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CONTENTS

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          |   INTRODUCTION     |
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< This issue >

                          Craig Harris

This month the feature article and profile comes from the same World
Wide Web site - Basilisk. This is a site that merits attention, as
it contains high quality content with a high degree of attention to
design and presentation. I thoroughly enjoyed perusing the graphics,
reading articles, and thinking about the issues raised by the site
participants. The site as a whole contains a fascinating balance
between the theoretical and the practical. The article "Cinematic
Thresholds" by Ed Keller addresses issues of duration as a main
feature for considering the impact of virtuality on perception and
memory, drawing relationships to cinematic techniques.

Two events are taking place at University of Art and Design Helsinki
UIAH - the 3rd International Conference on Design Management, and
Managing Urban Change Gateway II. A profile of UIAH and the event
descriptions provide a view into the activities of this active media
arts facility.

Leonardo Digital Reviews provides a diverse collection of views on
current audio CDs, CD-ROMs, and books. We have several
announcements, some of which require immediate attention if there is
interest in participating.
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          |   FEATURE ARTICLE    |
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< Cinematic Thresholds -
   Instrumentality, Time & Memory in the Virtual >

Ed Keller
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NYC 10013

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Email: mantis@basilisk.com
URL: http://swerve.basilisk.com/C/CineThressH_966.html,

[Editor's Note: The article presented here is Section 1 of a longer
article, the full text of which can be found on the author's Web
page listed above. It is published here by permission of the
author.]

THE VIRTUAL
I would like to begin with a mise en abyme, a meditation on the
nature of the virtual which will throw this essay through its entire
trajectory and deposit us in a place where a more detailed
development of each of these concepts can occur. As a starting point
I find the formulation of the virtual that Deleuze gives us via
Proust fascinating:

'Real without being actual, ideal without being abstract.'
  p96, Bergsonism

This understanding of the virtual insists upon its operative nature;
moreover, the operative nature of something that is not, most
likely, visible. It is used by Deleuze within the context of the
performance of memory as a force that conditions our perception
ineluctably and shapes us as subjects. In Deleuze's investigation of
the subject through Bergson's idea of memory, virtuality is the key
realm within which memory locates itself.

1.1 The Threshold
The role that the virtual plays in its intersection with time, with
memory, can be described by a performance value that will be
initially termed the Cinematic Threshold. The term, which I take
from Deleuze, reminds us of a spectrum of instrumental qualities
that are identifiable in film and in photography; as well as in
techniques manipulating space, and narrative. The cinematic
threshold is a revealing possibility in film, which exposes the
previously unseen and unthought. As such it maintains an
instrumentality that has a direct effect upon the configuration of
our subjectivity; it gives us more than an expanded lexicon; in
fact, the main theme that this paper develops is that there is
inherent to this cinematic threshold a certain quality that involves
us as viewers/participants in such a way that duration is invoked.
This is built into the method of the cinema, and to varying degrees
into each technology that we live within. So the description of such
instrumentalities will be our focus.

1.2 The Invocation of Duration; Speed's role in relation to
Duration
One of the special relations developed by the Cinematic Threshold is
the involvement between time and certain instrumentalities. As it
performs at the limit condition of our retinal capacity, it invokes
time in a particular way which we can call duration (following
Bergson). Speed is invoked, as well, for the varying speeds and
slownesses present around the cinematic threshold (the slow mo/ the
closeup/and so on) extend the retinal limit in a way that would be
previously outside of thought. Speed's relationship to time will
take on a larger significance (this connection can be developed via
Bernard Steigler's analysis of Nietzsche) in the action that memory
plays in configuring our perception, our subjectivities, because of
the concern that has been revealed vis a vis physical limits r/e
time as the area into which perception descends.

The main trajectories of this investigation are thus revealed. Our
concern is, then, with the configuration and extension of

subjectivity, via the virtual as the chief realm for those configurations.

1.3 OPERATIVE FICTIONS...(who ever said I was writing anything but fictions...)

Note the model of subjectivity in William Gibson's Neuromancer, Count Zero, and Mona Lisa Overdrive. The individual's perceptual field is not restricted to their own library of experience, nor to a purely retinal model. Telepresence thus becomes legitimized as a realm of experience along with the retinal, and the haptic, in such a way that the individual's extension into the virtual is a commonplace. As well, their access to libraries of other's experiences is a field that extends their personal subjectivity in much the way that our current technology of the hard drive and the Internet might be said to functionally extend our memory, creating a deployed subjectivity. This point assumes not that our subjectivity was ever purely localized, but that the instrumental qualities of our current technology allow a new form of an already existing deployment. The importance of this example is twofold - it opens the question of the virtual as always having been present in the operative of any instrumentality, however concrete - and it simultaneously notes the instrumental peculiarities inherent in Gibson's understanding of virtuality.

As noted above, there is an affiliation between the performance envelope of film, which evolves from its particular instrumental characteristics, and Bergsonian duration. A favorite example of another discipline employing the explicitly operative virtual is the work of Max Ernst, specifically his collage novels, which have been the subject of some attention in Krauss and Foster. I use Ernst as an example of a somewhat different understanding of the collage as model of hyperplanarity/inchoate becoming animal, and thus a perfect site for an understanding of virtuality. This argument depends upon an understanding of the surface of the image in Ernst not as a site for a purely psychoanalytical or textual decoding, but as a field of intensities that invoke the inchoate and the savage. Andrew Benjamin's term 'timing' captures the element of this new form of savagery well in its understanding that the work of the work is to TIME: to throw the subject into duration.

1.4 CGI/CAD

This is a realm that is close to home for us as architects, but also for the modern filmmaker. Questions of 'presence' will be opened here, vis a vis the interface. It is linked in my mind to the development of modern computer games, which are one of the primary examples of an extension into cyberspace of the operative realm of the virtual in a way that is specifically spatial (as an extension of the subject into a virtual space through telepresence). Marathon, a new game for the Macintosh platform, is a good example.

1.5 POWER

Power is coursing through the virtual in its inflections of our everyday freedoms. Any understanding of the virtual must take into account the matrices of power that bound its practical and passionate uses. The issue of power may be understood via its two aspects developed by Deleuze, Guattari, and Foucault: puissance and pouvoir. As Brian Massumi clarifies:

'Puissance refers to a range of potential...It may be thought of as a scale of intensity or fullness of existence...puissance pertains to the virtual, (the plane of consistency), pouvoir to the actual (the plane of organization). D&G use pouvoir in a sense very close to Foucault's, as an instituted and reproducible relation of force, selective concretization of potential.' -1000 Plateaus, p xvii

The relation of power to the virtual takes on tremendous force
within the Internet. Between the dialogic formation of subjectivity
and the instrumentalities of cyberspace can be found one potential
escape path from some of the matrices of power I will touch upon.
There are conditions which can be drawn from cyberspace and mapped
onto other disciplines, as well, so one is not limited to
cyberspace's constrained virtuality; however, my main theme
recognizes that our society is moving increasingly into the
technologized virtual, into a composite or cyborg condition;
therefore, I feel it crucial to theorize techniques of the virtual
for this deployed base. It is important to note, as well, that
computers and the Internet itself accelerate techniques of
surveillance, and provide powerful tools for cataloging individuals.
This aspect pervades the uses of the computer and has sinister
overtones at best. In theorizing the Internet then, these aspects,
which deploy a truly crushing kind of panopticism against the
individual, must be considered carefully.

