intent of my video is to "collapse time" by showing both the past and present together.  When I  ride on that heavily trafficked road of today I remember when I played on  the same road as a child when there was very little traffic.  The past has been  replaced but memories still live.

There may be other ways to accomplish this  feeling of past and present, but the video offers the best solution for creating  a sensation of both worlds simultaneously.  I was lucky to have film shot by my  father of the family on the farm in the 1950's.  The film was transferred to  video and from there I blended video that I shot of the road as it is today.

In another version I have added interviews with people who have lived along this  road at various times and have witnessed changes in the landscape. I like to  present the video as part of an installation the resembles a booth at a State  Fair - a shed type structure with a window through which one can view the video.

The still photos are created in Photoshop.  The road ran along one side of the  farm and seemed like a part of it.  I superimposed a sectional map from the highway department onto photos and marked where the road was in relationship.  These are more memory pieces....they remind me of how we look at photos and point to areas and say there's so and so or "there's the road". The idea of past and  present is interesting to me.  We see the world in front of us but our emotions  are driven by memory and the world that we have inhabited throughout our lives.

I am always struck by how difficult it is to be objective about landscape.  Memory of place always enters in and affects the interpretation.  Perhaps this  is more true in the late 20th century where changes in the land are sometimes  monumental.  I think about landscape artists of the past, the English landscape  painters, the Luminists (Hudson River School), and Monet.  There is a strong  bond between them and the subject of nature.  For myself I can't just accept  that it won't change before my eyes.

BIO
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Education

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University of Minnesota MFA -  Pratt Institute, Brooklyn NY -
Minneapolis
College of Art & Design -Skowhegan School of Painting & Sculpture,
Skowhegan Maine

Fellowships & Prizes
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1996          Minnesota Humanities Commission, Small Grants, Multi-
Media
1996          Minnesota State Arts Board Individual Artists
Fellowship, 2-3 Dimension
1996          McKnight Foundation Fellowship, Multi Media
1989          Minnesota State Arts Board Individual Artists
Fellowship, 2-Dimension
1984          Minnesota State Arts Board Individual Artists
Fellowship, 2-Dimension
1982          Art Center Of Minnesota Statewide Juried Show, First
Prize

Selected Shows - Individual and Group
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1996        ART, TECHNOLOGY & TRANSFORMATION OF COMMUNITY-
Installation-East Lansing Arts Commission Mich State University,
East Lansing, MI
1996        STREET SCENES, Group show, Edina Art Center, Edina, MN
1996        Six McKnight Artists-New Work. Minneapolis College of
Art & Design, Mpls, MN
1995        IN SO MANY WORDS, American Museum of Art, St Paul, MN,
video & computer, curated by Clarissa Sligh
1994        ELECTRONIC TRANSFORMATIONS, Nash Gallery, University of
Minnesota - images that make use of electronic media, curated by
David Husam

Teaching & Residencies
----------------------
1995-96       University of Minnesota
1994        Gustavas Adolphus College, St Peter MN
1994        Minneapolis College of Art & Design.  Computer to
Printmaking
1994        St Cloud State University, St Cloud, MN.
***************************************************************
<  Strange Nature - Music, Visuals and Movement  >

Philip Blackburn
American Composers Forum
332 Minnesota Street, Suite E145
St. Paul MN  55101 ´ USA
Tel.: (612) 228-1407
Fax: (612) 291-7978
Email: compfrm@maroon.tc.umn.edu
WWW: http://www.umn.edu/nlhome/m111/compfrm

American Composers Forum, in conjunction with the following venues,
as part of  the Sonic Circuits Festival of Electronic Music,
presents "STRANGE NATURE", a series of collaborative events between
Japanese, U.S., and Canadian artists,  combining music, visual
installation and dance-theatre.

Strange Nature integrates ancient, vintage, high-tech and hand-made
instruments with movement-theatre, all against a visual backdrop of
light sculpture.  The ondes Martenot, performed by Takashi Harada,
is an early electronic instrument (c. 1928, France) which produces a
wide variety of sounds, ranging from white noise to bird calls,

industrial sound to the 'cello-like singing quality it was
originally developed to reproduce.  Electroacoustics, contributed by
Sarah Peebles, include samples of North American and Japanese
insects and city-scapes, live computer-interaction, and performance
on one of Japan's most distinctive, ancient instruments, the sho.

