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Craig Harris

This month Mary Anne Farah is the Guest Editor, and she provides us with a perspective on the Images du Futur 1995 exhibition. In addition to the article, several works are being installed for viewing on the LEA World Wide Web site. Due to some time constraints the web site will likely be updated with this material later in the month, but they're worth waiting for, and this will enhance the LEA gallery environment greatly. Sonya Rapoport provides some insights into her experience at ISEA 95 in Leonardo Digital Reviews, where we also find other thought-provoking book reviews.

I am very pleased to report that Interval Research Corporation is continuing and expanding their support of Leonardo Electronic Almanac for 1996. We greatly appreciate this, and it means that our resources will evolve quite a bit in the next year. We will be able to develop the LEA World Wide Web site, including substantial evolution of the LEA Gallery, and the overall look, feel and ease of use for the site as a whole.

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| FEATURE ARTICLE |
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< Images du Futur 1995 - Arts Arena or Amusement Arcade? >

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Until recently, the utilization of electronic media by artists has resulted in a reservoir of art work that has been relatively unseen by the public. When Montrealers Ginette Major and Herve Fischer were prospecting potential career paths in the mid-1980s, they noticed that there was a lack of exhibition facilities for new media artists. They decided to deal with this perceived demand by creating an exhibition site committed to presenting technological developments to the public with an emphasis on the arts. Hence the 'Images du Futur' exhibition was born. Co-President Ginette Major stated in an 1993 interview:

I wanted the general public to be aware that we were going into a new culture now called "technoculture". Many people don't know that we can do something else with computers other than just add up your bills. ... We came up with the idea of having a large and international exhibition for the general public every year that would show all kinds of applications of technologies in the visual arts and in general.¹

With this goal in mind, Major and Fischer have been very successful at assembling an annual exhibition that runs for four months between May and October. By providing a new forum for exhibiting art, 'Images du Futur' permits viewers to break traditional gallery taboos. What results is a re-examination of our definition of art which I have discussed in some depth in some depth in my thesis "The Significance of Electronic Interaction to the History of the Art Object and Viewer".² Yet, despite the strong patronage and

achievements for which 'Images du Futur' has received recognition, the condition of the exhibition gives rise to questions of particular interest to curators, artists and historians of interactive and electronic art. The following text outlines but a few of these concerns.

1995 marks a year of significant changes to 'Images du Futur'. Not only did the exhibit move to its new location,³ organizers also shifted their attention towards showing interactive art.⁴ Although this pledge was not strictly undertaken, organizers presented a notable exhibition packed full of interactive works.⁵

As a result of my exposure to various forms of electronic art in recent years, however, I have observed that there seems to be a few problems associated with exhibiting several interactive artworks in one locale. It is an unfortunate consequence that the combination of several interactive works into one exhibition fosters an atmosphere reminiscent of an "amusement arcade". Consider the visual similarities alone between a typical video game hang-out and the 'Images du Futur' exhibit; both contain high-tech, viewer-activated, audio and light installations within darkened rooms. Understandably, the housing of works within blackened walls is designed to accentuate light-based works such as those using video projections or holograms. But, by combining several viewer-activated works into an environment of mystery, viewers are transformed from a potential mental framework of art appreciation to one of "art play".

Some argue that interactive artworks are designed to have an element of play within and that this element is necessary for altering the historically based tradition of passivity between art object and viewer.⁶ Jeffrey Shaw, for example, has stated that he specifically designed his interactive work "Televirtual Chit Chat" as a game.⁷ However, in a broader sense, the element of game should be one that viewers explore during the interactive art experience, not one that averts viewers from perceiving other meanings, perhaps more profound, in the work. Encouraging visitors to look beyond the qualities of game at 'Images du Futur' has been a persistent challenge for organizers. When asked about the aura of "game room" apparent at the exhibition, Ginette Major responded:

There are always two ways of reading works like [Paul] Garrin's "White Devil"; the first is that it is fun. But the second reading is more important. If you don't read the label like most visitors, you'll think it is game. But if you read the label, then you will notice the flavour, the dimension, the significance of the work.⁸

Major raises the point that reading the labels of interactive works is crucial in order to relay to visitors the importance of considering these works metaphorically.⁹ She also affirms that two levels of comprehension exist. What follows is a personal observation that there may be a time period necessary for the transition from the first reading to the second. Although Major feels that this transition is thwarted by a disinterest in the labels of artworks, it may be, in fact, the quality of "performance" that is so often a component of interactive artwork.

