



Leonardo Electronic Almanac

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INTRODUCTION
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< This Issue >

Craig Harris

Nathaniel Bobbitt's article "Survey: Visual Paradigms for New Media" provides an intricate web of intersecting threads dealing with perception, performance, multimedia sensation, and environmental design. It is a mixture of exploration, learning, and insights into work that blurs the boundaries in both content and presentation, covering such topics as visual interfaces, performance in immersive environments, Hopi Sand Paintings as Aerial Art, dance/motion sensing and much more. There is dialog among collaborators in the project, and a tutorial introducing a "database" approach to digital imaging and multimedia design.

Ken Rinaldo provides a profile describing an interactive installation "Mediated Encounters," in which Siamese Fighting Fish are given control of two robotic truss structures. Ken discusses interfaces and lens aberrations that can occur when using technology to extend and to mediate our vision.

Sara Abdulla explores the intersection between art and science in her Leonardo Digital Reviews Editorial "Art and Science Snuggle Up," to accompany a host of LDR book reviews.

LEA is currently seeking artists and arts organizations to participate in creating live, net-based performances for this year's Sonic Circuits VI, a festival of new media art held in Minnesota. LEA will be hosting a presentation event at the Science Museum of Minnesota on November 7, 1998, with a focus on art that applies developing communication technologies. On November 13, 1998 LEA will host a performance event at Intermedia Arts of Minnesota, with a focus on live network-based performance. Artists and arts organizations wishing to participate in either of these events should contact lea@mitpress.mit.edu with a note of interest and a description of your work.

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FEATURE ARTICLE
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< Survey: Visual Paradigms for New Media (excerpts) >  
Nathaniel Bobbitt

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The digital embodiment of human performance relies upon the ability to zoom-in, that is, to isolate, amplify, and image intangible aspects of performance behavior (articulatory, excitement, energetic). Key components of the exchange between the real world and the computer screen remain driven by human factors.

Capability Readiness Performance based Resources: The embodiment of human performance is a window toward the consideration of motion capture (of behaviors: human, atmospheric, physical) according to an integration of the real world and computer environments. This presentation pave the way toward: an immersive system which is driven by human performance and the ability to give the performer physical feedback (multimedia resources). Rather than grabbing at the technology which supports the interfacing of motion capture, motion sensing, aiming gestures, and visual language gestures the allocation of human resources: sensorimotor, cognitive, and energetic requires our attention. The progressive treatment of layers of isolated behavior, energy, and sensorimotor webs makes us realize how quickly human behavior is not a one-to-one correspondence but is an of association of neighborhoods which are layered. The ability to represent human behavior through a layered graphic/geographic interface allows us to arrive at overlapping (simultaneous) representation.

Layering without Counterpoint is the progressive treatment of data (resources) according to the progressive treatment of zooming in:

With each shift in resolution, according to a zoom-in, a new layer of data appears. The transitions from the satellite to the aerial view or from the aerial to the ground level reveal a shift in what is available in a scene. The gradual treatment of what inhabits a scene is a layering of visual content without counterpoint, that is the layers remain stratified (unlike in musical composition where counterpoint fuses motifs). A satellite picture of a location shows a crude outline with cloud cover while further zooming in will show rivers and closer zooming in will show the height of forest.

Weather as a Multimedium

Weather appears as a multimedium: a resource based on color relationships, atmospheric conditions, fronts, cloud formations, precipitation, and sunlight. These atmospheric elements are equally dynamic as attributes for hybrid audio, visual images (Waves, Moire Effects) and animation effects/transitions. A summary of weather within this project (Casting a Shadow) the following:

- \* Environmental Conditions
- \* Habitation and Architectural Function
- \* Batch Files and Multimedia Databases
- \* Verticality
- \* Motion Capture

... [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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| PROFILE |  
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< Mediated Encounters (abstract) >  
Ken Rinaldo

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Abstract: Mediated Encounters

The author describes an interactive installation "Mediated Encounters" in which Siamese Fighting Fish are given control of two robotic truss structures. This description leads into discussion of interfaces and lens aberrations which can occur when using technology to extend but simultaneously mediate our vision. Comments about evolving interfaces designed to collapse communication barriers with other animals leads into a description of Siamese Fish body languages.

Mediated Encounters is an interactive robotic installation of four fish tanks designed to allow Siamese Fighting fish (Betta Splendons) to determine the movement of two grapevine sculptures. This piece allows normally aggressive fish to interact without killing each other and explore their environment beyond the limits of the fish bowls. The fish determine the direction and speed of the robotic structures by crossing any of six light break-beams connected to the computer which activate motors that move the tanks in the direction the fish look to the outside world. I wanted to give these Siamese Fighting fish the ability to virtually leave the tank and meet each other by moving it around. Like many fishes, Siamese fighting fish have excellent sight giving them the ability to see far outside the tank.

... [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 |  
| JUNE 1998 |  
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< Editorial: Science and Art Snuggle Up >

Reviewed by Sara Abdulla

E-mail: <sabdulla@novartisfound.org.uk >

The Medical Research Council has just got itself an art gallery and Imperial College now has a fringe theater. The Wellcome Trust is calling for collaborations between scientists and artists to apply for its 'Sci-Art' fund (worth 50,000) and its Science on Stage and Screen Fund (worth 150,000). Ditto the Gulbenkian Foundation for seed-grants of up to 10,000. Rumor has it the Arts Council is set to follow suit. [ed: all monetary values in pounds UK].