Kazue Mizushima's music installations, while made of the simplest
materials, are performed to elicit  subtle harmonic and timbral
textures, loud, dense, reverberant soundscapes, and everything
inbetween.  Her trademarks - extensive, visually-striking
constructions, detailed performanec techniques, and theatric
realization - will play off the distinctive architecture of the
Southern Theater.  Musicians and sound installation interact with a
visual environment created by Yoji Toyosaki, whose installations
work with layers of slowly-changing slide projections against three-
dimensional, textured constructions.

Project Components:
Musical instruments and paper/fiber lighting installation; ondes
Martenot:  an historic French electronic instrument (c. 1928); sound
installation: 100-300 paper cups; string, wire, aluminum bowls, etc.
electro-acoustics: computer-triggered samples, electronics, noise-
makers (Max and Sample Cell programs); sho: mouth-organ used in
Japanese court music (gagaku  / c. 800 A.D.).

ARTISTS BIOGRAPHIES
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Takashi Harada graduated from The Faculty of Economics at Keio
Gijuku University, and then entered the University of Paris in 1978
and the Paris Conservatoire in 1982, where he studied under Jeanne
Loriod.  As a prolific ondist and composer, he has played more than
170 new pieces for the ondes, including the premier of Messiaen's
opera, "Saint Francis of Assisi" at the request of Messiaen himself.
He appears regularly as a soloist with major orchestras in Japan and
around the world, and has received the Global Music Promotion Award,
the Idemitsu Music Award, and the Hida Furukawa Music Award, among
others.  Harada's wide-ranging work includes the soundtrack for the
20th Century Fox movie "Rising Sun" (music by Toru Takemitsu), music
for the Tokyo Ballet's "M" (depicting the life of Yukio Mishima),
and he has released numerous recordings on the Decca and Victor
labels.  Harada has had extensive involvement performing and
composing for NHK and numerous musical groups, including rock, jazz
and improvisation with such figures as Yosuke Yamahsita, Ned
Rothenberg, Tom Cora and Samual Bennett. He is recorded on the JVC,
Fontec, and Decca among other labels.

Praised by Alvin Lucier as "one of the most talented and original
young composers in the world today", Kazue Mizushima is gaining
stature as one of Japan's most intriguing installation artists and
composers of her generation.  After graduate studies in composition
from the University of California in 1991, she became active as an
independent composer and artist, creating small- and large-scale
performance works for dance, theatre and "installation music" with
her own ensemble, Studio Eve.  She has toured to Canada, Portugal,
Korea, and Holland and has been presented in Japan at such venues as
the Tokyo Metropolitan Art Theater, Theater X, P3 Gallery, Tsurugi
International Art Festival, and Xebec. Mizushima also gained wide
popularity in Canada with packed performances in Vancouver, Toronto
and the New Foundland Sound Symposium in 1994.

Yoji Toyosaki creates visually deceiving, evocative environments
with slide projections and paper in indoor and outdoor settings.  He
graduated from the Tokyo-Zokei University of Arts, and regularly
exhibits and collaborates throughout Tokyo and Japan at such venues

as Striped House, Jean-Jean, Parco, Gallery Q, Gallery +1, Palace
and Imperial Hotels, Hakushu Summer Art Festival, and Studio
Kinshicho, among others.

Sarah Peebles has composed for electroacoustics, small ensemble,
dance, animation, inter-disciplinary collaborations and music-
theatre.  Exploring alternate performance settings, such as museums,
bamboo groves and temples, her work also encompasses
"comprovisation" and performance art.  She has received awards from
The Japan Foundation, ASCAP, BMI, Japan-US Friendship Commission,
and American Composers Forum Mcknight Fellowship program, among
others.  Her works have been performed in the U.S., Canada and
Japan, and, she has recently collaborated with Cinnamon Sphere
(Nilan Perera, electric guitar, and Chung Gong, calligraphy) and
Suzanne Binet-Audet, ondes Martenot.  Peebles' music is released on
innova Recordings, Nonsequitur,  Polygram and independent labels.
Originally from Minnesota, she has resided in Canada as an
independent composer, radio programmer and new music  organizer,
since 1990.


Schedule of Public Events
-------------------------
+ Performance/Workshop featuring Harada, Toyosaki, and Peebles
Sunday, August 4,  3:00 pm. Northfield Arts Guild, 304 Division
Street, Northfield. Info: (507) 645-8877.
+ Ondes Martenot workshop and talk about the Japanese new music
scene with  Takashi Harada.
+ Computer-assisted performance system workshop and talk with Sarah
Peebles
+ Presentation by visual artist Yoji Toyosaki
Monday, August 5, 7:00 pm. American Composers Forum office, First
Bank Building  #E-145, Saint Paul. Please call to register: (612)
228-1407.