The techniques examined here, within these contexts, do suggest at
least the mention of the word resistance. However, I use this word
with caution, not seeking to proffer examples of what I consider
useless revolutions that we have seen in the past, but to think
through the problem in the way that Walter Benjamin devoted himself
to mechanical reproduction. This paper's trajectory is an attempt to
extend the theories of Deleuze & Guattari, Ensenzberger, Bahktin,
and Baudrillard into the consideration of the dialogic as it irrupts
in games like Marathon, and across the World Wide Web. Crucial is a
theory of the virtual from a viewpoint which assumes not an
independent subject, (even in the virtual) but a dialogically
configured subject; and one that does not cast aside the elements of
aura that Benjamin struggled with, but was unable to incorporate
into his socialist schema for mechanical reproduction. Lest anyone
cry global village here as a riposte to these issues, let me hasten
to add that simply having global telecommunications broadcasts is
NOT enough.
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             |   PROFILES   |
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< Basilisk: a quarterly journal of film, architecture,
    philosophy, literature, music, and perception >

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PRECIS
Basilisk was conceived in 1994, when I and several other people
realized that the World Wide Web had reached a critical point as a
communicative media. This came after several years of reading Mondo
2000, Wired, and the like, thinking about technology in relation to
society, and also after three years on my part as a consultant to
architects, doing renderings on my SGI using Softimage.

As an online publication, basilisk is a response to the wide
bandwidth, dialogic nature that we feel the internet has finally
achieved. We will be releasing updates every few weeks, with full
revisions every three or four months. Our content includes essays

and projects addressing architecture, urban studies, philosophy, cinema, theory, cultural criticism, literature, the medical practices, music and the arts. We are accessible around the world on the internet using World Wide Web browsers, preferably Netscape.

Basilisk will be issuing several special editions in 1995. Although it may be too hasty to predict exactly what these will be, we are negotiating with several architectural publications to deploy previously published work on the internet, and to mount special issues documenting conferences as purely internet based events. These endeavors are in keeping with our editorial position, which aims to foster and assist the development of a critical media theory vis a vis the world wide hypertext environment encountered using the World Wide Web. We are also designing an interface that incorporates web forms and other deployable interfaces, possibly even a separate application, for navigating both our content and other sites on the WEB. We consider the creation of a dialogic environment which addresses the capabilities and specific instrumentalities that are brought into play by the WEB to be of utmost importance.

There is a loose organizing structure to this first release of basilisk, that gathers itself around the category of the virtual. Not necessarily 'Virtual Reality', as current hype understands it, but other operative realms of the virtual which have existed within technologies of representation, language, and production.

These issues in representation are addressed by Andrew Benjamin in his essays on Blade Runner and Deleuze – 'At Home with Replicants' and 'Time, Question, Fold' vis a vis film and other realms of the virtual. His piece on 'Blade Runner' looks at the economic/political and power structures implied by architecture in the film. In his piece on folding he examines Deleuze' relationship to the virtual via the investigation of the fold and questions issues of complexity when employing the fold as a concept/process.

In 'Composite Modernism' Sean Daly opens up a new line of inquiry on the work of Oscar Nitschke and Paul Nelson, in early C20 Paris. He focuses on the intersection of architectural, political, and industrial sensibilities and forces in the work of these two designers: and specifically challenges previous readings of their work by developing an analysis based on programmatic concerns, in contrast to the school of thought developed by Rowe that stressed the visual in the development and manipulation of architectural form.

In Tanuja Desai's 'A Drink with Angela' we meet a young man who is entirely configured by a series of obsessions (desiring machines) latent or pathological; these fields of subjective intensity, hyperplanes of personal becoming, diagram the provisional nature of subjectivity and question the distinction between truth and fiction. The description of instrumentalities which generate such pathological/latent intensities is a question that lies in the background of the story constantly and is the project of all the works in this issue.

We find again an interrogation of the machinic in relation to the evolution of form in Greg Lynn's essay 'The Renewed Novelty of Symmetry.' One of the closing arguments that Lynn makes stresses the need to develop new ways of understanding context (architectural and otherwise) as fields in constant dynamic movement, in an intricate exposition taking us through theories of biological evolution. The implications of these reconfigured techniques for understanding the performative aspects of the growth of form (biologically and architecturally, but with clear isomorphisms to what Focillon had

earlier developed as the 'life of forms in art', and that can now be understood to apply to economics, the development of language, and so on) are taken up in Ed Keller's piece on 'Cinematic Thresholds' where he continues the trajectory Benjamin and Lynn set up in an attempt to link specific techniques in Cinema and the Web to tendencies in the formation of subjectivity. Various instrumentalities explored in this piece are investigated in Keller's animations as well.

Peter Macapia's essay 'Some Notes on Reversible Perspective: Part I, Sensation as Sign' looks with microscopic detail at a moment in history when the mechanics of binocular vision were being debated, and dissects this series of debates for their implications on the way that subjectivity would henceforth be reconsidered. Through the combination of minute analyses of the question 'exactly where does seeing/perception occur, and what are it's mechanics?,' with issues of the configuration of the subject through language, and representation in general, he develops an alternative map of the generation of modern notions of the seeing, perceiving subject.

In Perry Hall's exhibition 'Black Light Market', subjectivity, memory and the creative process are likewise interrogated through what Hall describes as 'alchemical processes'. The surface of Hall's work becomes a site for complex processes of construction, and then interpretation. This concern with process and an investigation of the results of a partially automatic process have resonance with the work of Greg Lynn FORM. This office arrives at architectural form based on a series of generative moves that result from programmatic and formal site analysis. Again, the question which initiates the process asks what forces produce the 'work' that the project will carry out; in Greg Lynn's case, the office identifies programmatic moments and begins to extrapolate architecture based upon conclusions about the 'work' of the project (cf. Lynn's text.) This process informs the conceptual orientation of the operative voids project, by Ed Keller and Gregg Pasquarelli, which identifies instrumental characteristics and results pertaining specifically to urban void and derelict space.

