



Leonardo Electronic Almanac

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December, 1998

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INTRODUCTION

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< This Issue >

Craig Harris

This final issue of LEA Volume 6 includes Edward A. Shanken's perspective on the history of new media art in "Gemini Rising, Moon in Apollo: Attitudes on the Relationship Between Art and Technology in the US, 1966-70." In addition, we have another installment for our topical thread "Interdisciplinary Education in Art, Science and Technology." Linnette Werner of the Center for Applied Research and Educational Improvement at the University of Minnesota (CAREI) provides an Arts Infused Education Bibliography currently being assembled as part of the Center's research on the impact of employing the arts as a tool for improving academic achievement. This project is a large-scale experiment with several public schools in Minneapolis funded by the Annenberg Foundation. We can expect to see more in the future from CAREI once the projects have run long enough to assess measurable results from this ambitious program. Previous installments of this topic were published in LEA 5:11 and LEA 5:12, and can be found in the LEA Archive and in the LEA Articles areas of the web site. Sidney Fels offers a profile about Iamascope, his interactive multimedia artwork and performance instrument. Included in this profile is Sidney Fels' description of his collaboration with Artemis Moroni, Jonatas Manzolli, and Christiane Matallo in Brazil, the group that created Ato ContAto, the gesture interface performance instrument based on tap dance control, described in LEA 6:10.

URL's for the above mentioned pieces:

- <<http://mitpress.mit.edu/e-journals/LEA/ARTICLES/Equation.html>>
- <<http://mitpress.mit.edu/e-journals/LEA/ARTICLES/equation2.html>>
- <<http://mitpress.mit.edu/e-journals/LEA/PROFILES/ATO/ato.html>>

Leonardo Digital Reviews includes 2 reviews of the WOWEM web site, a site exploring Young Women Interested in Electronic Art and Music. LDR also contains book reviews, and the issue contains several current announcements.

Volume 7 begins a new phase of evolution for Leonardo Electronic Almanac. We are substantially enhancing the LEA Archive by including the electronic versions of the hard copy journal Leonardo, in addition to content from other Leonardo/ISAST projects. We will be reaching a significantly increased international audience as part of the restructuring of LEA, since now all institutional and individual subscribers to the hard copy journal Leonardo will automatically have

subscriptions to LEA as part of their subscription benefits. LEA is still available by subscription independent of the hard copy journal subscription, with full access to the current LEA content and the LEA archives. Access to the electronic versions of the hard copy Leonardo content will be restricted to Leonardo journal subscribers. We move to the subscription-based system effective with LEA Volume 7, Number 1 (January 1999). We will still offer content gratis to all visitors to the web site, with full access to LEA content and archives available to subscribers. This is the perfect time to subscribe to the hard copy journal Leonardo and enjoy the full scope of Leonardo/ISAST activities! Join us in 1999 and keep the material coming. We count on hearing about the activities of our community.

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FEATURE ARTICLE

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< Gemini Rising, Moon in Apollo: Attitudes on the Relationship
Between Art and Technology in the US, 1966-70 (excerpts) >
Edward A. Shanken

Edward A. Shanken
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Duke University
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In the history of human thinking the most fruitful developments frequently take place at those points where two different lines of thought meet.
-Werner Heisenberg

The pairing of the terms art and technology, and the discussion about their relationship is ancient. But after the second World War, and following C.P. Snow's identification in 1951 of the growing breach between "the two cultures," the ongoing debate about the relationship between art and technology reached a higher pitch, with unprecedented cultural resources dedicated to the idea of joining them. This discourse was clearly historicized in the great number of exhibitions on art and technology that took place internationally between 1966-72. During this time there were at least ten major museum exhibitions on this theme in the US alone.

This essay considers a number of statements by some central figures in the discourses about art and technology in the 1960s: artists John Cage and Robert Rauschenberg, electrical engineer Billy Kluver, and art historians Pontus Hulten and Jack Burnham. Its goal is to bring into relief some of the buried presumptions and ideological underpinnings that motivated attempts to join art and technology during this volatile period.

According to Cage, the artist was the progenitor of a revolutionary heritage who, through collaborations between artists and engineers, would transfer this revolutionary element to the technical servants of commerce and industry. Cage seemed to believe that this collaboration might contribute to transforming the social order. Yet, even while claiming to remove the separation between artists and engineers, the composer oversimplified the categorical distinctions between them and reduced the characteristics of each to a caricature. Cage unabashedly celebrated the artist while condescending to the engineer, and never

explained how this transfer of revolutionary spirit from the one to the other would come about, to say nothing of his elision of the role of artists as employees of economic life.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this article is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

< Arts Infused Education Bibliography (excerpts) >
Linnette Werner

Linnette Werner
Organization: Center for Applied Research and Educational Improvement
Email: <Linnette.Werner-1@tc.umn.edu>
URL: <<http://carei.coled.umn.edu/General/Brochure.html>>

The Center for Applied Research and Educational Improvement (CAREI) is a collaborative organization that brings the resources of the College of Education and Human Development and the University of Minnesota to bear on educational issues in Minnesota and across the nation. CAREI's work focuses on:

1. Linking Minnesota school districts and the College of Education and Human Development at the University of Minnesota;
2. Conducting applied research and evaluation studies for local, state, and federal agencies; and
3. Providing technical assistance and serving as a clearinghouse of information on innovative programs across the United States.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this bibliography is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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PROFILE

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< Me, Myself and I: Becoming an Imagician with the Iamascope in Performance (excerpts) >
Sidney Fels

Sidney Fels
Organization: UBC
Email: <ssfels@ee.ubc.ca>
URL: <<http://www.ece.ubc.ca/~ssfels/papers/LEA/imagician2.html>>

Abstract

The Iamascope is emerging as a multimedia performance instrument from its roots as an interactive artwork. The Iamascope is captivating for an audience. It provides an avenue for expression of intimacy and

control by the choreographer or performer. The two performances described here took place at Opera Totale 4, in Venice, and an experimental fusion of the Iamascope and Ato Cont Ato at the Petrobras Virtual Reality Exhibition in Rio de Janeiro. In these two performances, the Iamascope's potential began to be realized.