Last month scientists and artists met at the Novartis Foundation in central London to hear Professor Arthur Miller, Professor of History and Philosophy of Science and author of "Images of Genius: Imagery and Creativity in Science and Art" talk about "What did Einstein, Picasso and Braque have in common?". A week later leading scientists spent two days debating the major scientific controversies of today from sex to space, and cloning to consciousness with ground breaking artists in "In the Eye of the Storm: Artists in the Maelstrom of Science" at the Royal Institution.

What is going on? Have 'The Two Cultures' gone mad or come to their senses? Can there really be constructive dialogue and interdisciplinary creativity between disciplines that most of us would label as 'opposite ends of the spectrum'? Or - assuming that all concerned can weather the jargon - will these enterprises quickly run into irreconcilable intellectual schisms? Well, since both art and science are hotbeds of controversy - it depends who you ask. One of the chief critics of this movement is the Chairman of the Committee on the Public Understanding of Science - Professor Lewis Wolpert a developmental biologist at UCL. "You might as well make scientists work with supermarket managers," he scoffs. "I don't like the snobbery of scientists and artists in annexing creativity for themselves," he goes on, "what about captains of industry or magicians- are they not creative?" Indeed "of all the subjects most alien to science" Wolpert adds "art is the most alien: it is totally non-intellectual".

After listening to Arthur Miller talk about the turn of the century zeitgeist that gave us, the curiously analogous revolutions of relativity and cubism, it is hard to agree. Miller holds that Picasso, Braque and Einstein were all products of intellectual milieus intrigued by the changing concepts of space, perception, and matter stimulated by technological advances such as n- dimensional geometry, X-rays, the discovery of the electron, photography, air travel and radioactivity. Miller shows that, more or less simultaneously, all three "pursued their adventures in abstraction" by experimenting with depth, form, space and time. All of them were artists in their own ways," he concluded, "passionately searching for new means to express the inner beauties of nature that lay beyond the immediate senses."

Well artists and scientists reacting separately, but in parallel ways, to the same cultural currents is plausible enough, but to imagine them working together in an age when a microbiologist can barely converse with a molecular biologist, is a little harder. A historical perspective helps, argues Ken Arnold, curator of the Wellcome Trust

Galleries, one of which, 'Two10', is devoted to Science and Art exhibitions. "Science and art have long been intertwined, what we are seeing is a not a fantastic new idea but a rapprochement," he explains. "If you think back to the great polymaths like the artist-mathematicians Pierro De La Francesa and Luca Pacoli and of course DaVinci" he goes on "you realize that have just been going through a period when art and science have seemed poles apart and now we are getting over our amnesia."

One of the root causes of this amnesia Arnold feels (along with almost anyone else you ask) is an education system that, from an early age, instills a feeling that 'if you are one you cant be the other'. Hence, even Wolpert concedes that one of the best results of these interdisciplinary initiatives is what Arnold calls 'the Heineken effect': reaching audiences that other straightforward didactic science exhibitions wouldn't tap. "A gallery like Two10," says Arnold, "with its attractive, accessible presentation of interesting thematic juxtapositions, reminds people that it is legitimate to think and look at and deal with science and art at the same moment in the same space."

So far the Trust's SciArt fund has, amongst other projects, enabled a portrait painter and computer modeller to provide aesthetic expertise to face surgery team working with cleft palate patients, and funded another similar collaboration between an artist and a clinical group treating phantom limb sufferers. In addition to the obvious practical benefits of these ventures, participants have found that by being forced to communicate their experiences and methodology to a group of people who don't work in the same way, they have become much more imaginative, reflective and self-critical.

Another organization stimulating and supporting fertile science/art collaborations, is The Arts Catalyst, who organized the 'Eye of the Storm' debate. Founding member and sole full-time employee, Nicola Triscott, feels that one of the most important contributions art can make to science is to "highlight the fact that science, like art, is not a blob of knowledge but rather an ebb and flow of controversy."

Hence their commitment to thought provoking work such as Helen Chadwick's 'The Body Visual', a series of photographs of cells and embryos made in collaboration with King's College assisted conception unit exploring the externalization of women's bodies, or painter Cornelia Hesse-Honegger's studies of plants and insects deformed by nuclear fallout.

Triscott admits that there can be "a translation problem" -linguistically and philosophically. "Often artists see science purely as technology they want to use," she explains "and scientists see art solely as a way of illustrating their work." Which is where The Arts Catalyst, fund raiser, virtual atelier, creative nanny, and educational outreach campaigner, comes in, "we filter those impulses and try to steer them into something more fruitful."

"The bottom line is science and art have a lot in common," concludes Grahame Bulfield, Director and Chief Executive of the Roslin Institute and no stranger to being in the eye of the storm himself. "They aren't outside society, they're part of it, and yet both are seen as peripheral and radical, both suffer from misunderstandings and both groups share a need to communicate - not only to each other but to everyone. In the end all communication is worthwhile and we don't know whether this will work until we try it. So why not?"

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Behind the Picture: Art and Evidence in the Italian Renaissance

Written by Martin Kemp.

Yale University Press,

New Haven, CT, U.S.A. 1997. 324pp

Illus: 100b/w + 20 color.

\$35.00 US. ISBN: 0-300-07195-7

Reviewed by: David Topper

Email: <topper@uwinnpeg.ca>

Over 150 years ago, Leopold von Ranke initiated modern ("scientific") historiography by asserting, in his famous dictum, that the goal of historical writing was to narrate events as they had actually happened (wie es eigentlich gewesen) - a directive with which I, and I think Kemp too, would agree. But much has happened between then and now in the writing of history, particularly art history, to sabotage that goal. In a sense, this book is a plea to return to Ranke's quest, by bypassing much modern and postmodern "theory" and returning instead to the original sources. As such, the book is not, despite its subtitle, an outline or an introduction to Italian Renaissance art; at most, it contains selected cases and case studies illustrating or providing evidence for a new approach or technique.