There is a kinship between some of the issues raised above, especially Greg Lynn's recent use of computers as an analytical and generative tool (cf. Yokohama, Port Authority), Ed Keller's similar methods (cf. urban cuttlefish), and the work of FTL / Happold, who use a computer program called Tensyl to do finite element analysis of the tent forms they design. These forms in fact often owe a great deal to the force analyses that Tensyl produces. As well, there is a rethinking of the nature of architecture as a static presence in society, in much of FTL / Happold's work, which is flexible, light, open, and often employs fabric. There are implications in the way that these 'permeable' forms can be understood to function as attractors (read chreods; cf. Waddington) for specific programs, such as events/concerts/transportation and the like.

Antony Widoff's CD 'scissors', which we excerpt courtesy of the artist and Musette Records, employs alchemical and aleatoric processes in the use of sonic objet trouve (the answering machine tape from an unknown caller), which are then highly refined. There is a sensibility which parallels Hall's use of decalcomania as a starting point.

Leslie Shih's serial 'v e l l e i t y', which will be unfolding over the course of this year, takes a cynical look at the issues surrounding power, surveillance, and the architectural and film worlds. He uses an exposition on framing vis a vis the word and image which links to the configuration of the subject and the body

politic.

Pellegrino D'Acierno makes connexions between the realm of the
Virtual and the performance aspects of Venice as an urban landscape
in his piece 'Venice Virtually'. This piece will be online in May.

BECOMING ANIMAL / BASILISK
Basilicus basilicus is a small tropical american lizard that has the
curious ability to run on water, due to it's light weight and great
speed. This lizard perches on tree limbs over rivers, and will also
dive to the bottom in moments of danger. The name 'basilisk',
however, also invokes a mythical creature, possibly bred by a
serpent from a roc's egg, which has fatal breath and whose visage
turns one to stone. We have adopted the basilisk as our mascot due
to it's material concerns and abilities - diving into and running on
water, though a land creature - and it's mythical overtones. As
well, our concern with the multiplication of subjectivity in both
our daily lives, and technologically across the WWWeb, is invoked by
the becoming animal that the basilisk is. The becoming animal, which
we use here as a more accurate model of our human subjectivity, is
thus embodied by the Basilisk.

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The history of UIAH dates back to the 1870's. Since then UIAH has
played a major role in developing culture, industry, education and
research in Finland. Its graduates Wirkkala, Sarpaneva, Nurmesniemi,
Franck, Ratia, Kukkapuro, Tapiovaara, Rantanen, Wiherheimo,
Salovaara and Lindfors have contributed greatly to the development
of design in the 20th century. Today UIAH is an international
community of 1500 students and 400 teachers from more than 30
countries offering BA, MA and Ph.D. degrees in 17 disciplines,
ranging from industrial design, design leadership, design
management, graphic design, film and TV, new media to fine arts and
art education. UIAH collaborates with leading design colleges and
universities in Europe, North and South America and the Far East.
Equipped with all the latest technology, spacious studios and
laboratories, the University provides students with ideal conditions
for creative work and advanced research.

The character of UIAH is reflected in the two upcoming events being
hosted there in August and September:

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The Challenge of Complexity  - 3rd International
Conference on Design Management
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Conference dates: August 21-22, 1995

The demanding challenge for designers and managers of design is to understand the consistent components of complex dynamic realities. Operating effectively in these realities is based on the understanding that complexity cannot be controlled, but navigated through. The 3rd International Conference on Design Management titled The Challenge of Complexity aims through a set of interrelated themes at:

+ Offering instruments, tools and processes by which to navigate in complex corporate, consumer and competitive realities.
+ Assisting organizations improve the initial but critical stages of the design and new product development processes.
+ Emphasizing the strategic importance of design (i.e. the planning process) as a cross-disciplinary, integrative learning activity.
+ Providing a rich educational forum at which leading thinkers/practitioners from diverse but related fields view complexity as an opportunity to develop new products, markets, ways of thinking, organizing and doing business.

The conference is intended for business practitioners, design professionals and educators interested in leveraging design resources for sustainable competitive benefit. Based on previous design management conferences at the UIAH, an international audience of some 200 persons is expected.

Conference themes include linking vision to capabilities, strategic design planning, design for product integrity, change in consumer values, imagination and organization, and design and organizational learning.

Workshop - Scenario building as a design tool
August 14-20, 1995

The Savitaipale Pre-Conference Workshop is coordinated by Professor Raimo Nikkanen. Schools from all over the world are invited to join the workshop, preferably with teams comprised of one professor and three students. During the one-week workshop students will create a strategic plan for the development of a nearby village Ylama, using a method of future scenario building. Ylamaa is a small rural village situated in south-east Finland. The village is famous for its minerals, specially Spectrolite (blue stone) which is utilized by several small local arts and crafts companies. Finland's membership in the European Union since the beginning of 1995 and the vicinity of Russia and its expanding markets offer unexplored possibilities for visionaries both in the field of business and design. What could the concept be for the successful development of this small rural community?

Deadline for registration and payment is July 31, 1995.
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Managing Urban Change Gateway II
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Conference dates: September 14-15, 1995

As the traditional forms of economic growth have lost their power, design, architecture, art and culture are becoming catalysts in the revival of cities. Consequently cities are going through dramatic economic and cultural changes that demand completely new ways of

management. In order to come to terms with this different economic and cultural climate, they have to embark on new processes of urban development. This new type of development incorporates a holistic vision of the city and balances the interests of both the public and private sectors of society.

The conference "Managing Urban Change" in Helsinki concerns the understanding of contemporary urban dynamics, and exemplifies reactions of cities to this new economic condition. The conference addresses design, architecture and urban management as agents of change. It introduces the strategic planning debate currently going on in the Netherlands and in Germany as a flexible reaction to the traditional master planning of cities. It further includes cultural planning as a British approach to innovation in urban development. A link to urban studies and contemporary cultural theory will be made through Scott Lash. Euralille will feature as an important case, but also Glasgow and Rotterdam will be highlighted as cities that have gone through remarkable physical and cultural transformations, fully supported by their population.

Registration and payment deadline is August 31, 1995.
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                |  LEONARDO DIGITAL REVIEWS  |
                |       JULY    1995         |
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< CD Reviews: 'Tuba Intim' & 'Wreckin Ball', by Michael Vogt >

Michael Vogt
 Tuba Intim
(RR 1994)

Reviewed by Curtis Karnow
Email: karnow@cup.portal.com

"Berlin. Mister Vogt with tuba in a traffic thrombosis." That's the first line of the liner notes, and it's as accurate as these things go. Mr. Vogt plays the tuba, a big metal bell out of proportion to other instruments. So the liner notes suggest; but these pieces give full play to the tuba in varied contexts, each of them successful: from a pair with another golden bell to piano, to the accompaniment of small percussion bird-leg like instruments, Mr. Vogt leads his Tuba into every nook and sound cranny. He makes these fit.