+ Performance/Workshop featuring Mizushima, Harada, Toyosaki, and
Peebles
Tuesday, August 6, 7:00 pm. Performing Arts Center Multi-Cultural
Garden  (indoors if wet), St. Cloud State University.


+ Richard Paske interviews Peebles and Harada for "Fresh Ears"
Tuesday, August 6, 10:30 pm. KFAI radio, 90.3 and 106.7 FM


+ Improv session (ever jammed with an Ondes?), welcoming party and
CD launch.
Wednesday, August 7, 7:00 pm. Loring Bar, 1633 Hennepin Ave S,
Minneapolis.


+ String telephone installation workshop with Kazue Mizushima
Friday, August 9, 8:00 pm. Southern Theater, 1420 Washington Ave S,
Minneapolis.


+ Strange Nature Performance
Saturday, August 10, 8:00 pm. Southern Theater, 1420 Washington Ave
S, Minneapolis.


American Composers Forum
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The AMERICAN COMPOSERS FORUM offers some 20 programs that link
communities with  composers and performers. Founded in 1973 as the
Minnesota Composers Forum, it  now has more than 1,100 members in 48
US states and 16 other countries. It is  the publisher of INNOVA
RECORDINGS and of SOUNDING BOARD, a monthly newsletter  for the new-
music community. Membership is open to all.
****************************************************************

<  The 17th VideoArt Festival of Locarno  >

Marco Maria Gazzano, Festival Director
AVArt, Associazione per la VideoArte
Via Varenna 45 - P.O. Box 146
CH - 6600 Locarno
Tel: (+41 91) 751 22 08
Fax: (+41 91) 751 22 08
Email: avart@tinet.ch
http://www.tinet.ch/videoart

August 29 - September 1, 1996

New Challenges for a New Era
----------------------------
In this era of the planetary spread of electronic technologies,
certain communication specialists and many artists feel that film,
television and video have lost much of their appeal.

Some 200 years after the groundbreaking "modern" began taking root,
is it perhaps true that languages, and forms of communication
concurrent with photography and later movies (allowing images to be
conveyed at a distance) are losing their capacity to renew
themselves, let alone communicate? That they are revealing
themselves unable not only to "explore" our perceptible and
imaginary world but even to "tell" it.

Indeed, a new term has been invented - "teleputer" - to underscore
the desirability of joining computer and image worlds. The impact of
such a union promises to be enormous, affecting all we now know
about film and video, radio and television, images, sound and word.
This will take place thanks to heretofore unheard of phenomena such
as interactive movies, personalized television, electronically
controlled editing and network navigation.

The audiovisual has left a deep imprint on our times today:
electronics have to do not only with data processing but, above all,
with expressing thought; change affects not only basic concepts like
"art" or "science", but modifies the very idea of work and ethics.
The question that comes to mind is how the old, and at times
productive dualism between artistic research and market rules can be
resolved in that context?

It is our hope that the VideoArt Festival of Locarno will be
considered a means (for art in general and not only for video art)
of seeing clear in our times, of providing mankind with new self-
knowledge through the unprecendented possibilities of contemporary
communications and language forms.

We take pleasure in inviting you to an event intended as a
stimulating encounter between cultures, artists and medias: an event
we feel has ever more to offer in reply to our questioning and
challenging times.
------------------------------------------------------------
Colloquiums:
  Metamorphosed Fields of Knowledge:
    What Kind of University Will Emerge?
------------------------------------------
Our changing society has reached a critical level of
transformations: not only have our classic paradigms been abandoned
in favour of newer ones, but our very "mentality and behavior" have
been, in the same fashion as our most firmly established
institutions, thoroughly shaken. Ideas and actions today are
conducted in a trans-disciplinary and trans-pragmatic vein

characterized by dynamism and universalism, and certainly our
universities can hardly do otherwise. The question then becomes taht
of endeavoring to delineate this development. For, over the
centuries, universities have been indissolubly associated with
"knowledge" as the justification of their very existence and
continuation. Now they are increasingly called upon to deal with
"invention", in the form of a future that several networks, such as
the "internet", have set about creating in real time.
-------------------------------------------------------------
Seminar for Instructors:
  The Globalization of Education in
      Mankind's Fourth Stage of Development
-------------------------------------------
Time, that limitless framework where changing existences and a
succession of events and phenomena seem to take place with
irreversible effects, has become the object of philosophic and
scientific deliberation. It remains linked to what we experience
within the course of a single lifetime, and to truths we seem to
apprehend intuitively.