Sidney Fels received his Ph. D. and M.Sc. in Computer Science at the University of Toronto in 1994 and 1990 respectively. He received his B.A.Sc. in Electrical Engineering at the University of Waterloo in 1988 where he also studied cognitive psychology. His research interests are in human-computer interaction and neural networks. His works include Glove-TalkII, Glove-Talk, Iamascope, and MusiKalscope. Glove-TalkII was system where a person could use the system to speak with their hands. The device was built as an virtual artificial vocal tract. The person using the system wears special gloves and uses a foot pedal. These devices control a model of a vocal tract so that the person can "play" speech much as musician plays music. His collaborative work on sound sculpting is an extension of this idea to create musical instruments. The Iamascope is a interactive artwork which explores the relationship between people and machines. In Iamascope the participant takes the place of the coloured piece of glass inside the kaleidoscope. Their movements cause a symphony of imagery and music to engulf them.

... [Content omitted: Ed.] ...

[Ed. note: the complete content of this profile is available at the LEA website: <<http://mitpress.mit.edu/e-journals/LEA/>>.]

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LEONARDO DIGITAL REVIEWS
December 1998

Editor-in Chief: Michael Punt
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< WOWEM - Young Womens' Electric Music >

Website for Young Women Interested in Electronic Art and Music
URL: <<http://music.dartmouth.edu/~wowem>>

Reviewed by Frieder Nake
Email: <nake@informatik.uni-bremen.de>

Should a man review a website that explicitly addresses women? Should that pass the editor's desk? Why not? Reviews always express some subjective point of view. So why hide the subjective component in the current case?

The first page of the site "Women on the Web - Electronmedia" starts with the statement: "This is a web site devoted to young women in high school and college who are interested in music and art, whether it be choral or instrumental, pottery or drawing, and who also like math, science, and computers." This looks like a pretty focused audience the site is designed for. Does it live up to its promise?

I am a computer scientist, and, judging from the number of my years, I should not claim to be young anymore. When getting acquainted with WOW'EM to some degree, I sat down with one of my PhD students, a woman who is generally fond of computers, likes surfing the web, is into the hip-hop culture, does inline skating and jazz dancing, loves fancy clothing, and wants to see, and do something for, a much broader use of computers in education. I had her first visit this site, before we checked it out again together. When we started this, I asked her for her first, independent impression. "It is certainly not what I had expected from a site dedicated to young women," she said. "It has a rather stern and severe appearance. Too much text, too few images, virtually no excitement."

The young women are in high school or college, and among this group they are interested in music or art. They furthermore like math, science, and computers. This definition would appear as a small group. Are American women with such a bundle of interests so different? Are they really concentrating, when visiting a web site, on the data they find there, almost totally independent of the aesthetics by which it gets presented? Are they so strongly decided towards what to do next, and not just some fun? We could only guess.

Mind you, we are both Europeans. Our cultural environment is different from a North-American one, which may be an important difference even though the Net is supposed to be transnational and, as some believe, transcultural. Websites are cultural statements of a new kind. Their specific culture and aesthetics is still in an infant state. Currently, the medium, in this case, is still the message, it has not found its unique form of expression yet, and, more importantly, the appropriate contents for websites are still only conjectured. Anything that is now happening in web site design belongs to the search for those unique forms and contents.

The site WOW'EM is clearly structured in a not very deep hierarchy. It contains several plain texts, often rather long; a huge collection of URLs, and references to books, companies, software products, hardware, stores, services, institutions, colleges, people, and all sorts of other resources that might be of interest to a person like the one described above (but to many more as well, and definitely not to women only). The site really is a repository of resource material for you, if you are considering to study some technical ways of doing music, or graphics. It's bias is towards music with images lagging behind a bit.

Besides the piles of references, there are articles of often a tutorial character that introduce you to topics like algorithmic music or computer graphics. So the uninitiated gets a first introduction to what she may have heard as just a word without understanding what that word is all about. She could then continue one or the other of many paths to follow, and she could definitely return to the site many times to look for more.

The site is organized into eight topics: hardware and software,

homework, in-forms, ElectronMedia, schools, teletalk, viewpoints & interviews, plus a last one to be mentioned in a minute. These topics don't always clearly say what they are about. Or they indicate much more than they contain.

Teletalk, e.g., is about webpages and surfing. It contains a tutorial on HTML, which, all of a sudden, jumps into color coding. It also says how to get online, in a very elementary way. As everywhere, this is text only, no graphics, no movement - a criticism that may lose its undertone if we think of those women interested in the topic but equipped with a very poor computer.

"Viewpoints and interviews" may take up a reasonable desire, i.e. that for material by experts in the fields of computer applications to music and art. But then, you find virtually nothing there, just two interviews that you have to read without the option of a voice presentation. The reading in this case is terribly hard, to say the least (red on grey, or an abominable figurative background that destroys any typography).