For most people, an expectation to perform generates considerable levels of anxiety. This has been confirmed by interactive artist David Rokeby, author Regina Cornwell and Ginette Major.¹⁰ Given that many (if not most) interactive artworks operate best with one or two operators, the stress associated with viewer performance is repeated as viewers go from work to work. This stress is amplified when onlookers are recognized as potential critics. Furthermore, the

commonplace etiquette of considering the waiting time of other patient attendants in cue, curtails the time period necessary to transcend into a second meaning.

This state of affairs contributes to something which I loosely term "The Leap-Frog Effect". In contrast to the casual and often slow, meandering behaviour of people in traditional non-interactive exhibitions, it seems that the sole goal of viewers of interactive art comes down to answering the question "how does it work?" Once the interactive mystery is exposed, even on a shallow level, pieces are often abandoned for other "games". Montreal artist Greg Garvey¹¹ confirms this behavioral enigma, "A related problem is what might be termed premature imaginability (Oh I see, I touch the leaf and the computer draws a branch) that allows the viewer to dismiss the unfolding of the work over time. This 'I get it' syndrome undermines and subverts the creation of an architecture of time."¹² Evidently, when viewers are aware of the interactive paradise that lies ahead, they are baited to advance prematurely from work to work. Given that art has traditionally been associated with the bourgeois, this occurrence may be the result of an art that addresses "ordinary people" as Herve Fischer asserts,¹³ "the general public" as Ginette Major claims,¹⁴ or even the concept of "democracy" as Frank Popper contends in "Art - Action and Participation".¹⁵ But, the existence of an "art for the people" does not account for the full magnitude of the phenomenon.

Let us examine some of the environmental conditions at the Images du Futur 1995 exhibition that may contribute to a "game-room" atmosphere. As Ginette Major indicated, some of the most informative cues placed within an art exhibition are the labels. In 1993, Ginette Major stated that the descriptive nature of the labels at Images du Futur was crucial not only for viewers to understand that some works were viewer-activated, but also to illustrate the method of interactivity, "Some artists don't like providing explanations about the method of interactivity. They say, 'we feel like it's a science museum.' Well, the show is partly that, but some artists want instructions to be given to the public. ... If there is no indication, people won't know what the work is about."¹⁶ Non-artists have also voiced their objections to the method of labelling the works at 'Images du Futur'. Major confesses, "Once a Belgian woman resisted and said, 'An artwork is not made to be explained; it is made to be contemplated.' ... We don't want artworks to be contemplated, we want them to be interactive; we want them to interact with the people."¹⁷ Evidently, Major's curatorial approach is to discount the processes of reflection and contemplation which are associated with art appreciation. By emphasizing the interactive component as the ingredient of primary importance, a message about the devaluation of these works as "art" is inadvertently made.

Certainly, viewers must be given some indication that works have an interactive dimension; otherwise, the tradition of non-contact will not be broken and viewers will become disinterested prematurely. However, explicit instructions about the extent of interaction can prematurely lead viewers through the trial-and-error process of discovery and land them immediately into the heart of the work, with little appreciation of the encompassing layers. Labels that hastened viewers' paths of exploration include those beside "Interactive Plant Growing" (1993) and "Sow to the Four Winds" (1994) which read "Touch the plants gently; to erase the screen, touch the cactus," and "Blow on the sensor", respectively.

Perhaps clues for a workable solution to the labelling dilemma lie within the demonstrated behaviours of viewers. Major reported, "Despite attempts at making these panels attractive by using short,

five to six lines at the most and big characters for an easy read, most people are not interested in these panels."18 If, as she reports, most people are not interested in supplemental information, one might muse that a viable alternative is to replace directional information about the method of interaction with a simple phrase that reads "interactive work" and viewers can figure it out for themselves. In this way, viewers might be prompted to use their skills of detection instead of limiting their activity to fit within the boundaries explicitly outlined on the labels.19