Pieces span the range of the modern: from Strawinsky's Elgie (1994) past Raymond Luedeke's 'Wonderland Duets for two Tubas and Narrator' (1971)(in staccato German) and Morton Feldmen's lovely 'Durations 3 for violin, tuba and piano' (1961), to Lurz Glandien's 'Aus Verstreutem ein Ganzes' (1992), Vogt moves from the solo pure wind

sound of the tuba and piano to the augmented sound of sounds bubbling in water, twisted with electronic reconstructions. His style is catholic, light on the lips and fiercely explosive; he moves from the early morning streets of Berlin in his first piece, his "homo ludens", to Glandien's slow krashmetal saturnic bar music. A wonderful exploration.

The Hub,
'Wreckin Ball'
Artifact Recordings 1994

Artifact is based in Berkeley (info@artifact.com) and assists in the creation of experimental and electronic music. Artifact has now brought out The Hub's collection of 'network' music: six folks plunked down at their networked synthesizers, all data exchanged in real-time; the music heard emerges from the acts of the six and their (interacting) software, for every player programs in advance in a way (ones hopes) that conforms to the 'character' of the piece.

The idea - sound fabrics emergent from a network -- is timely: as Tim Perkins accurately reminds us, 'networks have a degree of complexity which prevents us from 'controlling' them any longer: we have to participate in a conversation with them.' This is not 'computer music' as silicon chiphead music, i.e. the sound of bussed electrons, grinding harddrives; rather, the output here is all MIDI, based on the Opcode Studio 5. Here, the influence of the computer is its networked abstraction: each piece uses information in a different way. Generally, a signal is sent as a transformation of a received note -- and the transformation rules vary; sometimes a set of pitches is set on a section by section basis; in another piece (Tim Perkins's 1991 Wax Lips) a lead player sprays the network with a multitude of requests and generates unpredictable responses, ranging from utter chaos to a slow, trickled-out death from the networked contributors. The technique, as it were, sounds great; we only wait for more sophisticated programming, or, better: for a thousand nodes, bouncing information around in hidden layers before its release, emergent and refined, from the net.

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< CD Review: 'The Last LP CD -
  Unique last recordings of the music of ancient cultures',
  assembled by Michael Snow >

Originally released in LP format, 1987.
Compact disc re-issue, 1994.
Art Metropole #1001

Reviewed by Axel Mulder
Email: amulder@move.kines.sfu.ca

This CD includes a booklet of the extensive ethno-musicological texts that were originally published on the LP jacket. The text on the back of the jacket informs us that "The title of this album refers to the disappearance of the 33 1/3 rpm microgroove vinyl/stylus format. This recording was issued in the last days of the LP and was conceived of then as an investigation into the effects (both negative and positive) of "Western" recording technology on the world's few remaining, at the time of recording, ancient pre-industrial cultures. Technological forced obsolence (in the case of sound recording: wax cylinders gave way to 78 rpm disks, to 33 1/3 LPs to various magnetic tape systems, to the CD) interestingly resembles the effects of the technology based societies on the ancient traditional cultures. The extraordinary rare performances on The Last LP, drawn from the pre-historic traditional musics of Tibet, China, India, Siberia, Finland, Brazil

etc. continue to exist only through the medium of recording."

I find this "disappearance" somewhat exaggerated, since I know people who are still very active users of vinyl and regularly buy LPs. Since they are vinyl freaks, they tell me vinyl is having a comeback again, but I don't know whether that concerns new releases as well.

Then the analogy that is drawn between this "disappearance" and the effects of the technology-based societies on the ancient traditional cultures is not very appropriate I think. For one, I don't think that cultures "disappear", they assimilate and merge with other cultures. If I look at my own mother tongue (Dutch), I must conclude that it reminds me of all kinds of other (recent and older) cultures. Certainly musical culture develops with strong ties to the past and other (related) cultures. We are at a loss as to what our cultural identity really is, due in part to the vanishing of geographical boundaries on the internet, but due more directly to the fact that traveling is so easy and products are marketed worldwide. There is much use of musical material that originated from times when there were cultures that exhibited a strong identity. These musical materials are not used in their original context, but they do communicate something reminiscent of that culture.

Having said this, some remarks on these musical materials follow: (11 excerpts and pieces, some of which I found very extraordinary indeed) I am not an ethnomusicologist, but I do have some experience listening to rare musics. There are some recordings that I found to be of bad quality or rather acoustically uninteresting. However, it is obviously not the intent of Mr. Snow to show off musics and sounds of incredible hifi quality, but to make available a (partial) experience of an event that is hard or even impossible to be experienced today. Nevertheless, I did find the quality of one recording in particular too poor to evoke the associated (virtual) experience. Some recordings are really only interesting because of the cultural tradition they represent, most notably those that involve speech. As mentioned above, the musics are taken from all over the world, and this makes the CD all the more interesting. There is ample information about the cultural traditions in the accompanying booklet.

It is particularly interesting to listen to the musics to establish whether any "spontaneous" memory, such that it feels "natural" is evoked. How much of these musics do relate to our current (musical) culture? I don't pretend that my taste is representative of current musical culture, I did find one piece very inspiring. The piece was from Bhutan, performed by 12 monks of the Kagyupa sect. It was called "The simultaneous welcome of Amitabha" and started with the sounds of cracking wood (fire), little bells. Then, after some hesitation, a variety of inharmonical trumpet-like sounds sustained for a long time (they use circular breathing), building up tension or "meditative spell" that is released at the end by glissandos and other impulsive wind instrument sounds. Quite complicated timing is achieved without any apparent (physical) timing mechanisms. The booklet explains further that the piece is based on a sacred principle: "fire lives on air as do human beings".

From a sound designer - or a person interested in strange sounds - point of view, I think there are sounds on the recording that are certainly uncommon and hard to find in most musics today. As a person interested in musical instrument design I also wondered how certain sounds were created - ways of interacting with matter that are uncommon today, such as strings with sounding boards that are

plucked and bowed in ways I can't decipher from the acoustic result,
"hoarse" singing, gargling, inharmonic trumpet sounds, stones
hitting other stones, thundering sounds, even farts!
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< Book Review: 'Macromedia Director Studio', by Bove & Rhodes >

Tony Bove and Cheryl Rhodes
 Random House, New York, 1994.
 Includes CD. ISBN 0-679-75321-4.