The eighth topic has a title that you may have been looking for in the first place, and, alas, here it does appear: "Keep out! No boys allowed". I was unable to figure out why people like myself had to persuade themselves that, in the times of the Net, such exclusions should not be allowed. The contents of the subsite do not contain anything that is of a particular female nature. Or would you think something about Ada Lovelace is? Because of her name, perhaps? In the end, I believe I understood the naming of the topic as a clever move to get everybody most interested in the information contained here.

Colors of a conspicuously feminine nature abound. That is justified. But why are they not carried through from the topic buttons to the pages behind the buttons? Such a color design decision would help orientation and navigation. This observation leads me to a more general remark on formal aspects of the site. Its form is simple, in a way clear, with a few exceptions. But it almost totally lacks a discipline of design. The many lessons of presenting text against a background, important as they are for an almost 100% text site, seem to be virtually unknown to the authors.

They play with the design of the buttons that lead to topics or subtopics. These buttons are large colored squares with the words carrying their meaning in varying script-like fonts. The size of those buttons has no justification, neither has their typography. In fact, they make navigation complicated at times. For their size may force you to scroll in order to see a full listing of the choice you have. Of course, there is a bare word-list of that choice at the bottom of such pages. But you first have to get there by passing those picture-buttons. The script font used in the button texts does not get taken up on the pages belonging to the buttons.

So, altogether, the site (once listed amongst the "top 5 sites") is full of references, contains a fair number of useful texts, and is poorly designed. It is full of data, but virtually void of aesthetics, well: of a definite aesthetics.

It is annoying to read about the career of one artist under the heading of "Multimedia", if under such heading you would expect an explanation of the subject. If you then read about the same artist under the heading of "Graphic Design", you may be thinking that this was intentional. Yes, okay, I probably just miss the intention. Is it true that a useful site does not strive for aesthetic pleasure? Likely, the male in me is not capable of grasping the particular aesthetics of this site.

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< WOWEM - Young Womens' Electric Music >

WOWEM

Website for Young Women Interested in Electronic Art and Music

URL: <<http://music.dartmouth.edu/~wowem>>

Reviewed By Molly Beth Hankwitz

Email: <mollybh@wenet.net>

This site is an excellent example of a cross-disciplinary research site geared towards the young active minds of academic women. Created specifically for young women interested in music, art and computers by various scholars from graduate art programs around the country, this site begins with a checkerboard of topic headings including 'Hard & Software', 'Homework', 'In-forms', 'Electron Media', 'Schools', 'teletalk', 'Viewpoints and Interviews', and 'Keep Out/No Boys Allowed'. The site offers quick and easy referencing to history of music and electronic art, performance histories and bios including Laurie Anderson, Meredith Monk, Diamanda Galas, Rachel Rosenthal, Yoko Ono, Allison Knowles, Linda Montano and Eleanor Antin as well as a hardcore section on the Riott Grrls repleat with links to some pithy feminist sites: Guerrilla Girls and WebGrrls to name a few. Beyond the scholarly and assumptive portions of the site which appeal to aspiring young musicisans and performers are the areas which cover new CD-Roms, Dance Resources on-line, Film, and substantial aspects of the development of Science and Technology in relation to the arts and how-to-create your own website spaces. Not for tinkers, this site gives women a full-on tour through the compound developments which have led to great achievements and potentials in electronic music and art.

More over it is laced with links to at least thirty other sites for access to additional people and information. While the site itself is graphically simple, using only a few Gif animations to really animate its many pages otherwise sparsely laden with small graphics amidst a wealth of text, the overall appearance of the site is cheerful, mature, and upbeat.

Young women should find plenty to stimulate themselves among the well-written introductions to subjects, detailed chronologies of electronic technology developments and ample supplies of bibliographies, discography, and histories. It probably serves the much-desired desire to network and make contact with resources inherent in the pursuit of careers and multimedia art better than anything else.

Though not as cool or tough as BITCH and some other art sites, this one certainly courts the serious female art or music student. Most all the contributors are accessible by e-mail and young women should be happy that such a resource exists.

It didn't 20 years ago. How's that for an advancement in the arts?

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< Book Review: The Jew of Linz >

Kimberly Cornish, Century Books, Ltd, London, 1998,
298pp., illus. £17.99, ISBN 0-7126-7935-9

Reviewed by Sophie Hampshire
148 Fellows Road,
London, NW3 3JH, U.K.

In Kimberly Cornish's book entitled The Jew of Linz the central aim is

to give credence to the view that an encounter with Wittgenstein as a school boy in Linz caused Hitler to spurn European Jewry. Of course the plot in this book is a little more psychologically interwoven: As a young boy of fourteen Wittgenstein was sent to the Realschule in Linz where he was supposed to have met, and had a school-boy quarrel with the young Adolph Hitler. Moreover he supposedly introduced the young Adolph Hitler to the work of Schopenhauer. Hitler on the other hand, is supposed to have deduced Wittgenstein's Jewish ancestry, been highly jealous of the wealthy and cultured Wittgenstein, been acquainted with the Secession movement, thus resenting Karl Wittgenstein's entrepreneurial activities including financial support for the Secession building. Derived from these and numerous other suppositions Cornish argues that contained within Hitler's anti-Semitic publication *Mein Kampf* is the personal reference to the Wittgenstein family. In other words, Hitler took the characteristics of Wittgenstein and indeed the Wittgenstein family as paradigmatic in his assessment of the Jews. Furthermore, Wittgenstein was to have unwittingly contributed to Hitler's ideology of what the author calls Nazi Metaphysics; and later to have become a KGB agent in order to demolish Nazi rule.