Having considered the presence of over-descriptive placards, we can pursue another attribute of the Images du Futur exhibition--the troublesome medley of overlapping audio tracks. Not only did this circumstance interfere with viewers' experiences, it also caused the triggering of nearby sound-activated works. Ultimately, the stimulus-response relationship between viewers and some interactive works was blurred. For example, the audio tracks of Don Ritter's "Intersection" (1992) and J.L. Demers/Bill Vorn's "At the Edge of Chaos" (1995) were considerably louder than most of the other works. This situation served to confuse viewers about the interactive potential of other works such as Iian Whitecross' sculptural installation "The Seasons and Other Cycles of Life" (1994). Whitecross' interactive wall sculptures were not only activated by Ritter's roaring sound piece, but also by the adjacent room which played loops of animation as part of the Ninth International Computer Animation Competition. This has been a recurrent problem at Images du Futur; even in 1993, the plethora of sounds generated by the electronic installation "Faraday's Garden" (1993, by Perry Hoberman) could be heard well over the works preceding it. Two years ago, Major stated that the dilemma of "sound entanglement" would be addressed once Images du Futur moved to a new location. But in 1995, when the move became reality, no such solution had been found. When asked about the situation, Major stated that erecting sound-proof walls would be too costly and problematic, "I don't want to build walls any more. Maybe we'll just put up some black curtains. It means that we will have to pay more attention to putting sound pieces far from each other so they don't react with other works."20 Major's comments suggest that the sound problem will continue to contribute to an atmosphere of entertainment.

One final criteria to be examined is the curatorial approach at Images du Futur for determining the placement of works within the space. This year is the first that Fischer and Major departed from the approach used in previous years which separated their exhibitions into two parts; the first half focused on works from a country or large city, and the second half presented art and non-art works from around the world. Using this format, Major positioned the works using "principles based in show business" to create a "spectacle."21 This methodology meant placing a "flashy" work at the front of the exhibit to attract people, "because people want to see something interesting at the beginning."22 Major explains, "I usually put a piece such as a large installation [at the outset] and one which does not need you to stop and read. Also, I would probably not put three flashy pieces beside each other because the eyes get tired."23 Although the "show business" or "spectacle" format has been successful at intriguing large audiences to visit the show--a necessity for ensuring a stable income--this approach may be problematic for presenting art to the public because of the status differences associated with artistic projects and show business glitz.

One might expect that the Images du Futur team abandoned the "spectacle" approach for this year's exhibition on interactive art because of a strategic decision to validate interactive works as Art

and reduce the ambience of amusement. This was not the case, however. Major explains that the change in cynosure was due to an apparent shortage of countries supporting interactive artists:

After ten years we have shown all the countries that are worth it. If you limit yourself to one country, the amount of interesting work that you can show is more limited. Whereas, if you say I am going to show the best work from many countries, the selection is more interesting and it will take less time to select. ... There are maybe seven or eight countries with which we can do this. ... From now on we will present themes and not individual countries.²⁴

The new strategy for constructing the Images du Futur show is not without its limitations, however. When organizers were asked whether they might create exhibitions in the future that stem from some of the traditional themes found throughout art history (such as "the landscape" or "the nude"²⁵), Major explained that this would not be a practical methodology, "Maybe in ten or fifteen years it will be possible. There are not enough [electronic] artists in the world now, not enough works [being] created to make it possible to have an exhibition on one theme."²⁶ Instead, Major advises that the most appropriate themes will centre around the capabilities of new technologies.

* * * * *

Due to the inherent characteristics of so many interactive works, this multi-layered form of art may reveal itself to be one of the most challenging to curate into one exhibition. As a whole, the directors of the Images du Futur exhibition have made considerable efforts at presenting an under-represented body of work to the public. Swaying through unfamiliar territory, they have made us aware of some of the symptomatic problems of exhibiting interactive and electronic works into a single forum.²⁷ The present condition of Images du Futur reminds us that curators and exhibiting artists alike, need to foster a context of art appreciation, easily achieved through attentiveness to those factors which contribute to an atmosphere of recreational merriment.

* * * * *

Mary Anne Farah is an artist, writer, art historian and ex-biologist who has just graduated from the Master's Programme in Art History at Concordia University, Montreal, Canada. Her interests include assembling a history of the electronic arts.