Time-space has, through the theory of relativity, introduced a
heretofore inexistent harmony, modifying our parameters and leading
us to rethink the goals of our existence. These goals seem to appear
on the horizon but, even if we think we can see them, reality in
fact always lies beyond the real.

The cultural, philosophic, ethical and social revolutions instigated
by the cyber-era have set our notion of time-space on its head; they
have affected our philosophy of life, the ensemblee of our notions,
our moral standards, our traditions, our knowledge and certainties,
and our cultural, social, political, and democratic institutions.

The experience our end twentieth-century civilization has acquired
through work and creativity over the eras of agriculture, industry,
and the service sector, remains a precious asset we would do well to
place in the service of a new era - mankind's fourth stage of
development - when, hopefully, our knowledge, sensibilities, ethics,
and feelings of solidarity will have become global in scope.
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        |   LEONARDO DIGITAL REVIEWS    |
        |          JULY  1996           |
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                    Editor:Roger Malina
          Coordinating Editor:Kasey Rios Asberry
        Editorial Advisors: Chet Grycz, Judy Malloy, Annick Bureaud,
                         Marc Battier
Review Panel (includes): Rudolf Arnheim, Marc Battier, Robert Coburn,
Shawn Decker, Jose Elguero, Michele Emmer, Geoff Gaines, Bulat M.
Galeyev, Thom Gillespie, Francesco Giomi, Gerald Hartnett, Paul Hertz,
Curtis Karnow,  P. Klutchevskaya, Richard Land, Barbara Lee, Roger
Malina, Youri Nazaroff, Simon Penny, Clifford Pickover, Sonya
Rapoport, Henry See, Kasey RiosAsberry, Jason Vantomme, Rainer Voltz,
Christopher Willard, Stephen Wilson
=============================================================
<  Journal Review: "Contemporary Art and the Genetic Code",
    Levy & Sichel, eds.  >


Art Journal, Spring 1996, Vol. 55, No. 1.
Guest edited by Ellen K. Levy, with Berta M. Sichel.

Reviewed by George Gessert
1230 W. Broadway
Eugene, OR 97402 USA
Email: mason@mitpress.mit.edu

Since World War II artists have mostly ignored genetics, but this appears to be changing under the impacts of the biological revolution, ecological disasters, and AIDS. One sign of change is that the College Art Association has devoted the spring 1996 issue of its publication, Art Journal, to the genetic code. To my knowledge no art magazine has given so much attention to any aspect of genetics before. The special issue contains a wealth of material on artists who have incorporated genetic imagery into their work. While most of these artists grapple with the problem of endowing genetic elements with more than narrow scientific meanings, approaches vary greatly. Suzanne Anker, for example, explores resemblances between chromosomes and hieroglyphics. Kevin Clarke paints what he calls portraits in which base sequences serve as key aspects of individual identity. Frank Moore uses images of DNA as symbols of fate. Several other artists use genetics for social criticism.

This issue of Art Journal provides an important contribution to discourse with one major shortcoming: "Contemporary Art and the Genetic Code" promises a general overview of the uses of genetic code in contemporary art but is primarily focused upon representation. The editor favors DNA as a topic for art rather than as an art medium. Among the scores of artists mentioned, only three actually deal with living things. The three are Joe Davis, David Kremers and Andrea Zittel. Davis and Kremers work with genetically manipulated bacteria, beings so minuscule that in the context of art they tend to function more as concepts than as organisms. In 1993 Zittel used live chickens in an installation that was less about breeding birds than about Social Darwinism. There is no mention of Helen and Newton Harrison, or of the numerous ecological artists whose works encompass genetic processes. Vilem Flusser's Art Forum columns on an art of genetic engineering do not receive even a footnote. There is only one brief reference to ornamental plants and pets -- the world's genetic folk art -- and no discussion of its creators such as Luther Burbank who considered his work to be art. Nor does the journal mention Edward Steichen's 1936 exhibit of delphiniums at the Museum of Modern Art, an exhibit that would be more conceptually challenging today than it was when it was held, since the idea that organisms could be art was fairly widespread just before World War II. By excluding such work, the spring Art Journal misses the most important implication of DNA for artists: there are new genres of art waiting to be claimed, including an art of evolution.