Kemp speaks of this as a "functional approach," an attempt to look again at the Renaissance artifacts within their historical context and to try as best he can to limit himself primarily to contemporary sources so as not to impose modern ideology upon the past. The arguments are often complex and subtle and I cannot in a review do justice to the sophistication of Kemp's work. But I hope the following outline will provide the reader with a sense of how much this book is a breath of clean, fresh air in a dank and foggy world. The first chapter may stand as an essay unto itself. He begins with the ancient story of Apelles hiding "behind his picture" and listening to the comments of the passing viewers: the story is then a metaphor, and of course the source of the title, for the book.

This is an insightful chapter/essay on the limitations of our ability to comprehend the art of the past and how our visual knowledge and experience facilitates our understanding of images, however much there are restrictions of time, place, and language. This piece could be read as a complement to E. H. Gombrich's classic essay, "The Visual Image" (first published in 1972 in *Scientific American*; reprinted in 1982 in his *The Image and the Eye*, and again in 1996 in *The Essential Gombrich*, edited by R. Woodfield). The next chapter is on what may be called the business of art, namely, the use of written records (contractual relationships) of lawyers and notaries for patrons and artists. The chapter, although tedious and tough sledding for this reader, provides a fundamental underpinning for the social and economic basis of "art," since artifacts in the Renaissance still functioned mainly within the craft tradition.

From artist as artisan or tradesman (Chapter 2) to artist as intellectual: Chapter 3 deals with five well-known theoretical texts, from Alberti's "On Painting" to Leonardo's "Treatise on Painting."

In examining such texts Kemp retraces some of the ground covered in his previous book, *The Science of Art* (e.g., perspective), but here he is concerned more with setting these texts within their own time. Thus he points to the heterogeneous nature of the texts and notes that there was no real classifiable "art theory" as we conceive of it today (although it does have its origin in the Renaissance) and that they were not widely read (although some were copied).

Kemp's expose rather deflates many modern interpretations of the intellectual nature of art in the Renaissance. As he asserts, his functional approach precludes making overarching pronouncements about art - such as linking the new modes of representation to a new way of seeing. Instead, Kemp remains within the everyday world where Renaissance artisans make (or try to make) a living. The issue of value applied to "art" (Chapter 4) we often take for granted. But in the Renaissance there was little uniformity in pricing: art works that today would be priceless masterpieces could be valued as less than an ornate bed. Only antiquities were consistently of high value.

Similarly, artists' wages varied, with only a few "super-artists" (such as Michelangelo, Raphael, and Titian) earning a considerable income. The average artist's yearly wages, it seems, were about 1/3 that of a lawyer(!). This period also initiated an important shift, whereby the value or price set for an artifact was based less on the materials required and the time spent making it, and more on the skill of the maker and the aesthetic quality of the piece - another step toward our modern view. The content of such works (e.g., iconography) poses problems, because Kemp, keeping close to the original sources, is thus sensitive to reading too much into the past, particularly from modern viewpoints such as feminism and psychoanalysis.

Hence, in Chapter 5, he underscores the limitations of what we can know about the original meaning of, say, Botticelli's, Primavera. The most significant insight for me in this chapter was Kemp's argument that for many works there probably was no fixed, preconceived single meaning; instead such meaning evolved - as an interaction between form and content - as the work progressed. Hence, neither is there a documented "program" for Renaissance works nor are we always able to reconstruct unequivocally their original meanings. This chapter dovetails nicely with another important essay by Gombrich on the interaction between form and expression, "Four Theories of Artistic Expression" (first published in 1980 in vol. 12 of the Architectural Association Quarterly and reprinted in 1996 in Gombrich on Art and Psychology, edited by R. Woodfield).

As implied in Chapters 3 & 4, there occurred in the Renaissance a shift toward the modern concepts of "art" and "artists," the topic of Chapter 6. But even here Kemp - always keeping an eye on the sources - puts a break on how much post-Romantic baggage we may legitimately read back into this period. At most he concedes that some features of the modern viewpoint may be seen as having their genesis in the Renaissance but that they were certainly not articulated as full-blown categories of "Art." The last chapter (which could have come first; indeed, the reader need not read this book in the given order) puts Kemp's approach into an historical context, although not a comprehensive one. To be specific: it is more of an autobiographical essay, where Kemp reviews his intellectual development in art history after his early "inglorious" effort at science (biology, to be exact) as a student at Cambridge in the 1960s.

Interestingly he speculates that his previous training in biology may influence his "functional approach". His range of study reads as an outline of the historiography of 20th century art history: beginning with the early focus on formal analyses (growing out of the "significant form" of Clive Bell and Roger Fry), through the iconographical approach (from the "symbolic form" of Ernst Cassirer), to various types of "social history" - the latter, from the Marxist to the modern and postmodern varieties, entailing semiotics, feminism, psychoanalysis, and so forth. Kemp is less than enthusiastic about recent "theories," although he recognizes that these approaches have provided significant insights into specific areas of art history. His



main gripe, I think, is that the "New Art History" has not broken from the vast overarching schemes of the previous methods by still imposing preconceived concepts upon the past rather than listening to the sources themselves. In a sense one could say that Kemp has begun the real legwork into the material and social history of Italian Renaissance art that some postmodern writers crow about.