The writings of Cornish are sorely in need of sound inference. As the work stands it only provides the reader with the author's idiosyncratic impressions of historical events and persons. What is regarded as evidence is at best circumstantial. Although the author presents his writing as a set of conjectures and indeed the initial pages are riddled with conditionals, he swiftly moves to factual assumptions for example, in his hypothesis on Wittgenstein's Communist activities he predicates 'Stalinist' as an attribute Wittgenstein has.

Why are we compelled to believe that Wittgenstein and Hitler were known to one another? We are asked to consider amongst the numerous snippets of conjecture a computer-enhanced school photograph representing Adolph Hitler and a highly probable Wittgenstein. Similarly we are invited to speculate upon a claim that both boys whistled Wagnerian themes. Is this what can be classed as concrete evidence or is it the product of an over zealous imagination?

What are the reasons which motivate the author to assert that Wittgenstein is reflected through the texts of *Mein Kampf*? One reason we are told is that Hitler makes a derogatory reference to the Jews who stammer the German language and this should be correlated with the evidence of Wittgenstein's own speech impediment. Another is Cornish's belief in obtaining a convincing referent for the following sentence: "Would that on this evening some of our international seekers after truth whom we know so well could not only see the facts but later admit them to be facts." (Adolph Hitler, *My New Order*, Angus and Robertson, 1942, p.371) Cornish argues that the most likely referent is Wittgenstein. One has to ask whether he really understands the distinction between generalised description and definite description, or whether he comprehends the syntactic and semantic problems for locating referents.

Cornish attributes to Nazi power not only Hitler's interest in the occult but Hitler's use of the philosophy of Schopenhauer and Wittgenstein. He further supposes a concept of 'non-ownership of mind' to have been a part of this influence. In fact is it not wholly clear whether the author argues that Hitler acquired this idea from young Ludwig's interpretations of Schopenhauer at the Realschule or whether Hitler read and assimilated Wittgenstein's mature logical treatise. If the former we are left wondering how the fourteen year old Wittgenstein could have developed such a cogent theory of mind. If the latter we may ask for a little more evidence of Hitler's knowledge of the *Tractatus*.

Similarly in the chapter devoted to a reinterpretation of Wittgenstein's non-ownership theory, the author fuses both early and later work of Wittgenstein. He is I presume, trying to exemplify a linear progression of Wittgenstein's theory of mind that is to say, universal mind. Passages which are extracted from the Tractatus are mainly confined to 5.55 - 6, and it is apparent Cornish lacks critical reason. These passages seen within the context of the Tractatus critically examine the position of solipsism. Wittgenstein may be sympathetic to the solipsist dilemma but he does go on to show that solipsism as a doctrine is untenable. Cornish's inclusion of later works, i.e. Philosophical Investigations, Zettel, does not support the premise governing this particular exploration, i.e. that Hitler drew upon Wittgenstein's ideas.

Perhaps Cornish has overlooked the fact that Wittgenstein's later work (Philosophical Investigations) was published in 1953 two years after Wittgenstein's death. Wittgenstein would have been working on these texts in the 30's but there is no evidence to suggest that his own unpublished writings or lecture notes recorded by his students found their way into Hitler's library. Moreover the emphasis on the so called no-ownership theory in the Tractatus is a gross oversimplification. Wittgenstein was mainly concerned with logical form between propositions and states of affairs, the division between what can be described in language and what must remain silent, how propositions as pictures of states of affairs acquire their semantic content, to name a few of his concerns.

If we examine the evidence for Wittgenstein's alleged communist attitude we find that there is little of it. Are we to suppose that Wittgenstein's act of giving his money away, even though most of it was given to a small group of artists, and writers, exemplifies his left-wing tendencies? Are we logically to conclude that Wittgenstein knew the Cambridge spy Kim Philby from such pieces of information as both men loved German music, both had speech impediments, both had domineering fathers?

There is evidence that he took Russian lessons from someone who Cornish supposes to have had left-wing sympathies, that he had animated conversation with the Russian teacher of Linguistics Nicholas Bachtin, and that he took a trip to Moscow where he met the Russian mathematician Mrs. Yanovska. Neither need it be disputed that Anthony Blunt's trip to Moscow partially overlapped Wittgenstein's but what does this really prove?

I should like to add another view of Wittgenstein's Russian connection: his admiration for the work of Tolstoy and Dostoyevsky, and his empathy with deeply religious fictional characters such as Father Zossima in the Brothers Karamazov. Conceivably Wittgenstein could have been sympathetic to socialism as he was sympathetic to Christianity but this does not imply active participation to the communist cause.

The lack of any logical framework makes this work insupportable. Moreover it is erroneous to think that tenuous fragments of information taken as a sum total lead to a weighty hypothesis. Cornish needs to exercise rigorous deductive analysis, and to curb his imagination if he is to continue writing on complex topics.

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< Book Review: Freaking Out: The Freak Show as Portent of Modernity >

Book: Freakery: Cultural Spectacles

of the Extraordinary Body.
Ed. Rosemarie Garland Thomson.
New York: New York University Press, 1996.
(400 pp.) \$24.95 paperback. \$65.00 hardcover.