* * * * *

Notes

1. Ginette Major, Co-Director of 'Images du Futur' exhibition. Interviewed by author, 24 September 1993, Montreal. Tape recording held by author.
2. See Mary Anne Farah, "The Significance of Electronic Interaction to the History of the Art Object and Viewer" (Montreal: Concordia University, 1995).
3. Between 1986 and 1994, the Images du Futur exhibition was located within a renovated marine terminal in a historic section of Montreal--"Old Montreal". To visit the exhibition, visitors were required to walk down the long concrete boating dock of the King Edward Quay to the tip of the pier. 1995 marked the year they moved to their present location at 85 St. Paul Street West, within the heart of Old Montreal.
4. The cover of the catalogue for the 1995 exhibition reads "L'Aventure Virtuelle ` Images du Futur - L'art interactif" ("The Virtual Adventure at 'Images du Futur' - Interactive Art"). See Ginette Major and Herve Fischer, "L'Aventure Virtuelle ` `Images du Futur - L'art interactif - 19 mai au 15 septembre" (Montrrial: Cite des Arts et des Nouvelles Technologies, 1995).

5. The following works exhibited as part of the Images du Futur 1995 exhibition were not interactive: "TV Chair" (1992) by Yvonne Oerlemans, "The Eiffel Tower Multiplied" (1994) by Lhermitte, Michon and Trimaran, the Ninth International Computer Animation Competition (played continuously in 27 minute loops), and the entire TGV Train section that presented some of the industrial design work of Roger Talon. One could also present an argument that the holograms "Future Garden" (1991, by Betsy Connors) and "To van Eyck and Bosch: Eve and Adam" (1994 by Harriet Casdin-Silver) were not interactive pieces, although Ginette Major provides her reasoning for including them: "It's even more and more an interactive kind of art because the more exposures you have in a hologram, the more you have to walk from left to right to see the content of the images." (Ginette Major, Co-Director of 'Images du Futur' exhibition. Interviewed by author, 25 August 1995, Montreal. Tape recording held by author.) For further discussion on the question of the interactive character of holograms, see Farah, 76.

6. See Farah, 46-56 and 94.

7. Jeffrey Shaw, "Modalities of Interactivity and Virtuality in Art", Text distributed by Jeffrey Shaw, Karlsruhe, Germany, 1994, 6.

8. Major, interview, 1995.

9. The importance of reading a label for the understanding of a work, however, challenges a lesson that I was taught in art school, which is that a successful artwork should be able to stand on its own.

10. In 1992, David Rokeby described the condition associated with his interactive setup "Very Nervous System", "It's not easy to move your body in public. Most of us are not trained dancers... It's still not a completely comfortable experience for me... I'm very aware of the problem that it poses for many people, but I think that the problem is an interesting one. I mean, there's clearly the desire to have the experience in people and there's the fear." (David Rokeby, Interviewed by author, 7 November 1992, Toronto. Tape recording held by author.) Regina Cornwell, author on the arts, once remarked about her performance anxiety, "To an unnerving degree, I was responsible for what any given group of viewers might see... ." (Regina Cornwell, "Interactive Storytelling," "Art in America" 76, no. 1 (1988): 43.) Ginette Major confirms, "People are afraid to look ridiculous. Maybe this is the number one barrier to interactive artwork; people are shy." (Major, interview, 1995.)

11. Greg Garvey exhibited his "Automatic Confession Machine: A Catholic Turing Test" (1993) at the Images du Futur 1994 exhibition.

12. Greg Garvey, "Thoughts on Interactivity", Text distributed by Greg Garvey, Montreal, 8 August 1995, [1] .

13. See aside text marked, "Herve Fischer, the African" [30 September 1995] .

14. Major, interview, 1993.

15. Frank Popper, "Art - Action and Participation" (New York: New York University Press, 1975).

16. Major, interview, 1993.

17. Major continues, "We have given a lot of explanations not only how to use the artworks, but we have given at Images of Futur some explanation of the meaning of these works." (Major, interview, 1993.) During the discussion, Major referred specifically to an ideology of New York artist Timothy Binkley which describes his use of interactive technologies as a means of vandalizing hallowed pictures from the past. (Ginette Major and Herve Fischer, "Images du Futur '93 - 14 mai au 19 septembre" [Montreal: Cite des Arts et des Nouvelles Technologies, 1993] : 14.) (Binkley exhibited the interactive piece "Watch Yourself" [1991] at the 'Images du Futur' exhibition in 1993.)

18. Major, interview, 1995.

19. It was a lesson well taught in art school that a sign of a successful work is that the piece should be able to stand on its

own, devoid of any external explanation or justification. With this in mind, shouldn't all the clues that designate a potentially interactive parameter be evident within the works themselves, and not dependent upon peripheral texts that indicate the method of interactivity?