This is not to say that Kemp is oblivious to what our present understanding can illumine about the past. He clearly acknowledges that the sources are incomplete; that we have learned much about the nature of the visual experience which we may apply to the past; and that sometimes only hindsight allows us to see the so-called forest for the trees. But we should still be ever on our guard not to impose present values, ideologies, and obsessions on the past if we wish to reconstruct as best we can - and as Ranke decreed - the authentic experience of the Renaissance artists. I believe that Kemp has established himself as one of the foremost art historians of our time. He is especially to be admired because of his ability to produce an eclectic array of works without sacrificing a high quality of scholarship. His previous book, the monumental *The Science of Art* (1990), synthesized and digested a wide range of texts on perspective, color theory, and other "scientific" matters in European art. As well, Kemp has written numerous essays on what he calls the "history of the visual," exploring images beyond the "fine arts" category, such as scientific illustrations. As one reads Kemp more and more, it becomes increasingly evident that the wide and sometimes seemingly disparate range of material he tackles may really be all of one piece.

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< Book Review: Walter Benjamin's Other History >

Walter Benjamin's Other History: Of Stones, Animals, Human Beings  
and Angels

Beatrice Hanssen  
ISBN-0-520-20841-2  
University of California Press  
218 pages, \$35.00 cloth

Reviewed by Mike Mosher  
Email: <mikemosh@well.com>

In 'Walter Benjamin's Other History' Beatrice Hanssen makes the debatable case that Benjamin assembled from his eclectic interests and literary inclinations "a new theory of natural history". If she doesn't completely prove this, in the process she turns over a variety of motifs from his texts and makes connections in the critic's fossil record. While an artist might be more immediately inspired by Susan Buck-Morss' 'The Dialectics of Seeing: Walter Benjamin and the Arcades Project' (MIT Press, 1989), a book that unpacks a very different (and unfinished) part of Benjamin's work, there is much of value a student of Benjamin can find in Hanssen's serious philosophical and literary study.

The author's wide net catches a wriggling and diverse range of topics. Motifs of wild and domestic animals in Franz Kafka writings, whether dog, mouse, monsters like the cat-lamb or more often monstrous humans.

Benjamin's fascination with a Paul Klee painting of an angel. Concepts of humanity, humanism and the 'unmensch', in opposition to Hitler's abuse of a bastardized-Nietzschean one of the 'ubermensch'. Benjamin's thoughts on the 'kreatur' and language itself. Hanssen pays particular attention to Benjamin's first book 'The Origin of German Tragic Drama', written in hopes of securing a 'privatdozent' university teaching position which never materialized for him. In it Benjamin saw

literary symbols that expressed an "organic, mountain and plant-like quality" and that semantically overdetermined and oversignified allegory proceeded from the era's interest in natural history. That this was also the era of great 'wunderkammer', eclectic personal museums seems no accident. Fragments and ruins were incorporated into theatrical drama as they were into private scientific collections. Motifs of decay, decomposition and dissolution prevalent in plays of that period only mirrored nature's own.

The writings of Walter Benjamin most often studied and cited by multimediastes is his 1936 essay "The Work of Art in the Age of Mechanical Reproduction", and Beatrice Hanssen's bases a chapter "The Aesthetics of Transience" upon it. My own work as an artist has been marked with volatility and disappearance--community murals quickly obliterated to multimedia works created in popular off-the-shelf packages that can't run in later versions (or on hardware) five years later--so found this chapter of particular interest.

In "The Work of Art" essay Benjamin worked to develop principles that could resist the aesthetics of fascism taking hold around him, and began with assumptions of the validity of ideas about art from Futurism and Dadaism, and their suitability for an age of urban temporality and fluidity. Hanssen points out Benjamin's new aesthetic model "privileged the fragmentary and the transient", qualities he also recognized and appreciated in German Baroque drama. He saw the relationship of a unique artwork to its "aura" as comparable to that of a literary allegory to its originating phenomenon in nature. In this arena Hanssen examines Benjamin's mutually attentive relationship with the theories of Theodor W. Adorno; R.B. Kitaj's 1972 painting "The Autumn of Central Paris (After Walter Benjamin)" somewhat suggests visually the richness of their discourse. After Benjamin's death Adorno carried his pessimism about permanence on into an aesthetics of art objects never transcendent, only transient. Hanssen writes Adorno "held that the refuse or remnants produced by historic decay now no longer spelled 'transience' as their meaning. Instead these relics were presented as ghostly objects, letters, traces--that is, as a spectral scripture of a forever mediated, inaccessible eternity." In 1998 as an apt description of much of the artwork displayed or constructed upon the World Wide Web.

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< Event Review: Konfigurationen-German media theory and history,  
part 1 >

URL: <<http://www.uni-kassel.de/wz2/config.media.art>>

Reviewed by: Andreas Broeckmann  
Email: <[abroeck@v2.nl](mailto:abroeck@v2.nl)>

[On the way back from two short days in Kassel, reading on the train...]

Kassel is this summer not only host to the documenta X and the Hybrid WorkSpace where a large number of people from the nettime archipelago pass through (of whom some will meet next week for the 'making of the nettime bible', which is more likely going to be its further preparation ...).