Reviewed by:
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With the field of cultural studies continuing to make inroads through the once vigilantly controlled borders of such academic disciplines as theatre, English, and anthropology, more and more aspects of "low" culture are finding themselves caught in the gaze of the postmodern scholar's microscope, and the results of such scrutiny are appearing with increasing regularity in cultural studies anthologies centered on a particular theme, or even on a general sub-category of cultural studies, such as performance studies. With the ability to apply skillfully a diverse array of theoretical tools, one can fruitfully study even the most marginalized texts while shedding new light not only on an area that had formerly been slighted, but also on history, ideology, and everyday life. One particular type of text that remains ripe for study is the side show, or freak show, whose heyday in America was from the 1840s through 1940. As a recent anthology, *Freakery: Cultural Spectacles of The Extraordinary Body*, makes clear, the freak show is a productive area of study not only in itself, but also in relation to modernity, and as a model for examining freakish aspects of culture in the late twentieth century. While reading *Freakery*, edited by Rosemarie Garland Thomson, one may be surprised to find that freak shows were not all that marginal, especially between the mid-nineteenth and early twentieth centuries, when hundreds of thousands of North Americans and Europeans flocked to examine individuals who were framed by their exhibitors as freaks. Indeed, *Freakery* suggests that the freak show, especially in America, may be one of the most important and popular areas of performance during the second half of the nineteenth century.

While the material covered in the volume is far-reaching, most of the anthology's twenty-seven authors cite two of the main (and only) scholarly books focusing on freaks, Leslie Fiedler's *Freaks: Myths and Images of the Secret Self* (1978) and Robert Bogdan's *Freak Show: Presenting Human Oddities for Amusement and Profit* (1988), indicating not a lack of originality (the writers cite a variety of other texts, from Baudrillard and Foucault, to TV shows, to the bizarre 1932 movie *Freaks*, and both Fiedler and Bogdan are contributors), but the fact that there has been scant scholarly attention paid to freaks. What makes *Freakery's* contribution to cultural studies so important is not only its coverage of various types of freakiness--from anthropological exhibits, to the commodification of cuteness, to Michael Jackson--but its many essays which deconstruct the topics treated in more conventional (yet important) ways by Fiedler, a literary scholar, and Bogdan, a social scientist.

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< Book Review: XML & SGML Cook Book by Rick Jelliffe >

The XML & SGML CookBook
Recipes for Structured Information
Rick Jelliffe
Prentice Hall

1998
ISBN 0-13-614223-0

Reviewed by Kasey Rios Asberry
E-mail: <kasberry@humanorigins.org >

This book is a detailed, comprehensive reference on SGML (Structured General Markup Language) and its subset XML (Extensible Markup Language). It is the most recent title in the Charles F Goldfarb series on Open Information Management. In the tradition of self-evidencing works (Edward Tufte, Invisioning Information) this effort exemplifies fine information design. It is a cookbook of biblical proportions organized as a continuum ranging from the structures of systems of documents, through document patterns down to the level of characters and glyphs. Each entry is deeply referenced by other authors' approaches to the same element. Jelliffe pays significant (gratifying) attention to the difficult area of East Asian characters and mapping. I found the appendices nearly as exciting as the text: together they provide an effective rosetta stone of special characters and their international standards definitions. Jelliffe explores the interaction of human communications and computation via the primary conceptual toolkit of the designer: pattern language and structural comparison.

Those engaged in information systems design may find these Recipes for Structured Information both practical and poetic. It is rather rare for me to find myself immersed in a technical work so that I can't wait to turn the page. The XML & SGML CookBook answers so many of the fundamental questions posed by the movement to implement the web as truly World Wide that my spirits were lifted in reading it-for the first time in several years this doesn't seem so much of an impossible dream.

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LEONARDO DIGITAL REVIEWS thanks the following guest reviewers for their contributions: Sophie Hampshire and Richard Mitchell. We welcome new reviewer Ron Wakkary. Also this month Ron Nachmann joins the LDR editorial staff.

Thanks to all publishers, panelists and readers who have supported LDR in the past year. Visit LDR online at <<http://mitpress.mit.edu/e-journals/Leonardo/ldr.html>>.

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OPPORTUNITIES

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No listings this month.

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ANNOUNCEMENTS

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< Invitation - Symposium at Pepperdine in Malibu >

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"RADICAL CONNECTIONISM" -- MALIBU SYMPOSIUM OFFERS "ORBITAL VIEW"
OF THE DIGITAL WORLD

Saturday 16 January at Pepperdine University

Y2K Bugs leave no doubt about the vast consequences of an inability to foresee the shape of the future. In an age when we rely on spy, weather and resource satellite images for the shape and shifting of our world, the patterns of a rapidly growing digital globalization remain largely invisible, inchoate and metaphorical. In early 1999, an advanced Malibu-based R&D group will host science and industry leaders for an "orbital view" of the technology that increasingly programs our future realities.

The symposium entitled "Radical Connectionism and the Visualization of Network Programs" will be hosted by Elfnet, Inc., from January 16 to 17 in Malibu, opening with a formal session on the campus of Pepperdine University, Saturday 16 January, noon to 6.

The conference, chaired by ELFNET scientific advisor Dr. Fiorella Terenzi, will assemble an interdisciplinary group of experts to explore the promise of network and software construction methods that can be graphically visualised and manipulated. Keynote speakers on Saturday are:

Rabbi Dr. Benjamin Herson, Co-Founder and Dean Emeritus, The Raoul Wallenberg Institute of Ethics, Malibu.

Topic: "What referential philosophy forsees for a networked world:
Reference as the basis for communication and communion."

Mark Pesce, Visiting Professor of Interactive Media, School of Cinema & Television, University of Southern California. Co-creator of Virtual Reality Modeling Language.

Topic: "The Sensuous and the Visible "

Jerry Pournelle, NASA space systems engineer and author of over 20 books of science fiction and social forecasting.