20. Major, interview, 1995.

21. Major, interview, 1993.

22. Major, interview, 1993.

23. Major, interview, 1993.

24. Major, interview, 1995. In the last decade, the directors have organized shows that specialized in works from France, Germany, Japan (twice) and the United States (featuring both New York and California in separate years). Although the 1995 edition of the "International Directory of Electronic Arts" lists 24 countries within which interactive art is being produced, the majority of smaller countries listed (i.e. Norway, Poland, Serbia, Sweden, Croatia and Hungary) do not appear to be prolific producers at the present time. ("IDEA - International Directory of Electronic Arts 95/96", Edited by Annick Bureaud [London: John Libbey and CHAOS, 1995]: 559.)

25. For example, an exhibition using a thematic approach of "landscape" or "nude" could include such works as "Interactive Plant Growing" (1993, by Christa Sommerer and Laurent Mignonneau), 'Future Garden' (1991, by Betsy Connors), "To van Eyck and Bosch: Eve and Adam" (1994, by Harriet Casdin-Silver) and "Sow to the Four Winds" (1994, by Edmond Couchot, Michel Bret and Marie-Hilhne Tramus), all works exhibited in this year's 'Images du Futur' exhibition.

26. Major, interview, 1995.

27. In recent years, electronically-based interactive artworks have made a significant advancement within the eyes of the public and those larger arts institutions which were initially reluctant to exhibit this form of art. Given that the historicized place for the contextualization of art is within museums and art galleries (whether we like it or not), and, given that larger arts institutions are now even purchasing works of new media, should we ask the question, "Has 'Images du Futur' outlived its usefulness as a unique location to observe interactive art?"

< Images du Futur 1995 - Works in the exhibition >

The following are some of the works represented at Images du Futur 1995. These and others can be viewed on the LEA World Wide Web site, once it is installed.

Artist(s): Edmond Couchot, Michel Bret, Marie-Hilhne Tramus, Paris

Title: "Sow to the Four Winds" (1994)

Description: "As individuals blow onto a marked sensor, they disperse the seedlings on a dandelion represented on the video screen ahead."

Artist(s): Paul Garrin, New York

Title: "White Devil" (1992)

Description: "In front of a video screen displaying a burning home and car, an aggressive, barking guard dog tracks the movements of viewers as they walk back and forth across a platform."

Artist(s): Sabine Reiff, Flavio Alman, Milan

Title: "Telespecchio" (1992)

Description: "Viewers portraits are made into aberrations by pressing one of three buttons marked 'Symmetry', 'Caricature' and 'Dorian Gray'."

Artist(s): Don Ritter, Montreal

Title: "Intersection"

Description: "As participants walk into a completely darkened room, they are confronted with the sounds of a busy highway. Motion detectors trigger 'cars' to screech to a halt when individuals cross the four 'virtual laneways'."

Artist(s): Paul Sermon, Leipzig

Title: "Telematic Dreaming"

Description: "Video cameras record the human activity on two beds which are separated by a wall. Individuals in both locales are merged into one 'virtual space'. (audio accompaniment)"

Artist(s): Christa Sommerer and Lurent Mignonneau

Title: "Interactive Plant Growing" (1993)

Description: "The characteristics of plants growing on a video screen are determined by how viewers make contact with the plants in the installation."

Artist(s): Bill Vorn and Louis-Phillippe Demers

Title: "At the Edge of Chaos" (1995)

Description: "Eight motion detectors hung from the ceiling alter the audio and lighting aimed upon a shallow cage installed into the floor. Within this cage, four metal arms prod a large cube into different positions."

Artist(s): Iian Whitecross, New York

Title: Detail of "The Seasons and Other Cycles of Life:

Spring/Summer/Autumn/Winter" (1994)

Description: "Noises made by viewers trigger various coloured lights to illuminate within the sculptures."

< Herve Fischer "the African" >

Herve Fischer

Co-President of the 'Images du Futur' exhibition

Montreal, Canada

Between 1970 and 1982, I was working with the sociological arts and my main interest was questioning the relationship between art and society in a time when the political function of art was very much related to the legitimation of the bourgeois ruling class by the avant-garde artists of Europe. In the 1980s, as the middle class became dominant--especially in North America where I live now--I became aware that electronic art may be the art of the middle class. As a result, my political preoccupation shifted toward the numeric/digital revolution we are now dependant upon. When I observed that this technological revolution was probably the most important and radical revolution in the recent centuries of humanity, I felt devoted to develop the 'Images du Futur' exhibition in 1986, which has been organized by the general public, the middle class. The recent opening of the Electronic Cafi has served the same purpose as the more scientific exhibitions we have organized at La Cite including the subjects of astrophysics, the "Birth of Life", new medical imagery, the bio-anthropology "All Different, All the Same" exhibit, and the brain theme destined for the 1995-96 show.