Still I criticize with some reluctance. Art Journal has moved into territory that has been ignored for a long time, and entering it is not easy. The extreme trauma of Nazism left artists who would explore genetics cut off from the past, and with few resources to draw upon. Art Journal has helped open the subject again, and for this the editors deserve praise. Anyone curious about connections between art and genetics should read the issue. And anyone seriously interested would be wise to obtain a copy,

because "Contemporary Art and the Genetic Code," in spite
of its limitations, will be an important reference for some
time to come.
================================================================
<  Book Review: "Chaos in Wonderland:
    Visual Adventures in a Fractal World",
        by Clifford A. Pickover  >

St. Martin's Griffin, New York, NY USA, 1995.
303 pp.  Paper, $18.95.
ISBN: 0-312-12774-X.

Reviewed by Istv n Hargittai
Budapest Technical University and Hungarian Academy of Sciences
Budapest H-1521, Hungary.
Email: HARGITTAI@ch.bme.hu

Take an amount of mathematics, science fiction, and
computer graphics; add chemistry and classical literature,
a little at a time, stirring well after each addition until
the mixture reaches a well-defined consistency---not too
soft, not too stiff; sprinkle it with some more traditional
graphic art; and yet another beautiful Pickover book is
ready to be served. Sounds easy? Well, it may be for
Pickover, with his background, knowledge and experience,
but I would warn anybody else not to be very casual about
it.

In one of Pickover's dreams a spaceship, a hundred years
from now, discovers the remnants of advanced life forms on
Ganymede, one of the water-containing moons of Jupiter.
Status in the society of Ganymede's creatures is determined
by the beauty of their dream structures. In this, Pickover
appears to be Eleanor Roosevelt's follower: "The future
belongs to those who believe in the beauty of their
dreams."

The book leads the reader through three different levels.
The first is the level of dreams of many unusual creatures
and structures and interactions. Second is a more sober
level of a computer-mathematical cookbook, which is so
familiar from Pickover's previous works. The third level of
the book is a gentle introduction to the chaos science of
intricate and unpredictable patterns in nature. This is the
most fascinating level and one that has a great deal of
practical relevance, as we would like to understand how
fluids flow, how the stock market operates, what determines
the behavior of social insects and human crowds and, not
the least, how to forecast the weather.

Pickover is eminently qualified for moving comfortably
among all three levels, and what's more, connecting them.
He holds a Ph.D. from Yale's Department of Molecular
Biophysics and Biochemistry, and has authored over 200
papers and several successful books on computers, patterns,
chaos and visualization.

The book consists of three parts. The first presents the
Latoocarfian civilization on Ganymede. The second is a
description of the expedition of a human zoologist and his
girlfriend and their discoveries of bizarre life forms and
technologies. However strange some phenomena, such as the
inorganic DNA, may appear, they are all based on sound
knowledge of basics in chemistry, and in this the book is

also excellent science popularization without being
obvious, seeming forced or being patronizing to the reader.
The third part is then a special Pickover smorgasbord of
curiosities and personal computer uses. It is also here
where the author communicates directly with his readers,
giving recipes and even answering fan mail for his previous
books.

This book can be enjoyed at several levels and its
readership may, as well, be of different backgrounds. The
surprises it contains and the ease of communication give us
assurance that there must be many more Pickover books to
come, and we can hardly wait for them.
============================================================
<  Book Review: "Designing the Future", by Robin Baker  >

Thames & Hudson Publishers
New York
1993

Reviewed by Kasey Rios Asberry
Email: kasberry@sfsu.edu

As the millennium draws nearer those of us in the part of the
world which  divides time into BCE & CE begin to be presented
with evidence of the  apocalyptic end of all we know. Disasters
and tragedies are interpreted as  signs, all problems are seen to
be more portentous than they were even ten  years ago. In any age
cultural manifestations of hope are proportional to  proactivity:
in the post-modern landscape it can sometimes seem that besides
the very young (who are in development of their independence )
and  gardeners (who plant trees) only designers are left
believing in a habitable  future. Perhaps because a similar vigor
is required of the designer to work  through the endless
iterations of a design, for her the idea of FUTURE must be  a
very real prospect.

"Designing the Future", written by Robin Baker, Professor of
Computing at the  Royal College of Art in London, is an
exceedingly hopeful work. Published in  1993, it is an exhaustive
survey of computation's impact upon and evolution  through the
arts.