Reviewed by Paul Hertz
Email: paul-hertz@nwu.edu

As a third party manual and tutorial for MacroMedia's widely-used
Director authoring environment (version 4.0) the Official MacroMedia
Director Studio comes with considerable odds in its favor: an
experienced authoring team, a CD-ROM chock full of goodies, and a
forward by Marc Canter, the most visible founder of MacroMedia. And,
if your expectation is limited to the basics, you will come away
satisfied--but you'll still have to read the truly official,
official manuals that come with the software. If what you really
want is a clue to how to build multimedia interfaces, you will not
find what you need in the book, but you may educate yourself by
hacking apart the examples on the CD, some of which are well worth
the trouble. Unfortunately, this is the way most people have to
learn interface and scripting design in Director, and the nets
abound with other great examples. The book does provide some
instruction in how to hack Lingo scripts, though it barely touches
on the ways scriptable objects interact to create a full scale
presentation. Such detail would be out of place in a survey.

As a survey, then, this book does a creditable job. In addition to
introducing the basic tools of Director, it provides background
information on digital audio and digital video. The CD-ROM provides
samples of work by Stuart Sharpe and Marc Canter, samples from Terry
Schussler's MediaBook CD (oriented towards developers), clipmedia,
XObjects, and a hypertext version of the book. The sudden wealth of
new authoring tools (Kaleida's ScriptX, mTropolis, Apple Media Tool,
Borland's Delphi, Oracle Media Objects), and the increasing
sophistication of end users may eventually convince publishers that
the middle ground between the clueless masses and the techno-geeky
elite needs to be addressed. In using this manual with an
interactive multimedia class, the universal complaint of my students
was that it told them next to nothing about how to create the
standard elements of multimedia interfaces, either in the abstract
realm of design or in the concrete realm of programming. Books that
address those issues will find a ready market, as will software that
simplifies the construction of interactive multimedia.
==
< CD-ROM Review: 'the clearing', by George Legrady >

George Legrady, 1994
bASE.ARTS
PO Box 78154
San Francisco, CA 94107
Tel: 415.821.4989
Fax: 415.821.4119
Email: base@well.sf.ca.us
      COMPUSERVE: 71742,2615

Reviewed by Thom Gillespie
Email: thom@indiana.edu

This is a very difficult multimedia piece to evaluate for a number

of reasons. Legrady says his piece is "a sampling of language in news text describing the situation in the former Yugoslavia" -- Bosnia. The information content is taken from the Data Center in Oakland, California which is a news clipping organization that specializes in information that most of us never receive. This means that the content of 'the clearing' is even more disturbing than our usual 'News at 6' regarding Bosnia.

The interface also seems to violate most traditional interface design guidelines. The cursor does not change shape, the mouse seems slightly off with most movement; the response time is poor; and there are no real directions for using the program. There is a timer that runs constantly measuring god knows what. There is one image of 3 guys, 3 dead deer, 2 dogs, and a gun in a clearing peacefully smoking pipes dressed for the kill. There is a constant yellow viewfinder that can be dragged around the screen but does nothing other than oscillate with a constant shutter clicking sound. The total effect is unnerving to say the least. There is no point of view. There are facts but they are disembodied and seemingly non-sequential. In the credits Legrady describes this work as "designed to reveal the traces of vision technologies origin in military and medical applications -- a particular kind of seeing that can be described as 'search and destroy' or hold still while I examine."

It is that. The feeling is definitely 'hold still while I examine' and then maybe I'll pull the wings off or the legs or the ... If I were to compare this work to anything I would probably compare it to BLAM! by Necro Enema Amalgamated. Both use similar styles of confrontation which leaves the user feeling _out of control_ but the big difference is that Legrady's 'the clearing' seems to have soul and an interest in the real ... or what should be real to all of us. No answers - a life time of questions, a very effective work. Presently available on Mac and PC diskettes.
==
< Book Review: 'Birth of an Artistic Integrity',
    by Ye.V. Sintzov >
 (self-analysis of artist's thought dynamics and potentialities)
"Fan" Publishing House
 Kazan, 1995, 228 pp.

Reviewed by Bulat M. Galeyev
Email: galeyev@prometey.ksu.ras.ru
Bazov V.V.
Volgogradskaya 22-5
Kazan 420040 Russia

The book is devoted to analysis of the phenomenon of the potentialities in an artist's creative thinking that are not fully realized in the final version of art-work The author's goal is to provide proof of the most active role of the potentialities in creating artistic integrity, the latter dynamical, changeable, chaos-like nature. There is another thesis that incorporates the above-mentioned: the unrealized potentialities that permanently stimulate the so-called "selfmotion" of artist's thought /"unbalanced identity", (term by Hegel) and the "causa sui" idea.

The principle of complementarity by Bor was used to solve such complex problems as reconstruction of the not fully-expressed, not fully-realized aura of artist's thought. The author describes two models of the artistic thought process he recreates based upon completed artwork. The first model is very similar to the one created by means of the approach used by art critics - the one featuring an essayistic style, that means following to all "windings" of artist's thought. Another one was based on strict

principles of dissipative structures theory (known more widely as
synergetics). The main concepts used for creating the second model
are "bifurcation nodes", "fluctuation", "chaos", "attractor" and so
on. The interaction of these models helps to solve several important
aesthetic problems: interaction between part and whole, between
content and form, between form and content, between mentality of
author and that of recipient. The main aspect common to all the
problems is the idea of indistinct, diffused boundaries between
realized potentialities and unrealized ones. Within these limits an
artist's thought is inclined to return to initial integrity. This
initial integrity is very similar to prehistoric, prelogical
thinking.

The author believes the boundary's transition to be controlled by an
artist. Three ways of the control over the mental processes are
described by him. The first way can be called "ousting". It features
deliberate self-limitiation of possible directions of thinking. In
this case, the unrealized potentialities violate (upset) the
continuity of realized ones (this way was inherent to creative
thinking of Gogol, Stravinsky, Michelangelo).The second way can be
called "conjugating" or "accumulating". Its basic feature is that of
revealing common potentials of heterogeneous cultural layers or
levels (as in Chekhov, Scryabin, Donatello). Thus the source of
development of potentialities for an artist of the first type is
mainly the development of his own potentialities. The artist of the
second type is stimulated by common cultural potentialities. The
third type is the fusion of both the above-mentioned categories,
thus providing the possibility to emancipate creative potentialities
of recipient. This is achieved by means of suggestive transmission
of ways of artistic thought from an artist to a recipient (as in
Tolstoy, Sheakespeare, Kafka, Proust, Rublev). The transmission is
based on creating a "figurative model of thought" (Sergei Bulgakov).