My name is now Herve Fischer "the African" because I think the new images on the television, the icons on the screen of computers, the ritual procedures we have to respect in order to get our computers working, and the tribal tam-tam of the Internet, remind me of a kind of "primitive" culture. And I love this electronic "primitivism"; this may be the best, the most exCiting time to observe new aesthetics and values. It is putting into question all of our values and institutions, judgements and analyses of art since the time of Gutenberg. As a sociologist, I am very concerned with this efficient

questioning. But, as a creator of electronic art shows, I also have the pleasure of knowing these new artists and their problems, and having the satisfaction of knowing that with electronics, the art is again close to the "ordinary people" as it was in the "primitive societies" of the past.

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LEONARDO DIGITAL REVIEWS
OCTOBER 1995

Editor: Roger Malina

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< Conference Review: ISEA 95 >

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ISEA95 is over but still reverberating. Many thanks and congratulations to all those responsible for organizing an exCiteng, well-planned, well-executed and provocative conference in a warm, generous and fascinating city.

ISEA95 Montreal was officially launched in the Biosphere, the recently reopened pavilion of Expo 67, selected to highlight the importance and international character of the symposium. On the very top floor of the Buckminster Fuller dome I sat directly beneath the filtered heavens. There I had a close encounter with Kevin McTavish, an exhibiting artist with an evangelistic intensity. McTavish, a Canadian from Calgary, now living in Germany, said he was showing a work about afterlife and volunteered that he had recently left a Christian denomination in search of a freer religion. Because I had previously created an artwork about afterlife, I was curious to follow the Ariadnic thread of what now seems to lead to an evolving netweb of spiritual space.

McTavish's installation at L'Ecole Cherrier, the main exhibition building, consisted of twenty smallish, digitized photographic composites suspended from the ceiling in elaborate gold, vintage frames, encircling the room about a meter out from the walls. These digital prints were similar in style to cubist paintings (in miniature) with each overlay replaced by human figures in their architectural space. The focus was achieved by color which graduated to black and white toward the periphery. This classroom of AFTERLIFE PORTRAITS of dead people who have left an impact on McTavish's life, now, in his memory, had been transformed into a Cathedral-like installation.

Mark Pesce, one of the inventors of VRML, a formerly devout Catholic, and now a technopagan, delivered a highly controversial, plenary lecture entitled ONTOS, EROS, NOOS, LOGOS in which he projected a strangely sentient technological environment of unseen,

powerful magical forces.

Shamanistic forces probably accounted for my encounter with USA artist Paul Hertz. His exhibiting artwork, THE HOLY TOAST, brought to mind a toast, offered with a libation of mead, to the astral plane in Mark Pesce's San Francisco performance, CyberSamhain, a Celtic celebration of the dead. Hertz's presentation consisted of seventeen (apparently the Cabalistic number in this series) square images of bitten-into-toast floating over wave motifs symbolic of growth and decay. Jam-like silhouettes of islands such as Cuba, Crete, and Ireland were smeared on the toast and highlighted by text pastiches from a Buddhist scripture of the ANARCHIST'S MANUAL and of a 17th century Romantic novel about the colonization of the Americas, ORINOKOO, or, the ROYAL SLAVE by British novelist Mrs. Aphra Behn. I wonder if Hertz is implanting the divine in cyberspace with this dizzying array of bitten toast, Uroboric swirling and Dionysian text as a solution to colonization and consumption. While Deputy Minister Suzanne Hurtubise of the Department of Canadian Heritage was hosting a party in the Presidential Suite of the Meridien Hotel, I had another close encounter when I found myself face to face with Cecile Le Prado. I asked if she had anyone to talk to and she answered, "Will you talk to me?" I learned that she is a French sound artist presenting her soundscape installation, ZONE OF UNCERTAINTY. She explained that by taking three bearings on a navigational chart, a triangle is defined to fix the position of a boat. Being of Celtic origin, Le Prado selected bearings on the coasts of Ireland (Fasnet), Brittainy (Le Conquet), and Gallicia, Spain (Cabo Finisterre). I subsequently "navigated" to her installation at L'Ecole Cherrier. The classroom was bare except for one large stuffed chair placed in the center. On the blackboards a few modest sentences were written in French. Le Prado wanted to open the possibility for sound images when the visual is off, a replacement of the visual by auditory sea marks. I sunk into the chair and drifted away as I listened to a common Celtic origin in the three different soundscapes of voices, sea swells, wind, horns, buoys, lighthouses, etc. moving in space. In this work the ocean swirls become alive. The recorded sounds had been transformed and reconstructed with the inner and outer worlds of computer technology.