While computation has been incorporated into more traditional
forms of  expression such as architecture, sculpture, painting,
photography, film &  animation, fashion & textile production, new
arts have developed and new  technologies have grown  from the
hybrids: digital publications (like this one), genetic
algorithms, interactive design and multimedia, neural networks,
object-oriented programming, process data visualization, shape
grammar  and virtual reality. "Designing the Future" also treats
some of the issues which  emerge when computing is viewed as a
medium in its own right and as it  redefines the boundaries of
design where increasingly computation and  design skills are
needed in tandem. Baker's particular enthusiasm seems to  be for
the moments of brilliance which give birth to new disciplines. He
traces  evolution of digital media through such images as the
19th century inventor of  the Jacquard loom (who used punch cards
to transmit and store patterns), Ivan  Sutherland using the
"sketchpad" at MIT in 1962, Xerox's Palo Alto Research
Laboratory production of the Alto personal computer in 1971, line
drawings  made on the computer by Colette and Charles Bangert in
1977, the movie  "Tron", produced by Disney studios in 1981 and
William Latham's drawings  both by hand and computer that explore

the evolution of forms are among  the book's total of 309
illustrations of which more than half are in color.

At this writing in 1996,  the emphasis in "Designing the Future"
upon the role of  computation in previsualisation and
transformation of technology does not  seem askew. Although some
developments that were only on the horizon in  1992, like
browsing the world wide web, have now become household  concepts,
this in no way diminishes the impact of this book. The present
Baker  was writing from was such a definative moment that it is
useful to have a  record of it. Beautifully illustrated,
"Designing the Future" could be used  equally as a history of
technology text or a source of inspiration and tool for
maintaining hope.
================================================================
<  Book Review: "Cyberspace Reflections",
    by Herman E. van Bolhuis and Vicente Colom  >

VUB University Press
Brussels, Belgium, 1995.  222 pp., illus.
$14.50 plus postage.
ISBN: 90-5487-121-0.  U.S.
orders to:
Paul & Company
P.O.B. 44,
Concord, MA 01742 USA
Fax: 508-369-2385.

Reviewed by Mit Mitropoulos
11 Elpidos Street
Athens 10434, Greece.

Since the age of six I have known that in matters of
survival, beyond fight or flight strategies, networking
provides another way out. Neither traveling nor
telecommunication were easy in post-World War II Europe,
but today the freedom to move in space and to communicate
in cyberspace should be enough to satisfy most network
users and exhaust a good many of them in the process.

That is, before the U.S. National Security Agency (NSA)
closes in on you and your fancy encryption, if it is
perceived to be a potentially disruptive influence. After
all, this has been the American way, hasn't it? And it was
good enough for me, when reaching the Boston area in 1978
(coming from Athens, via a Warsaw experience) - I planned
on one year and stayed seven creative ones.

"Cyberspace Reflections" is a combination of concerns and
reportage on the cyberspace scene, including retrievals
from the Wired Web info server. In the Introduction, the
authors tell us that "this report aims at outlining major
points of concern of the coming information society." (This
it succeeds at). "Differing from the scientific or other
classical approaches, this is done sometimes in a
provocative way." (This is partly true, because who says
that a scientific approach has to be less classical -
meaning less conventional and therefore less exciting than
"Cyberspace Reflections" really is?) Eight well-organized
chapters later, we have an extensive section called
Conclusions which read more like recommendations. And
although "this report reflects the personal points of view
of the authors, not necessarily those of the European
Commission" (EC), this report has come out of the EC

itself, specifically the EC Social Research Unit (SRU). The preface is by Riccardo Petrella, head of the SRU, and founder of the Group of Lisbon (which addresses planetary concerns). Currently both he and the two authors have found themselves outside the EC. And the SRU program has been discontinued - a disturbing fact. Why so? Read on.

The internationalization of the economy in the early 16th century was due to the Fernao de Magalhaes expedition circumnavigating the earth and to the typography boom. Today's financial globalization has Japan, North America and the European Union (EU) electronically interconnected. The authors don't tell us, but the EU (far from being a federal United States of Europe - it may never be) is the sum of 15 nations (with 12 more as candidates for joining up, one of which has for the last 22 years invaded half of the territory of one other). The EC is connected directly to the European Parliament and the Council of Ministers. A fourth institution, the European Council, connects to the Parliament via the EC and/or the Council of Ministers. (The European Council must not be confused with the Council of Europe, created in 1949, which deals exclusively with Human Rights - and which in the 1970s and very early 1980s carried out excellent work on information and communications technologies, and related social issues.) The EC is the worldwide representative of the EU and monitors the application of Community law and treaties. It also makes proposals towards new policy - detailed in "Cyberspace Reflections".

It is no secret that European governments and financial and business organizations depend on the U.S.A. for country credit worthiness surveys. It is a Wall Street duopoly that will inform us in Europe on who is creditworthy around the world---and in cyberspace. The authors are right to report that "unlike with Europe, cyberspace is an accepted concept in the U.S., and that the societal implications of it are discussed very profoundly." I cannot but nod in agreement, but also add: "not as profoundly as necessary, not as soon as it was possible, and not driven by a vision that doesn't avoid social exclusion."