The main object of all these theoretical investigations is to
provide the instruments for reviving the mental steps that take
place in the creative process. The author succeeded in recreating
extraordinary, original semantic patterns that integrate fragments,
works, cycles, and even the creative work of an artist as a whole.
The book is devoted almost entirely to the analysis of artworks
which provide evidence for the truth in these theoretical ideas.
===
< Reviewer's Bio: Julean Simon >
 1956, Austrian
 (Vienna/ Berlin.)
 Email: jsimon@gewi.kfunigraz.ac.at

Studies in architecture, philosophy, masterclass for sculpturing;
worked in the fields of music, experimental video and computer-based
conceptual art. Most recent ten years mainly research and
theoretical work. See the series 'Nachrichten von der Pixel Front'
in the BLIMP-film magazine; at MIT, CAVS: Modulo Topolgy - computer-
aided regularity studies. Currently developing the concept for an
educational network project in Berlin.
===
< END LEONARDO DIGITAL REVIEWS JULY 1995 >
===

                        _____
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                       | ANNOUNCEMENTS |
                       |_____|

< The Live Art/Performance Art Archive Web Site >

Barry Smith

Live Art Archive
Victoria Studios
The Nottingham Trent University
Shakespeare Street
Nottingham
NG1 4FQ
Tel/Fax: +44 (0)115-948 6831
Email: VLA4LIVEART@ntu.ac.uk

The Live Art Archive, based at The Nottingham Trent University,
England, now has a site on the World Wide Web at:

      http://www.ntu.ac.uk/liveart

The Live Art Archive is an electronic database, resulting from a
commission initiated by the Arts Council of England in 1994 to
collate and list extant materials associated with Live Art within
the UK. As of June 1995 it holds in excess of 50,000 items of
information and is regularly expanded and updated. The database is
text-only at present; it is hoped to incorporate images shortly.
Future plans also include the extension of the database to cover
activity outside the UK.

The Live Art Archive broadly embraces ephemeral, time-based visual
and performing arts events that include a human presence and
broaden, challenge or question traditional views of the arts.

As well as the WWW, the database is also accessible via the
Internet, JANET, and modem and details of these means of access may
be obtained by e-mailing the Archive on

  liveart@ntu.ac.uk

Difficulties encountered relating to the subject matter or search
terms can be referred to the Archive Office (+44 (0)115-948 6831).

Difficulties encountered relating to the technical aspects of
connecting on-line etc. should be referred to the University
Computing Services Reception (+44 (0)115-941 8418 extn 2084).

Demonstrations of the database are available, free of charge, in the
Archive Office (please telephone to make an appointment).
****
< The 9th Annual Institute for Music & Healing >

Rebecca Mercuri
Immaculata College Department of Music Therapy:
Email: mercuri@gradient.cis.upenn.edu
Tel: 610/647-4400 x3490

August 3-5, 1995

The purpose of the Institute is to foster a better understanding of
the inner music with each person possesses, and to capture, maintain
and generate that music for wholistic and spiritual well-being. The
Institute, held at Immaculata College, a suburb of Philadelphia
(easily accessible by car or public transit) brings together a wide
range of therapists, artists, physicians, educators and others
interested in the healing aspects of music. Performers and lecturers
include composer David Darling, and the oboe and guitar duo of Jill
Haley and David Cullen.

Music has been accepted as a formal facet in the healing process
since WWII, although of course its beneficial effects have been used

for millenia. Therapists work with clients who suffer from
geriatric, psychiatric, and physical disorders, in order to affect
behavioral changes and increase communication and receptivity. With
healthy persons Music Therapy can be used to improve attention and
creativity, or alternatively to enhance relaxation and calmness.

One of the features of the Institute is its focus on music
technology in healing. Using interactive multimedia it is now
possible to construct immersive virtual environments tailored
specifically to an individual's therapeutic needs. Clients and
therapists can work to incorporate imagery and sounds from the real
world into a wide variety of customized computer simulations. In
this way, a client could wander through a reconstruction of his or
her childhood home, re-examine a stressful encounter at work, or
even use virtual realities to aid in desensitizing phobias and
neuroses.

This year, a new conference will be held within the Institute:

VIRTUAL ARTS THERAPIES(TM) IN MUSIC THERAPY
Sr. Jean Anthony Gileno, Ph.D., will introduce the concept of
Virtual Arts Therapies in music therapy, and discuss the use of
cyberspace technology in the healing process. The Soundbeam as a
virtual expression device will be examined, along with other types
of virtual arts, the application of such to the training of teachers
and therapists, as well as the use of these arts at home, in the
workplace, and other settings.

David M. Roy and Marilyn Panayi, of the A.I. duPont Institute and
the University of Delaware Applied Science and Engineering
Laboratories will discuss their research in gestural human-machine
interaction for people with severe speech and motor impairment using
neural networks. Joseph Reilly will review his use of the Lightning
MIDI device with psychiatric patients at the Albert Einstein Medical
Center. Rebecca Mercuri will examine some of the computer software
tools and hardware components for implementation of virtual arts
therapies. Her student interns in cyberspace music therapy will
demonstrate and exhibit some of their research.

Prices for the Institute are quite reasonable, with individual
concert and session breakdowns. For example, the Virtual Arts
Therapies portion on Saturday, August 5 costs only $60.00. The
entire conference may be taken for academic credit for $603.00.
Inexpensive campus housing is available during the Institute.

Upcoming Music Therapy programs at Immaculata College include:
Depth Psychology and Music Centered Therapies, JoEllyn Beck, Sept
12-Dec 12.
Biofeedback Music Research, Sr. Jean Anthony, Sept 7 - Dec 7.
Pulmonary and Cardiovascular Aspects of Music Making, Fawzi P.
Habboushe, M.D., F.A.C.S., October 11 & 12.
Technology and the Creative Arts Therapies, Rebecca Mercuri, Mike
Mosher, Sr. Jean Anthony, in conjunction with the Small Computers in
the Arts Network at the Franklin Institute Science Museum, Nov. 4 &
11.

For further information on these courses and events, or to be placed
on the mailing list, call 610/647-4400 x3490.
****
< Call for electro-acoustic installations >

Wayne Siegel, director
DIEM
The Concert Hall Aarhus

DK 8000 Aarhus C
Denmark
Tel. +45 8931 8160
Fax +45 8931 8166
Email: wsiegel@daimi.aau.dk

In connection with an exhibition to be presented at a Danish museum
of contemporary art in 1996 we are interested hearing from artists
that have created installations in the following areas:

1) Electro-acoustic installations involving water (indoor or
outdoor).
2) Electro-acoustic installations involving the transformation of
normally inaudible sounds made by the human body or other objects
(indoor or outdoor).

Please contact us if you have worked in these areas or know of other
artists who have.
****
< World Wide F*A*X Art- Project: ART IS... >

Hugo Heyrman
Art Prom vzw
Volksstraat 64
2000 Antwerp, Belgium
Tel: + 32 (0)3 216 08 86
Fax: + 32 (0)3 216 38 63
E-mail: hugohey@macbel.be

Greetings from Antwerp. We are sending you this invitation to
participate in an World Wide F*A*X Art-project from Art Prom. Please
send us your fax-works/definitions or statements on art. The
question is as old as art itself. F*A*X us your answers & visions &
reflections. F*A*X us your image/text or collage. The works will be
presented at the "Salon D'Artistes '95", Nekkerhallen, Mechelen.
Belgium. Size A4. Theme: ART IS...