This weekend (4.-7.9.), the University there holds the 'Konfigurationen. Zwischen Medien und Kunst' congress, in cooperation with several partner organizations. config.media.art has more than 50 speakers, historians, media theoreticians, artists, activists, and many hybrids of these. It is one of those medium-size congresses which have panel sessions in the mornings and four parallel seminars in the

afternoons, with varied subjects ranging from photo theory and hypertext to Shannon's machines and electronic music. The seminars are generally put together with philological accuracy, while some panels are thematically very diverse. There is clearly enough to shop around here and find a few interesting things, though there is a sometimes painful lack of focus in these kinds of gatherings.

Anyway. More importantly, this is maybe one of the biggest public meetings ever of the German academic media theory 'mafia' that has evolved around a project financed by the Deutsche Forschungsgemeinschaft, "Theorie und Geschichte der Medien." They have brought together people like photo historian Abigail Solomon-Godeau, theoretician and artist Victor Burgin, media theoretician Georg Christoph Tholen (the main organiser), media historian Siegfried Zielinski, feminist art and media historians Marie Luise Angerer and Sigrid Schade, pop critic Diedrich Diederichsen and electronic musician Achim Wollscheid, media artists Valie Export and Knowbotic Research, net-sociologist Herbert A. Meyer, a whole gang of young men who are working with Friedrich Kittler on the history of hardware and early cybernetic games, and a host of other people working on or within media/theory/art. The fact that there is a small number of mainly French, British and North American speakers does not make this an international conference. Presentations and discussions are generally in German, translation is provided only for the presentations of the foreign speakers, which means that they cannot follow most of the conference, nor can the other foreigners who try to participate - I talked to Russians, Brits, Americans, Japanese. This is a pity, because some of this is genuinely interesting theory production which hardly gets outside of the German and Austrian circles. The work, for instance, that is being done by the Kittler-group about "Shannon's Toys" is really interesting, but some of these researchers might have to wait until their professorships and the transatlantic invitations before their ideas are going to find their way 'out there'. The same is probably also true of other countries - how much do we hear about the media theoretical discourses amongst Brazilians, Japanese, Hungarians, Fins?

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< Book Review: Lab 3 - German media theory and history, part II... >

Lab 3 - Jahrbuch 1996/97 fuer Kunst und Apparate  
Edited by the Kunsthochschule fuer Medien Koeln.  
Cologne: Walther Koenig, 1997  
URL: <<http://www.khm.de>>

Reviewed by: Andreas Broeckmann  
Email: <[abroeck@v2.nl](mailto:abroeck@v2.nl)>

German media theory and history, part II...

The important work that is being done in and around the Kunsthochschule fuer Medien in Cologne/Germany has a similar fate. The art school dedicated to teaching the history, theory and practice of media publishes this yearbook which this year brings together texts by, amongst others, Jaroslav Andel (about Zdenek Pesanek), Nils Roeller (about mathematics and philosophy), Hans Ulrich Reck (about media art theory), Hinderik Emrich (about logocentrism and psychosis), Otto Roessler (about chaos and ethics), the school's director Siegfried Zielinski (about metaphors and machines), by Friedrich Kittler (about hardware) and Miklos Peternek (about the history of the telephone). Only three texts are printed in English (Timothy Druckrey, Myron W. Krueger, Yaroslav A. Khetagurov), which is both understandable - after all, this is a German publication - and a pity, because there are a number of substantial contributions to the history

and the theory of media which will not easily be noticed by the international community.

(By the way, this is a well-made, well-designed book with 400 pages and many b/w illustrations. The designers, Uta Kopp and Alexandra Ohlenforst, just recently won a big design prize in New York.)

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< Book Review: Cyberwars >

Cyberwars, Espionage on the Internet  
Jean Guisnel  
Plenum Publishing Corporation  
October, 1997  
\$26.95 US  
ISBN:0-306-45636-2

Reviewed by:Axel Mulder  
Email: <amulder@sfu.ca>

To write about espionage is difficult, because the nature of espionage is stealth - to remain unnoticed and at the very least unintelligible. How believable can your writings get when there is always the possibility of a hidden plot, a secret plan behind the "facts" as portrayed by the media or even would-be insiders. Mr. Guisnel's book is subject to this phenomenon and hence many of his anecdotes could simply be fiction. This despite a reasonable 20 pages of references and notes, many of which newspaper articles and web addresses. But there is more than ample proof of the lack of substance in newspaper articles - we have seen the USA newspapers flatly publishing phony leads on the investigation into President Clinton's. And it is well known that the web is still brimming with nonsense (although it can be extremely entertaining !).

Mr. Guisnel's book is very readable - I am definitely not a fast reader and it really took me no effort to finish his book. It is the light tone of his writings and the speed at which he crosses from cyberwarriors to cryptology to the legion of doom and the CIA, never wasting the reader's energy on elaborate details. I read a sense of pride when he could "let the reader in" on some information only given to him by some of his contacts in the French secret service. Well, sorry, but I am not impressed given my remarks above. Even more annoying was his respect for authority in the form of governments displayed through his admiration for those hackers who joined the nation's forces to battle the net's anarchists and cyber thieves. Regardless of the fact that we are all better off in a world without serial killers, mafia and yakuza, I have yet to discover any evidence of the national secret services of the world being any different, let alone demanding respect.

Unfortunately, there's a lot of trivial material about how the internet began and more of its current hypes and hopes. This, together with the anecdotal writing style makes the book rather superficial, although entertaining.

What I would like to see and what I read in the content of the book is that the book creates awareness of the way we, as humans, are slowly both deciphered and encrypted. Deciphered through a relentless information gathering structure (the internet) that continually monitors and organizes any and all of our activities in an efficient way and encrypted at the same time as we are becoming less and less accessible through traditional means of communication that are so vulnerable to the omnipresent media but are forced to encode ourselves with secret keying systems such as PGP to maintain privacy. In this

respect it is interesting to see that the Ars Electronica event later this year will be exploring the issues around information warfare. No doubt Mr. Guisnel's book is a timely publication and I am sure his anecdotes will be received well by many a paranoid netsurfer.