What the authors repeatedly are wishing for are appropriate policies "which should aim at designing, setting defaults and frameworks for the future." Unfortunately, again we are not given examples from the EC's own activity. I'll give you one, from a 1994 Brussels meeting (10 - 11 October), where the assigned study "Euro-ISDN, Social and Societal Impacts" was presented [1]. Surprisingly, there was no policy parameter included. I raised the issue and got no satisfactory answer. Nor do the authors provide us with an example of a relevant policy now or in the past. I'll stick to the long sequence of UNESCO studies in the late 1970s and the UNESCO MacBride report itself. Although at the time it wasn't called "A Policy for Cyberspace" but "A New World Information and Communications Order," it posited that by today we would have not only our Internet Multiple User Dungeons (MUDs), but we would also have vision, too. However, the United States government at the time, seeing the danger of losing control of planetary communications to a United Nations organization with a strong Third World presence, pulled out of UNESCO - taking its funding along with it and thus producing the expected operational vacuum, of terminal impact on UNESCO itself. Had all of this not

happened, the world would be a better place now, if only because at the time there were far fewer complex vested interests than there are today.

The authors are right to claim that "cyberspace is neither a marketplace nor a service area." But they are wrong in blaming it all on the marketplace. Is it not true that protective systems at best see the future in terms of the present? Of course we want a society for people and not for economic indices. But how many state monopolies can repeat this and keep a straight face? An example: I was discussing the case of a major European city with a representative of the Belgian national telecommunications operator (now partly deregulated, after failed efforts to act as an oligopoly). "We don't need a Teleport there," he had insisted, much to my dismay, "but, if a Teleport is to be had, then we will be the ones to do it."

And we must not forget that "social exclusion" is not a new phenomenon, it is only a new term: anyone who has tried to innovate in a protective system has suffered the consequences. Those living in the remote human settlements of the Aegean Polynesia (part of the EU, no less) know it. They were and remain socially excluded, for the lack of an appropriate telecommunications policy. The centralized government attitude could afford to dismiss my 1982 proposal for a "University of the Aegean as an Electronic Interconnection." It was evaluated as possible "for the year 2015," and the university was consequently planned in the traditional form of a university today; it is now making only timid networking efforts.

Reflecting on cyberspace, the authors put too much emphasis on technology and too little on physical space and European lifestyles. Wouldn't current lifestyles have to invent telecommunications if they weren't already in place and lately merging with informatics and broadcasting? And how can we ignore built space and behavior in it, especially when researching virtual space? Can we not sum up our social concerns as whether cyberspace will become a space concurrent with physical space (at what cost to us, and with what separation of tasks)? Or will it be a space periodically visited (and by whom)? Or, will it become a substitute space, if the affordability of physical space keeps failing us?

The Internet is a success, OK. It is both a "response" and an interactive system. And cheap. And worldwide. But shouldn't we stop gaping at it as a phenomenon and ask: Is it only for the love of information retrieval and the natural human urge for communication? Or will it become like Venice in February's Carnival season, a city-wide commedia del'arte (only that this electronic counterpart would be an all-year-round event)? Will cyberspace become the only space where anyone can hear us scream?

Reference
1. SEMA Group, DG-XIII/A (Ref AC 8969/6) September 1994.
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<  Digital Review Notes  >

Leonardo Digital Reviews (LDR)
http://www-mitpress.mit.edu/Leonardo/ldr.html

is an electronic review journal published regularly as a section of
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and concepts from contemporary science, the cultural dimensions of
science and technology and the work of scholars and historians in
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<  End Leonardo Digital Reviews  JULY 1996  >
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<  "FRACTAL HORIZONS: The Future Use of Fractals"  >

Edited by Clifford A. Pickover
St. Martin's Press: New York. ISBN: 0-312-12599-2.
Publication Date: July, 1996 -- Just published!

The latest book edited by Cliff Pickover is called "Fractal
Horizons:  the Future Use of Fractals", and it gives an account of
the state of the art and speculates on advances in the 21st Century.

Since the book is filled with beautiful images, a strange array of
topics on art and science, and computer/mathematical recipes, it
should have broader appeal than most scientific books. The book will
appeal to computer artists and traditional artists, computer

hobbyists, mathematicians, humanists, fractal enthusiasts, scientists, and anyone fascinated by unusual ideas and optically provocative art.