Send your F*A*X-work to:
++ 32 (O)15. 55.48.51
++ 32 (O)15. 55.48.52
++ 32 (O)15. 55.48.53
++ 32 (O)15. 55.48.54
++ 32 (O)15. 55.48.55

Enter & enjoy the networking! The five lines are open.
We are looking forward to hear from you! day & night.

Activity date: 12-16 Oct '95.
Deadline: 16 Oct '95. 8 PM.

... without life no art -Magritte
... no art without play -Huizinga

MAKE YOUR MIND VISUAL:
Transform & transmit... Interact & connect... Create & explore...
Cut & Paste
****
< Installations for the 1996 International Computer Music
   Conference - Hong Kong >

Dr. Lydia Ayers, Chair
ICMC 1996
Department of Computer Science
Hong Kong University of Science and Technology

Clear Water Bay, Kowloon
HONG KONG
Tel: (852) 2335-0558
Fax: (852) 2358-1477
Email: icmc96@cs.ust.hk

The Hong Kong University of Science and Technology and the Hong Kong
Urban Council will host the International Computer Music Conference
from 19 to 21 August, 1996. The conference organizers seek
installation pieces with computer taking advantage of the
university's beautiful architecture overlooking the ocean. Artists
intending to submit proposals for installation pieces are urged to
submit preproposals as soon as possible to receive special
information regarding the available spaces to facilitate preparation
of final proposals.

DEADLINE: for Final installation proposals: 21 OCTOBER, 1995.

The conference will have the theme, "On the Edge," celebrating Hong
Kong's cultural environment "on the edge" between Asia and the west.
The official call for papers and scores, and submission forms, will
be given out at the September, 1995 ICMC conference in Banff, but we
would like to make this early announcement that we encourage special
submissions of pieces for Chinese instruments and computer.

DEADLINE: for music and papers submissions: 21 DECEMBER, 1995.
(These submissions require submission forms.)
****
< Emerging Artists '96 Competition >

Slowinski Gallery
Emerging Artists Exhibit
215 Mulberry
New York City, NY 10012 USA
Tel/Fax: (212) 431-1190

Slowinski Gallery presents the fifth annual Emerging Artists group
exhibition, to be held February 9 - 26, 1996. Open to all artists
working in all media, this exhibition is devoted to the discovery
and introduction of emerging artists. During the jury process, art
work entered in the competition will also be reviewed in
consideration for upcoming gallery exhibitions.

Located on the eastern side of Manhattan's Soho art district, the
gallery is also adjacent to the famous Little Italy restaurant row.
The street level, storefront exhibition space is strategically
located to provide optimum exposure for the emerging artist. This
exhibition presents a unique opportunity to the emerging artist for
exposure and promotion in the center of the contemporary art world.
A panel of professional artists and gallery directors will jury the
entries.

Slide Presentation
Each art work submitted must be represented by one 35mm slide. Each
slide must include artist's name, title of work (if untitled, please
number), media, and dimensions of work. Self-addressed, stamped
envelope must be included with sufficient postage for the return of
slides.

Terms
All works in the show are for sale. The gallery will take 40%

commission on all sales. Sale price may be determined by artist.

Awards
One artist will be awarded a grand prize of $1000 cash. Additional
exhibition awards may be announced during the exhibition.

Fees
There is a $25 entry fee for 1-4 slides. If you wish to include more
than 4 slides, please include $5 for each additional slide. Entry
fee is non-refundable. Please make check or money order payable to
Slowinski Gallery.

Deadline
The postmarked deadline is October 30, 1995. Entries must be
postmarked by this date. Artists will be notified by December 22.
****
<   Creativity and Cognition 1996 -
    Intersections between Art, Technology and Science >

Linda Candy, Programme Co-ordinator
Creativity and Cognition 1996 Workshop
LUTCHI Research Centre
Department of Computer Studies
Loughborough University of Technology
Loughborough, Leicestershire LE11 3TU UK
Email: L.Candy@lut.ac.uk

An International Symposium: Exhibition, Workshop and Public Seminar

29th April-18th May, 1996
Venue: Burleigh Court, Loughborough, UK.

In April 1996, Creativity and Cognition 2, An International
Symposium and Exhibition on Computer Art and Design will take place
at Loughborough University Campus in Loughborough, a market town in
the heart of the English countryside readily accessible by air, road
or rail.

The first Creativity and Cognition Symposium was held at
Loughborough 1993. It was a highly successful and internationally
acclaimed event. From it a number of ground breaking papers were
subsequently published in Knowledge-Based Systems, Languages of
Design, Journal of Design Sciences and Technology and a special
section of Leonardo.

Creativity and Cognition 2 continues the initial aim of creating
opportunities for bridging the gulf between art, technology and
science practice and enabling dialogue to take place between
different schools of thought and practice.

CALL FOR PAPERS

Workshop on Creativity in the Arts and Science
April 29-30th 1996

Venue: Loughborough University, Loughborough, U.K.

Chairman: Ernest Edmonds

A Workshop on Creativity in the Arts and Sciences will be the
opening event of the Second International symposium on Creativity
and Cognition to be held April-May 1996. The workshop will be a two
day programme of presentations, posters and plenary statements. It
will be open to registered delegates only and will take place at

Burleigh Court, Loughborough University, Leicestershire, U.K.

Deadline date for submissions: November 1st 1995
****
< 4th International Conference on Music Perception and Cognition >

Bruce Pennycook, Eugenia Costa-Giomi
4th ICMPC
555 Sherbrooke St. West
Montreal, Quebec, Canada H3A 1E3
Tel. (514) 4548 x 0504   Fax. (514) 398-8061
email: icmpc@music.mcgill.ca
http://www.music.mcgill.ca/~icmpc/icmpc.html
August 11 - 15, 1996

McGill University is sponsoring the 4th ICMPC. This inter-
disciplinary conference will focus on a variety of aspects of music
perception and cognition: psychoacoustics, music performance,
musical development, music modeling, music analysis, neuro-
psychology, psychophysiology, and sociology.

Call for Papers and Demonstrations
Deadline: January 31, 1996

Unpublished papers on research in music perception and cognition are
invited for presentation at three types of sessions: reading
sessions, poster sessions, and demonstrations.