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< Book Review: Perception and Imaging >

Richard D. Zakia  
(Boston: Focal Press, 1997).  
ISBN 0-240-80201-2.

Reviewed by Roy Behrens  
Email: <ballast@netins.net>

Vision and art are inseparable, even more so if, as Paul Klee observed, "Art does not render the visible; rather, it makes visible." Written by a well-known photographic engineer and educator who taught for more than three decades at the Rochester Institute of Technology, this is an encyclopedic handbook of concepts and experimental findings related to art and visual perception: Attention, gestalt organizing principles, visual memory, color, ambiguity, contours, subliminal images, and so on. While addressed mainly to photographers, it describes and amply illustrates a wide range of ideas about art, design, advertising, semiotics, and visual communication.

(Reprinted from Ballast Quarterly Review, Vol 1 3 No 2, Winter 1997-98).

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<Editorial Notes: Letter to the Editors >

WRT Lygia Clark and Hilio Oiticica: A Legacy of Interactivity and Participation for a Telematic Future, vol.30, #4

Written by Simone Osthoff

Letter from Adelheid Mers  
artist, educator  
Email: <ampm@tezcat.com>  
URL: <<http://spaces.org.mers.htm>>

Mers writes: "Within Anti-art [...] the artist understands his/her position not any longer as a creator for contemplation, but as an instigator of creation..." Hilio Oiticica, Position and Program, 1966.

Over 20 years have passed since the above claim has been made. Today, if the work of artists like Hilio Oiticica and Lygia Clark is read predominantly in the context of electronic arts, the full impact of the thought on which it is founded (or to which it gave rise) becomes veiled, and possibly pre-empted.

In the realm of anti-art, art becomes interactive. At its best, interactive art engenders freedom, the choice of action or inaction, contemplation as well as use, abuse, even destruction - in short, it is a space allowing, but not coercing or forcing the viewers meeting with him or herself and others. It can be a realm of intensified experiencing as chora or forum, thus evoking ritual, politics and ethics. Freedom is offered if the artist succeeds in opening a ground truly available to the viewers as participators, foregoing claims to hierarchy. To achieve this, the artist needs to redefine his/her own role. Clark spoke of (and practiced) healing. Oiticica determined the attitude of giving as crucial. The artists role is open to be shaped yet again. As I see it, this challenge is Clarks and Oiticicas true legacy.

Technology can provide excellent means in the search for options. But popular communication technology is predominantly applied in the service of entertainment with its inherent escapism, and proponents inevitably have to work within this context. Secondly, technology in art is eagerly financed by industry. Might this inhibit discussion and application of the truly democratic implications and possibilities of interactivity? Thirdly, discussions on electronic art tend to focus on the applications of technology, limiting the viewer to the role of a user in need of instruction, to the exclusion of considerations of the role of the artist. This approach, as it could be observed at the Total Museum Conference in Chicago, cements the status quo and threatens to render the challenge mute. (end, letter)

The editors of Leonardo Digital Reviews welcome your comments. Contact us via email at <ldr@sfsu.edu>. These editorials and reviews may be found online at <<http://mitpress.mit.edu/e-journals/Leonardo/ldr.html>>

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ANNOUNCEMENTS
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< Mexican Sound Art Festival >

ENCOUNTER OF SOUND ART  
San Miguel de Allende, Guanajuato. MEXICO.

Manuel Rocha Iturbide  
Insurgentes sur 4411  
Ed 9 Dep 103  
Tlacoligia 14430  
Mexico DF  
Email: <manroit@compuserve.com>

Salon  
Michael Bock, Director  
Cuadrante 2, Centro  
37700 San Miguel de Allende, Gto.  
Mexico  
Tel/Fax: (00.52.415) 2 4575

Concept: Manuel Rocha Iturbide and Michael Bock

6 - 9 August 1998  
El Sindicato, Recreo 4, Centro

Concerts: Friday, 7 August, 7 pm

Roberto Morales Manzanares  
Director of: Laboratorio de Informatica Musical LIM of the Music  
School of the University of Guanajuato.

Domingo, 9 August, 7 pm

Michael Bock Presents: Sound Poetry  
Exhibitions : "Homage To American-Mexican Composer Conlon Nancarrow"  
Sound Installation from a CD: "Ars Acustica Mexicana"  
Sound Sculptures and Sound Art  
Soundscapes

Salon 2, Mesones 24, Centro - day and night

George Maciunas  
Nam June Paik  
Davide Mosconi

Acknowledgments:

We thank: all artists, Yoko Nancarrow, Robert Littman, director of Centro Cultural de Arte Contemporaneo, Mexico, Daniel Velasco, Carmen Salmeron, Jane Evans, Guillermo Santamarina, Luz Maria Sanchez and Susan Bloom, Terry and Jack Reinhart, Elfie Guillen, Troy Beljohn, Nancy McGalliard, Adam Manzaroli, Peter Douglas and others.

\*\*\*\*\*  
< Conference on Computation and Creation-Toulouse (France) >

Faust 1998  
Mind and Machine in the Creative Design Process: What is Man's Role?