Some contributors describe the challenges of using fractals in the classroom. Others discuss new ways of generating art and music, the use of fractals in clothing fashions of the future, fractal holograms, fractals in medicine, fractals in boardrooms of the future, fractals in chess, and more. Frequent glossaries should help ease new readers into unfamiliar waters. Most of the ideas expressed in this book are practical and are either currently being implemented or will be implementable within the next decade. The goal is to provide information which students, laypeople, scientists, programmers and artists will find of practical value today as they begin to explore an inexhaustible reservoir of magnificent shapes, images, and ideas.

Preface

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           |   ANNOUNCEMENTS   |
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< ASCI INTERACTIVE >

Cynthia Pannucci
ASCI
Tel: 718 816-9796
Email: asci@fly.net
URL: http://nttad.com/asci

On July 26, 1996, Art & Science Collaborations, Inc. (ASCI) launched
"ASCI INTERACTIVE" as a new segment to its website}
http://nttad.com/asci. This represents a new, international venue
for interdisciplinary dialogue  about critical issues in the field
of art & technology. "ASCI INTERACTIVE"  is a "work-in-progress",
starting out with an informal Bulletin Board  style of interaction
to determine the level of interest and then the best  interactive
mode for this discussion.  Several ASCI artists from around  the USA
have been invited to initiate this dialogue by posing questions
germain to their specific area in the field.

Here's how "ASCI INTERACTIVE" will work:  Each question will have a
number and at the end, you may answer a specific question by
clicking the  red triangle next to the ASCI email address to send an
email response.  Your response must be kept to...10-15 lines in
length (longer will be  cut). Questions will be posted once at the
beginning of each month and  responses will be posted on a weekly
basis. In addition to hearing from  artists in this field, we
welcome and look forward to questions and  responses from people
from "all walks of life" who are interested in the  intersection of
art/science/technology.

Primarily, we are encouraging a discussion about issues of CONTENT,
acknowledging that issues of technique are often inextricable from
the  former.  Other Bulletin Board topics will include: "Nuts &
Bolts"  (technical questions), "Looking for Collaborators", and
"I've Got It/ You Need It" (classifieds).

It is ASCI's hope that "ASCI INTERACTIVE" will become an important
tool  for illuminating and documenting timely and critical issues
and provide a  sounding board for the many and diverse voices from
both inside and  outside the field of art & technology.  Please join
in!

The ASCI Homepage is sponsored and maintained by NTT-AD, USA.

ASCI
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ASCI is a members non-profit organization based in New York City,
whose mission is to champion interactive kinetic and technology
based art and to encourage collaboration between the art and science
communities. To support this effort, ASCI is devoted to:

*  Providing access to technical information/assistance/resources

*  Constructing opportunities to build public awareness and

appreciation for member's art and

*   collaborative projects through public exhibition, publication and
presentations.
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            |   OPPORTUNITIES   |
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< Tisch School of the Arts seeks a Manager of Computer Services  >

Tisch School of the Arts Personnel Services
New York University
Attention CM
721 Broadway, 12th Floor
New York, NY 10003
Fax to (212) 995-4610
Email to alislam@is2.nyu.edu


New York University's Tisch School of the Arts has a challenging and
rewarding opening for an experienced Manager of Computer Services.

Responsibilities include:
*   Administer the compilation and use of school-wide information and
statistics by writing database application programs and developing
and maintaining databases.
*   Conduct research in the areas of enrollment history and trends,
personnel statistics, deployment of resources, class size and
classroom space utilization, etc. for use in the evaluation of
annual departmental budget requests and future planning by analyzing
information, making comparative studies, and generating reports.
*   Facilitate computer and information systems support for Tisch
School of the Arts and provide ongoing analysis of effective use of
its resources, including online functions.
*   Act as liaison with School and the University's Academic
Computing Facility.
*   Plan, implement, and maintain the Schools LAN network.

Requirements include:
  Bachelor's degree in Computer Science or related area.
*   3-5 years administrative experience including database management
and programming.
*   Experience setting up and administering a network.
*   Ability to develop and maintain systems.
*   Familiarity with marketplace products and services.
*   Proficiency with current Windows-based software, hardware, and
related products.
*   Background in statistics and experience using Lotus 1-2-3,
Access, Excel, Quattro Pro and Fox Pro or Ramis preferred.

Salary: low to mid $40's.  Excellent benefits include free tuition
for self, spouse, and children, medical and dental insurance, and
generous holidays.

Send cover letter and resume to: the address listed above.
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Back issues, submission guidelines and LEA Gallery files are
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