Submit:
* a summary of the research (maximum 500 words)
* five single or compound keywords describing the field and topic of
the paper
* each author's name, title, institutional affiliation, mailing
address, telephone number, and email address
* equipment requirements
* statement indicating your preference for reading and/or poster,
and/or demonstration session

Formats : email (preferred), diskette (Word, WordPerfect, ascii),
hardcopy
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          |  JOBS/OPPORTUNITIES  |
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< Technical Director -
   University of California at Santa Barbara >

University of California, Santa Barbara
Personnel Services
South Hall, Room 3607
Santa Barbara, CA 93106-3160
Telephone: 805-893-3166
Fax: 805-893-8645
Job Status: 805-893-8239

The following is the official job announcement for the position of
Senior Development Engineer (Technical Director) at the Center for
Computer Music Research and Composition at U. C. Santa Barbara. All
resumes, etc., *MUST* be sent to the Personnel Services address
listed above in order to be considered. Not mentioned below is the
desired starting date of September, 1995 or ASAP thereafter. Further
questions may be emailed to job@ccmrc.ucsb.edu.

SANTA BARBARA SENIOR DEVELOPMENT ENGINEER (APS 6)
Job Number: 95-06-033 BO
Salary: $47,100 - $70,600 per year
Department: Center for Computer Music Research and Composition
Open Until filled

Duties: Responsible for administration, development and expansion of
a network of UNIX-based (SPARC/SGI/NeXT) and non-UNIX based
(Apple/Intel) machines and associated digital signal processing
hardware and software. Develops advanced software for digital
sound/music synthesis, interfaces for digital music composition and
signal processing. Coordinates consulting staff and research with
graduate students from engineering and music. Functions as the
technical director for the Center for Computer Music Research and
Composition.

Minimum Requirements: Graduation from college with major in
engineering and five years of engineering experience including two
years of responsible design work, or equivalent combination of
education and experience. Knowledge and experience with UNIX-based
operating systems (SunOS, NeXT/mach, IRIX), C and C++ programming
languages, graphic interface systems (X, NextStep), digital signal
processing, and music synthesis languages (CARL/IRCAM) software,
Csound, Music 11, Cmix). Familiarity with analog audio hardware such
as sound reproduction systems, mixing consoles, and tape machines.

Benefits:
Determined by job title, whether the appointment is casual or
career, and the number of hours worked, the following summarizes the
minimum benefits available to full-time career employees:
 ---Twelve paid holidays averaged yearly
 ---Twelve days paid sick leave annually
 ---Fifteen paid vacation days per year
 ---Employer-paid life insurance; 1x annual salary to a maximum of
$50,000
 ---Substantial contributions toward health and dental insurance
plans
 ---Employer-paid nonindustrial disability insurance
 ---Retirement plan
 ---Broad supplemental group insurances and investment programs
 ---Reduced fee educational and fitness programs
 ---Training and Development programs and seminars

Location:
UCSB is preeminent in education, research, and public service.
Enrollment is approximately 18,000. Situated on an 815-acre site,
the campus is located on the South Coast of California, and bound on
three sides by the Pacific Ocean and by the Santa Ynez mountains
across the Goleta Valley on the north. UCSB is about 10 miles west
of downtown Santa Barbara.

UC Santa Barbara is an Affirmative Action/Equal Opportunity employer
committed to fostering diversity in its faculty, staff and student
body and welcomes applications from minorities, women, and persons
with disabilities.
****
< Dartmouth Electro-Acoustic Music Graduate Program >

Jon H. Appleton
Graduate Program
Department of Music
Dartmouth College
6187 Hopkins Center

Hanover, New Hampshire 03755-3599
Email: Jon.H.Appleton@Dartmouth.EDU

The Dartmouth College Master's Program in Electro-Acoustic Music is
an interdisciplinary degree program dedicated to work that explores
the interrelationships among music, technology, cognitive and
computer science, acoustics, and other related disciplines. Students
are encouraged to develop their individual goals, and while in the
program their work may be directed toward creative, research,
theoretical or technical projects. We are interested in students who
want to help redefine the future of music and technology.

Requirements
Candidates for admission to the Master of Arts program should be
able to demonstrate significant experience and/or interest in some
combination of these disciplines: music, computer science, cognitive
science, physics and engineering.

Regardless of a student's area of specialization within the program,
the requirements for completion of the Master of Arts Degree in
Electro-Acoustic Music include:

1. A minimum of six terms in residence after the bachelor's degree.
2. The ability to play a musical instrument and an understanding of
music theory and history.
3. Course requirements for the degree include five proseminars in
music and technology and courses in psychology, acoustics, computer
science and engineering.

The five proseminars are:
* The influence of technology on the roles of musicians and musical
institutions in the 20th century.
* Survey and analysis of the repertoire of electro-acoustic and
computer music.
* Analysis of musical systems
* Analysis, synthesis, and perception of timbre
* Composition of electro-acoustic and computer music

4. Directed research (thesis courses) Two courses taken under the
joint supervision of a member of the music faculty and a member of
another cooperating department.

5. A thesis approved by the student's graduate committee and the
faculty of the Department of Music demonstrating a mastery of the
materials in the student's area of concentration within the program.

Faculty
Music- Jon Appleton (Program Director), Charles Dodge, Larry
Polansky
Psychology- Jamshed Bharucha
Physics- Michael Sturge

Admission
Three students will be admitted each year. The students will receive
full tuition fellowships and stipendiary support.
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|  ACKNOWLEDGMENTS  |
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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 - 62-character sequence
*****: Item Delineation within Section - 62-character sequence
-----: Separator for subsections within items.
< : Begin Item Title - search for the character "<" followed by two
spaces
  >: End Item Title - search for two spaces followed by ">"
|_ 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 appear with all
letters in sequence with no spaces (PROFILES, REVIEWS, etc.).

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|      LEA           |
| WORLD WIDE WEB     |
|      AND           |
|      FTP           |
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The LEA Word Wide Web site contains the LEA archives, including all
back issues, and the Leonardo Electronic Gallery. The Profiles and
Feature Articles have been extracted from the back issues, and
reside in their own sections of the site. It is accessible using the
following URL:
        http://www-mitpress.mit.edu/LEA/home.html

Back issues, submission guidelines and LEA Gallery files are
available via ftp anonymous, using the following method:
    ftp mitpress.mit.edu
    login: anonymous
    password: your_email_address
    cd pub/Leonardo/Leonardo-Elec-Almanac

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|      LEA           |
|   PUBLISHING &     |
|   SUBSCRIPTION     |
|   INFORMATION      |
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 Tel: (612) 362-9390
 Fax: (612) 362-0097
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Leonardo Electronic Almanac is published by:

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< Ordering Information >

Leonardo Electronic Almanac is $15 to Leonardo/ISAST members and to
subscribers to the journal Leonardo. The rate for Non-Leonardo
subscribers is $25.00

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