Catherine Richards, exhibiting artist from Canada, literally places the spectator/participant into her conceptual sculpture, CURIOSITY CABINET. This cabinet is a small house constructed of copper to make it "impermeable from the magnetic sea". It is grounded by a huge umbilical cord of copper tubing that snakes out the window and into the earth. During her upcoming presentation of ZONE OF UNCERTAINTY in the bay of a French Cathedral, Cecile Le Prado expects spectators to lose their bearings. In her copper cabinet Catherine Richards shields the participant/resident from the human generated electro-magnetic spectrum. Where would you like to be?

I welcome encounters of all kinds.

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< Book Review: World Changes;
Thomas Kuhn and the Nature of Science >

edited by Paul Horwich
Cambridge, MA: MIT Press, 1993
Paperback, 1995, \$16.95. 356 pp.

Reviewed by Roger F. Malina,
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The book

Thomas Kuhn's seminal book "The Structure of Scientific Revolutions" was published over thirty years ago in 1962. Kuhn published an alternative model for the way in which scientific inquiry is carried out. His analysis of the way scientists actually work led him to emphasize the social nature of the choice of "better" scientific theories, and described the "paradigm" changes that occurred at major break points in the history of science. Kuhn's ideas have not only been widely influential in the philosophy, history and sociology of science but have been debated actively by working scientists. The dominant logical positivism and logical empiricism of the first half of this century has gradually yielded to a more complex, and relativist, understanding of the nature of science. These new ideas, spearheaded by Kuhn, have also been widely debated in the arts and humanities (authors sometimes mis-interpreting the Kuhnian critique of the philosophy of science as a critique of the scientific method itself).

This paperback (a reprint of the 1993 hardback) is a collection of 12 essays by philosophers and historians who convened at a conference at MIT in 1990. The essays are fascinating and make visible, blow by blow, the evolving discussion and understanding of the nature of science.

The Ecology of Scientific Theory

Perhaps the most interesting article is the "Afterwords," written by Thomas Kuhn himself, where he both responds to the essays in the book and muses on the ideas he is developing. Two of these ideas are worth summarizing here because of their relevance, it seems to me, to discussions of the nature of contemporary art. In discussing the "revolutions" that result in the displacement of one scientific theory by another (e.g. the Copernican system vs. Aristototelean, Newtonian to Einsteinian), he states:

"At the time I thought of them (scientific revolutions) as episodes in the development of a single science or specific specialty, episodes that I somewhat misleadingly likened to Gestalt switches and describes as involving meaning change . . . , but, I now see them as playing a second, closely related, and equally fundamental role: they are often, perhaps always, associated with an increase in the number of scientific specialties the domain of the new structure is regularly narrower than that of the old, this is the pattern that led me to speak of specialization as speciation, and the parallel to biological evolution goes further. What permits the closer and closer match between a specialized practice and its world is much the same as what permits the closer and closer adaptation of a species to its biological niche" (p. 336).

The evolution of science, from one theory to the next, is not viewed as a single scientific understanding which goes through revolution, or paradigm changes, to incorporate increased knowledge of the world or phenomena. Rather science is like a population which splits into sub-species, which co-exist with other species, each one adapted to its own environmental- or "phenomenal" niche.

The comparison to the development of modern art is inescapable. New art forms (cinema, photography, electronic arts), or new art movements (cubism, pop art) do not replace old ones, but rather are taken up by portions of the human population whose technological or social niche is more suited to them. Post-modernism can then be seen not as a regressive ahistoricism but rather as a relentless biological adaptation to a new media and cultural environment. The

proliferation of aesthetic stances is a natural adaptation of cultural activity to different cultural and technological niches. "Progress " (in art and science) is then like a biological process of adaptation where new sub species allow "science" or "art" to be adapted to a changing phenomenal environment. The activity of the art avant-gard is not a process in the development of a single art culture, but rather a process that increases the number of art sub-specialties. In this "ecological" view of the development of art, it is not post-modernism that needs explaining, but rather why modernism established such a dominant aesthetic in the art world for such a long period of time. (another side effect of the Cold War?)