Toulouse, 23 and 24 October 1998

Organizers:

Mario Borillo  
founder of the Rencontres Institut de Recherches en Informatique de Toulouse, CNRS, UPS, INPT  
Email: <borillo@irit.fr>

Jean-Pierre Goulette,  
Ecole Architecture de Toulouse  
Email: <goulette@irit.fr>

The computer, a Pandora's box?

From 1986, the Rencontres Institut de Recherches en Informatique de Toulouse have provided a framework for analysis and reflection on the association of man and cognitive technologies in the field of culture and artistic creation. The impact of this association is both intimate in nature and universal in extension. Man now feels threatened by a new kind of technology that can stimulate even his thought processes. It would therefore seem very revealing to choose, for the 1998 venue, a theme that seems to be a limit in the man-machine association/competition, in what was considered to be man's prerogative: his creative design ability.

\*\*\*\*\*  
< Stroemung99 >

All questions concerning artistic aspects of the competition to be directed to:

Richard Kriesche, Curator  
Tel/Fax: ++43-316-835-592  
Email: <kriesche@iis.joanneum.ac.at>

All questions concerning organisational aspects of the competition to be directed to:

Martin Gabriel, Project Manager  
Tel: ++43-316-387-219  
Fax: ++43-316-387-298  
Email: <gabriel.martin@steweag.com>

The Competition

1. Subject:  
"Energy, information and communication in a global society".
2. Content:  
Expected are designs of scenarios, installations, events, performances, communicative and interactive projects etc., including detailed descriptions as to the final realization of the project.
3. Entry requirements:  
Any artist, scientist, researcher or team of individuals from any of the member states of the council of europe may enter the competition.
4. Type of documents for submission:  
Project description - content and technical description (max. of four A4 pages), sketches, drawings (also size A4), photographs, video, audio, CD-ROM, CD.  
Languages: German, English, French
5. Budget:  
the total budget is euro 40.000,00 incl. vat (approx. ats 560.000,00). This amount includes all expenses arising in connection with the work (concept, materials, fees, presentation etc.). the prize winner will be expected that he/she is capable of realising the project on his/her own responsibility. He/She undertakes to present the work in public at least once.
6. Deadlines:  
All project documentation should be submitted by December 4, 1998. Realization for the project will take place in the period between April 15, and June 15, 1999.
7. Copyrights:  
Ownership, copyright and right of dissemination by virtue of the awarded prize money, Steweag-Energie Steiermark acquires the real ownership in all designs submitted by participants; all intellectual rights remain with the project creators. Steweag-Energie Steiermark may publish work entered in the competition, always making due mention of the author's name. Each participant also has the right to publish his/her work.
8. Panel of Judges:  
The panel of judges consists of Richard Kriesche (chairman), Martin Gabriel (project manager of Steweag Communication), plus a member of the board of the company and three international experts to be nominated subsequently.

\*\*\*\*\*

< ISEA98: The Liverpool Revolution Symposium >

ISEA98: The Liverpool Revolution Symposium

Liverpool John Moores University

Liverpool Art School

68 Hope Street,

Liverpool L1 9EB

Tel: +44 (0)151 709 3420

Fax: +44 (0)151 231 5096

Email: <isea98@livjm.ac.uk>

URL for constantly up-dated information check <<http://www.isea98.org>>

and <<http://www.isea.qc.ca/symposium/isea98.html>>.



The Ninth International Symposium on Electronic Art opens in Liverpool on September 2nd.

Hosted for the first time in the UK, the annual ISEA symposium is acclaimed for its ability to bring together the international cutting edge of opinion and opinion-makers concerned with the cultural use of Information Technology.

Liverpool Art School and the Liverpool Institute for Performing Arts host the Revolution Symposium. Together they are forum and laboratory in which to identify, assert and critique the notions and metaphors of Revolution - a word that describes both cyclic repetition and violent severance. Liverpool has assembled an outstanding global group of artists, academics, inventors and commentators ranging from 1960s electronic pioneers through to young, unsung iconoclasts impatient of everything. Together they will challenge and engage with a programme of presentations integrating papers, dialogues / debates, artist and technologists' workshops, exchanges and performances.

ISEA98 three day programme: Liverpool Revolution Symposium September 02-04.\*

Cost: 175 pounds UK

Benefits include:

- \* Prioritised access to all Revolution presentations and events including electronic music performances
- \* Exclusive Delegates pack including limited-edition catalogue and programme publications
- \* VIP invitations to gallery and exhibition receptions
- \* Cream night-club party
- \* Luxury coach shuttle service between hotel and conference sites.
- \* Webcast and email cyberport.

ISEA98 day programme: Liverpool Revolution Symposium September 03 or 04.\*

Cost: 85 pounds UK

Benefits include: all benefits of three day programme on one selected date.

If you are unable to pay a full registration fee, please contact in confidence Denise Glinister at the address below, or <isea98@livjm.ac.uk>.