Topic: "Building software like assembling an international space station in orbit."

The symposium will showcase the best thinking on how to make large-scale systems (including on-line interactive multimedia) lucidly comprehensible and evolvable through graphically representable connective form, as a basic development approach.

Radical Connectionism, as exemplified by eLPHIN, Elfnet's globally patent-pending software, results in a unification of disparate branches of computing: databases, program structures, interactive presentations, data flow, and models of communication networks--in a vast simplification that will assure digital globalization remains reliable, coherent, comprehensible and fixable as it grows.

SYMPOSIUM INVITED SPEAKERS

Dean E. Dauger, Department of Physics and Astronomy University of California, Los Angeles

Mike Roberts, Computer scientist, originator of the "7f" system for visualization of connectionist programs, websites and networks.

Peter Kennard, software engineer, collaborator on VRML and "7f" systems for visualization of connectionist programs, websites and networks.

Marcos Novak, UCLA Dept. of Architecture & Design

Bob Stanley, Global Network Privacy

Robit Hairman , Pygmalion Technology

Dr. Gregory Stock, Director: Program on Medicine, Technology, and Society School of Medicine, University of California, Los Angeles

Mark M. Schaefer, Radio frequency engineer, JPL/NASA

Peter Plantec , Creative Director, Virtual Personalities, Inc.

Robert Hurt, Astrophysicist, IPAC/Caltech

The Symposium is free of charge and open to invited industry participants, related academics and members of the press. A complete prospectus is accessible on the web at <<http://elfnet.com/symposium>>. Those interested in joining may contact Dr. Fiorella Terenzi, <fiorella@fiorella.com>, or call (310) 317-1413.

RESERVATIONS: Attendance for members of the industry, academia and the local community is on an RSVP basis. Attendance at the formal session is open to members of the Press without advance notice, although the conference organizers would prefer to know whom to expect.

The symposium will open at noon on Saturday 16 January 1999 and the session will commence at 1 pm in the Fireside Room at Pepperdine University.

LOCATION: The main entrance to the Pepperdine campus is located on Malibu Canyon Road, just up from Pacific Coast Highway. Turn off of Malibu Canyon Road on to Seaver Drive. Check in at the guard booth and follow directions to the Smother's Theater parking lot. The Fireside Room is adjacent to the Cafeteria, which is located in the Tyler Campus Center.

Locations of the post-session dinner and additional events (Sunday) will be provided to attendees. Information on local accomodations, additional directions, maps and schedules are posted on the symposium web pages.

< ANAT National School for New Media Art Curation >

The Australian Network for Art and Technology (ANAT) are calling for applications for:

***** me.d ia te *****

** the ANAT National School for New Media Art Curation **

Hobart, Tasmania
28 March - 11 April 1999

Applications due: 12 February

Amanda McDonald Crowley, Director
Australian Network for Art & Technology
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URL: <<http://www.anat.org.au>>

ANAT, with the support of the AFC and the Australia Council, in association with Contemporary Arts Services Tasmania (CAST), presents, me.d ia te, a pioneering new skilling program for artswokers and curators.

Trained curators, technicians and theorists will provide intensive training, in a two week masterclass teaching environment, that aims to give curators both a technical and a theoretical understanding of new media art exhibition practice.

me.d ia te: the ANAT National School for New Media Art Curation, has evolved out of a recognition that to nurture art which utilises technology, adequate education of curators and arts workers must also be undertaken. As new technologies become increasingly critical to art practices, it is important to provide skill-based education for curators wishing to extend their practice into this area.

ANAT has been holding National Summer Schools for artists since 1989. The School is the only intensive training program in Australia devised specifically for artists who want to upskill in uses of new technologies. The success of these schools is demonstrated by the significant number of Australian artists who have achieved national and international recognition as artists working with technologies, following their participation in the school. Many graduates of the ANAT Summer Schools have gone on to participate in major international events such as SIGGRAPH, ISEA, Ars Electronica.

Whilst Australian artists have now achieved international acclaim for their work, many artists still have difficulty in having their work shown within Australia. One of the key explanations for this predicament cited by many artists, is that decision-makers, such as curators and arts administrators, remain reticent to show work by technology-based practitioners. This is partly due to perceived pragmatic issues associated with equipping new media exhibitions, but also due to a lack of understanding of technology-based practice, and the design and display issues presented by interactive artworks.

me.d ia te aims to address these issues by training curators and arts workers using ANAT's acclaimed National Summer School for artists as a working model. Educating curators in technology-based art presentation and critical discourse will improve opportunities for Australian artists to have their work seen in an Australian context.

Acknowledging that the needs of curators are very different to artists, me.d ia te will skill curators in all aspects of interactive new media and technological based art presentation, including the following areas:

* Access to local and overseas art work using new technologies
Consultation with curators has indicated that access to contemporary new media work needs to be improved for curators to develop a critical overview of artists' work. me.d ia te will address the issue of access by facilitating presentations of artwork by leading Australian and international new media art specialists, and will also explore

furthering connections between curators, curatorial organisations and resource networks to ensure ongoing dissemination of material.

* Exploration of gallery space and exhibition design

Though education in traditional installation and exhibition practices is relatively accessible, training for optimising the presentation of art using new technologies is not so readily available. Incorporating the skills of exhibition designers, me.d ia te aims to address this issue by giving practical demonstrations and workshops on design issues associated with new media installation.

* New Media Art Theory

In order to theoretically contextualise new media work, particularly within an international framework, me.d ia te will engage a number of writers and theorists who will provide insights into the issues which are informing new media art and culture.