ISEA98 Registration  
2 Maryland Street  
Liverpool L1 9DE, UK  
Tel: +44 (0)151 231 3585  
Fax: +44 (0)151 709 5057  
Email: <d.glinister@livjm.ac.uk>  
URL: <[http://www.livjm.ac.uk/corporate\\_events/isea98](http://www.livjm.ac.uk/corporate_events/isea98)>

\*For details of three and one day Manchester programmes see page x.  
All fees are inclusive of VAT @ 17.5%

\*\*\*\*\*  
< Second International Conference on The Inspiration Of Astronomical Phenomena >

The Organizing Committee:

Professor Raymond E. White  
Steward Observatory, University of Arizona  
(Chair)  
Email: <rwhite@as.arizona.edu>

Rev. George V. Coyne, S. J.  
The Vatican Observatory  
Email: <gcoyne@as.arizona.edu>

Dr. Rolf M. Sinclair  
National Science Foundation  
Arlington VA  
Email: <rsinclair@nsf.gov>

Prof. Frank Ventura  
Malta  
Email: <fven@cis.um.edu.mt>

URL: <<http://ethel.as.arizona.edu/~white/insap.htm>>

With this note, we wish to inform you of the up-coming Second International Conference on "The Inspiration Of Astronomical Phenomena" ("INSAP II"), to be held 7-14 January 1999 on the Mediterranean Island of Malta

The sky makes up half of mankind's world; the Earth around us makes up the other half. This meeting will explore mankind's fascination with the astronomical phenomena that define the sky -- the lights in the sky, by day and by night -- which have been a strong and often dominant element in human life and culture. Scholars from a variety of disciplines (including Archaeology, Art, Classics, History and Prehistory, Mythology and Folklore, Philosophy, the Physical Sciences, and Religion) will attend "INSAP II" to discuss the impacts astronomical phenomena have had on mankind. Presentations by attendees will be grouped under four main topics: Literature; Art; Myth and Religion; History and Prehistory. Speakers will include (tentatively) Professor Albert Boime (Univ. of California-Los Angeles): "The Artistic Portrayal of Starry Skies", and Doctor Madanjeet Singh (UNESCO, Paris): "The Sun, Symbol of Power and Life".

The Conference will allow the attendees to address the many and variegated cultural impacts of the perceptions of the day and night skies, providing a mechanism for a broad group of artists, historians, philosophers, and scientists to meet, compare notes, and have the chance to ask those questions of each other about their work which may have been lying fallow for decades. Attendance will be by invitation from among those applying. Full information on the Conference and an application form can be obtained by contacting the Organizing Committee, or from our website.

This Conference is the second to be held on this general theme. Details of the first meeting (held at Castel Gandolfo, Vatican State, 27 June-2 July 1994), and the publication references that include many of the papers presented there, may be found also at the above Website (URL as given).

This Conference is sponsored by the OTS Foundation and the Vatican Observatory.

\*\*\*\*\*

< Linda Hall Library fellowship >

Bruce Bradley  
Librarian for History of Science and Special Operations

Linda Hall Library, 5109 Cherry Street  
Kansas City, Missouri 64110  
Tel: (816) 926-8737  
Fax: (816) 926-8790.  
Email: <bradleyb@lhl.lib.mo.us>.  
URL: <<http://www.lhl.lib.mo.us>>

Humanities Research Fellowships, 1998-99 at The Linda Hall Library of  
Science, Engineering, and Technology

The Linda Hall Library invites applications for 1998-1999 humanities fellowships for research in the library's collections on the history and philosophy of science, engineering, and technology. Short term fellowships are available for up to eight weeks, offering a stipend of \$450 per week to assist researchers with travel and living expenses. These fellowships support advanced and independent studies, dissertation research, and post-doctoral research.

The fellowship may be for two to eight weeks, and may be broken into more than one session if longer than two weeks. The project proposal should demonstrate that the Linda Hall Library has resources central to the research topic. Candidates are encouraged to inquire about the appropriateness of a proposed topic before applying, and to consult the library's online catalog, Leonardo, available through the library's homepage.

To apply, please send a curriculum vitae, a one to two-page description of the proposed project, and a single letter of reference to the address given above.

Applications may be sent at any time. Fellowships will be awarded quarterly, with the following deadlines for applications:

August 15, 1998  
November 15, 1998  
February 15, 1999  
May 15, 1999

#### About The Linda Hall Library:

The Linda Hall Library is one of the world's leading collections of science, engineering, and technology. With more than a million volumes, the collection dates from the fifteenth century to the present. Historical collections have been developed through more than 50 years of careful acquisitions. Particularly notable acquisitions were the library of the American Academy of Arts and Sciences in 1947, and the Engineering Societies Library in 1995. As a result, long runs of scientific and technical society journals dating from the seventeenth century are a special strength of the collection. Rare books dating from the fifteenth century offer a significant resource for most aspects of the history and philosophy of science and technology. Nearby resources at the University of Kansas offer complementary holdings at the Spencer Research Library and at the Clendening History of Medicine Library.

The Linda Hall Library is open to the public and funded primarily through trust funds left by Kansas City businessman Herbert F. Hall and his wife, Linda Hall, and by gifts from other private sources.

#### About the Fellowship Program:

The research fellowships are funded by gifts from the Friends of the Linda Hall Library, and by a generous grant from The Gladys Kriebel Delmas Foundation.

The Friends of the Linda Hall Library support the community outreach activities of the library by presenting lectures, tours, visiting fellowships, and other activities.

The Gladys Kriebel Delmas Foundation promotes the advancement and perpetuation of humanistic inquiry and artistic creativity by encouraging excellence in scholarship and in the performing arts, and by supporting research libraries and other institutions that preserve the resources which transmit this cultural heritage.

See these online exhibitions for examples of research on specific topics in the collection:

The Face of the Moon: Galileo to Apollo  
<<http://www.lhl.lib.mo.us/pubserv/hos/moon/cover.htm>>

Out of This World: The Golden Age of the Celestial Atlas  
<<http://www.lhl.lib.mo.us/pubserv/hos/stars/welcome.htm>>

Paper Dinosaurs, 1824-1969  
<<http://www.lhl.lib.mo.us/pubserv/hos/dino/welcome.htm>>

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| ACKNOWLEDGMENTS |  
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