* Techniques of new media art exhibition and technical demonstrations

One of the main obstacles associated with new media exhibition is a lack of understanding of the technical issues associated with presentation. Most new media work requires technology such as computers, video and data projectors and internet connections for exhibition. Technicians with experience working with installation and exhibition contexts will give curators an introduction to the techniques associated with installing this technology.

* Arts marketing and audience development

Assisting audiences to understand and engage with technology-based art will be a key focus of the school. me.d ia te will examine strategies for overcoming both the perceived and real obstacles associated with equipping new media exhibitions. Arts marketing strategies to promote new media art nationally and internationally will also be a key focus.

Curators and artswokers interested in applying for the school should contact Amanda McDonald Crowley, Director of ANAT for further information or Guidelines. me.d ia te is developed with the support of the Australian Film Commission and the Audience Development and Advocacy division of the Australia Council.

< LIFE 2.0 Call for Works >

For further submission information and the application form, please see: <<http://www.telefonica.es/fat/vida.html>>.

For questions concerning eligibility of entries: Nell Tenhaaf, Artistic Director <tenhaaf@yorku.ca>.

All other inquiries: Susie Ramsay <fat@telefonica.es>.

This is a call for submission of art works to an international competition on "art and artificial life." We are looking for works in electronic and digital media that cross over with the field of a-life research. Artists whose work uses digital synthesis techniques and whose conceptual concerns are related to synthetic life and artificial evolution, are invited to submit their pieces. The work may employ techniques such as digital genetics, autonomous robotics, recursive chaotic algorithms, knowbots, computer viruses, avatars or virtual ecosystems.

An international jury (Jose Luis Brea, Manuel DeLanda, Joe Faith, Rafael Lozano-Hemmer, Sally Jane Norman and chair Nell Tenhaaf) will grant three cash awards, with a first prize of US \$5,000 (2nd

Prize:\$3,500, 3rd Prize:\$1,500), plus seven honorary mentions to the most innovative electronic art projects related to a-life. Furthermore, works that are awarded a monetary prize or selected for an honorary mention will be included in a "Best of LIFE 2.0" video which will be aired on specialty television programs and circulated at festivals worldwide. Assessment will be based on video documentation submitted along with an application form.

The Life 2.0 International Competition is sponsored by the Fundacion Arte y Tecnologia in Madrid, Spain.

< ISEA Virtual Africa Project >

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VIRTUAL AFRICA

Within the Virtual Africa project, ISEA is organizing a conference on African arts and new technologies. The seminar will be held in Montreal at the end of April 1999 with the collaboration of the Festival Vues d'Afrique. It wishes to bring together artists and theoreticians around the multiple challenges related to the development of arts and technologies in Africa.

ISEA is looking for collaborations : texts, references, etc. If you have any contacts that could help us with the seminar, please refer them to us.

< Symposium on AI and Musical Creativity >

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SYMPOSIUM ON ARTIFICIAL INTELLIGENCE AND MUSICAL CREATIVITY

at the AISB' 99 Convention, 6th-9th April 1999

Edinburgh College of Art &
Division of Informatics, University of Edinburgh

The AISB' 99 Convention will be held in Edinburgh in April 1999. It will consist of 13 workshops and symposia on a wide range of themes in

Artificial Intelligence and Cognitive Science. An underlying theme of the Convention this year is the study of creativity, though not all of the events include a creative element. Further details of AISB' 99 will be found at the conference web site, listed below.

Creativity is at the centre of musical behaviour, not just for the composer, but for anyone who interprets music, either as performer or listener. Following on from the successful International Congress in Music and Artificial Intelligence, at Edinburgh in 1995, this symposium aims to explore a wide range of aspects of musical creativity, from simulations of composition and improvisation, through analysis and automated performance, to more philosophical questions of the nature of musical meaning.

The areas of interest of the Symposium on Artificial Intelligence and Musical Creativity will include, but are not limited to:

- * computer composition and analysis; computer performance;
- * simulation of improvisation and improvisation systems;
- * aesthetics, and philosophy of musical intelligence, in a formal context;
- * AI-based music education systems;
- * cognitive models of musical behaviour;
- * AI-based music technology.

The AISB' 99 Convention is supported by Edinburgh College of Art and the Division of Informatics, University of Edinburgh.

< IMMEDIA 99: Anything Digital >

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IMMEDIA 99: Anything Digital - call for entries

Deadline January 21, 1999.

Show dates January 27 -- February 6, 1999.

entity, the Ann Arbor Computer Artist Coalition, announces IMMEDIA 99: Anything Digital, the digital-hybrid-media show of 1999. From January 27, 1998 - February 6, 1999, in the Media Union on the North Campus of the University of Michigan, Ann Arbor, IMMEDIA will showcase the spectrum of digitally manipulated media, from video to audio, from animations to websites, from CD-ROMs, installations, and sculpture to performances. IMMEDIA 99: Anything Digital.

IMMEDIA 99 submission guidelines and information are available on the entity IMMEDIA 99 web site at:
<<http://www.umich.edu/~entity/immedia99/>>.

entity is accepting mailed or shipped submissions any time at the address below. Return postage must be included for entries to be returned. Submissions may also be brought in person January 14-15 to the Art & Architecture Building Rm. 1109. All appropriate entries will be shown, as feasible.

IMMEDIA 99 Highlights:

Gala opening performances and displays, Saturday January 30, 6 - 9 PM
Installations to span Media Union Gallery and Video Studio (together = ca. 5,000 sq.ft. -- Ethernet access to www and power available almost everywhere.)

< AES 16th International Conference >

Conference Chairman: Juha Backman
Fax: +358-9-460 224
URL: <<http://www.acoustics.hut.fi/aes16/>>
Email: <aes16@acoustics.hut.fi>

AUDIO ENGINEERING SOCIETY

AES 16th International Conference on

SPATIAL SOUND REPRODUCTION

April 10-12, 1999, Rovaniemi, Finland

Welcome to AES 16th International conference on spatial sound reproduction, which will certainly be the "Coolest Conference in Audio"!

Please check our web site for the latest information: URL:
<<http://acoustics.hut.fi/aes16/>>.

The conference will be held in the exotic winter wonderland location of Rovaniemi, Finland during April 10-12 1999. Located at the Arctic circle at a latitude of 66° 33' North, this is the home of Santa Claus and his team in addition to the 3D sound and multichannel audio community for the duration of the conference.

Participants of the conference can expect a packed technical and social program. The focus of the conference is on 3D sound and multichannel reproduction including developing technologies, test techniques. A total of 50 papers will be presented at the event and in the proceeding, the details of which can be found in the paper's section. We are honored to have five Keynote speakers, who will kick off each of the paper sessions. A poster and demo session will be held in the middle of the first day of the conference, allowing delegates to experience and discuss current and new technologies and visit the beautiful Alvar Aalto conference center.

The conference fee includes three nights of accommodation in one of Rovaniemi's excellent hotels. A choice of two hotels is available for those who prefer either a city location or the opportunity to downhill ski from your door and a view over Lapland. Breakfast, lunch, snacks and dinners will be provided and also the exotic banquet, to be held at an unforgettable location. All participants will receive a copy of the conference proceeding.

Technical session:

Perception of Spatial Sound
Spatial Sound Reproduction, Applications

Psychoacoustics & Binaural Auditory Models
Binaural Technology: Theory and Implementations 1
Binaural Technology: Theory and Implementations 2
Multichannel Audio: Theory and Implementations 1
Multichannel Audio: Theory and Implementations 2
Subjective Evaluation and Listening Conditions for Spatial Sound

< CREATE Symposium "Sound in Space" >

Contact:

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Telephone (805)893-8352
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URL: <http://www.create.ucsb.edu>

Call for Papers: CREATE Symposium "Sound in Space"
March, 2000

The Center for Research in Electronic Art Technology (CREATE) in the Department of Music of the University of California, Santa Barbara is organizing a weekend symposium on "Sound in Space," 11-12 March 2000. The program will feature presentations by CREATE staff as well as contributed papers from around the world. A multichannel sound system will be available for demonstrations, as well as multitrack players. The symposium is calling for abstracts on any aspect of sound in virtual or physical space. CREATE will accept one-page abstracts by email, fax, or the post. The deadline for abstracts to be received is Friday 3 September 1999. For more details on the symposium, see the CREATE web site.

< Final Call for CogSci Conference >

Erik Myin
Centrum voor Empirische Epistemologie Vakgroep Wijsbegeerte (EMEP)
Faculteit Letteren en Wijsbegeerte & Laboratorium voor Artifici'le
Intelligentie (Arti),
Faculteit Wetenschappen
Vrije Universiteit Brussel
Pleinlaan 2
B1050 Brussel
Email <emyin@vub.ac.be>
URL: <http://homepages.vub.ac.be/~emyin/>

Brussels, 17-19 May 1999
Vrije Universiteit Brussel
Centrum voor Empirische Epistemologie

GENERAL

The cognitive science of perception is developing rapidly. The explosive growth of empirical knowledge in the domain is accompanied by conceptual sophistication and has important philosophical and cultural implications.

From 17 to 19 May 1999, a Cognitive Science Conference on Perception, Consciousness and Art will be held at the 'Vrije Universiteit Brussel', Brussels, Belgium.

The aim of the conference is to highlight the fertility of the

cognitive science approach to perception for the understanding of consciousness and art, as exemplified by the recent books of Susan Hurley on consciousness and Semir Zeki on art ('Consciousness in Action', Harvard University Press, 1998; 'Inner Vision', forthcoming).

Each of the themes - perception and consciousness and perception and art- will be treated during one third of the conference time, with invited speakers. Another third of the conference is reserved for presentations based on submitted proposals.

CALL FOR PAPERS

Researchers from any domain in cognitive science whose work is related to the conference themes are encouraged to submit an abstract for presentation at the conference. Abstracts should not exceed 250 words and should be sent preferably by e-mail to emyin@vub.ac.be. If this is impossible, the paper mail address is: Erik Myin, Fac. L.&W., Vwij (EMEP), VUB, Pleinlaan 2, B-1050 Brussels, Belgium. In the latter case, please include a version of the abstract on floppy in any regular Mac or Windows word processor format. The deadline for abstracts is January 18, 1999. Authors will be acknowledged of reception without delay and of acceptance status before March 1, 1999.

ORGANISATION

The conference is organised by the 'Center for Empirical Epistemology' (VUB) and the FWOV Research Community 'History of Science: Study of the Interaction between Science and Culture'.

REGISTRATION FEES

Early general registration fee (before April 8 1999): 5000 Belgian Francs (approximately 140 \$)
Early student registration fee (before April 8 1999): 3000 BEF (approximately 83 \$)
Late general registration fee: 7000 BEF (approximately 195 \$)
Late student registration fee: 4000 BEF (approximately 110 \$)

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LEA WORLD WIDE WEB ACCESS

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

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