Science "merely"as puzzle-solving not as truth approximation

A second provocative idea that Kuhn discusses further in his "Afterwords" is on whether scientific theories are attempts to better approximations to descriptions of a stable external world. "That will require my presupposing, at least for the sake of argument, that you have already set aside the notion of a fully external world toward which science moves closer and closer, a world independent, that is, of the practices of the scientific specialties that explore it. Once you have come that far, if only in imagination, an obvious question arises: what, if not a match with external reality, is the objective of scientific research? they (scientists) are trained to and rewarded for solving intricate puzzles---be they instrumental, theoretical, logical or mathematical---at the interface between their phenomenal world and their community's beliefs about it puzzle-solving is one of the families of practices that has arisen during that evolution, and what it produces is knowledge of nature" (p. 337).

This is one of Kuhn's "purple passages" at its best-challenging the heart of scientific positivism, while reserving science as a valid and productive activity. If scientists are indeed merely "solving intricate puzzles---be they instrumental, theoretical, logical or mathematical---at the interface between their phenomenal world and their community's beliefs about it" then their activity is almost isomorphic with the activity of artists whose activity results not in "knowledge of nature," but in "knowledge of human nature." Creative activity, whether artistic or scientific, can then be viewed as puzzle-solving between the phenomenal world of a group of people and that community's beliefs about that world. The criteria of what a good solution to the puzzle is are of course different in art and in science. For science, Kuhn lists "accuracy, precision, scope, simplicity, fruitfulness, consistency . . ." For art the standard list of aesthetic criteria (which are often culture dependant) can be given.

For this reviewer (a practicing scientist) at least, Kuhn's extremism seems indeed extreme. The "nature" of the external world may well be inescapably dependant on our descriptions of it, but even "for the sake of argument" this reviewer has trouble dispensing with the concept of a stable external world that at least in its phenomenology is independent of scientists' descriptions. I certainly recommend this provocative book to any one interested in the ongoing debate about the similarities and differences between art and science, and the nature of creative activity in both fields.

(see LDR WWW site for complete version of this review,
<http://www-mitpress.mit.edu/Leonardo/plaza.html>)

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< Book Review : Book for the Unstable Media /
Boek voor de Instabiele Media >
in Dutch and English,

168 pages, includes B/W pictures

Published by Stichting V2
Postbus 1107
5200 EA Den Bosch
The Netherlands

Reviewed by Rolf Wilkinson (& Axel Mulder)
Email: amulder@move.kines.sfu.ca

"Book For The Unstable Media", while describing itself as being concerned with the topic of media art, proceeds, as any self-proclaimed book about media art should, by offering forth a confused mixture of poorly documented photos and articles concerning not just media art, but rather the media and technology in general. But given the theme, this might not be all that inappropriate.

Contributors include Paul Virilio, Eric Bolle, Peter Weibel, and Georges Teyssot. Published in 1992, it offers an extremely dense thicket of insight, free thought and vision, albeit with quite a healthy measure of that terrible continental habit of using unnecessarily esoteric ways of getting ideas across. Published in both Dutch and English, the majority of its contributors are from universities around Europe. The organization behind Book for the Unstable Media is V2, a group founded in 1992 to produce and present media art, and to organize publications in this field. Most of the photos in this book were taken at one of three of V2's annual Manifestations for the Unstable Media, a sort of an annual Media Art festival. In 1996 the V2 festival will take place in collaboration with ISEA 96 (International Symposium on Electronic Art), which will be held in Rotterdam. As you would expect, pictures of media artists in performance don't really amount to much more than a bunch of people standing around in the dark looking at some hacked-up machines. A photo of a speaker, for example, does not really say all that much. This is not helped by the fact that there is virtually no description of what these festivals were about, where they took place, or what is going on in the photos.

The articles cover an incredibly broad range, and are definitely of interest to anyone with an interest in the exploration of the role of technology in our lives, not only because some of its essays are particularly interesting, but because it offers an encapsulated view of this area from a period, 1988-1992, when the public really began to realize how quickly the role of technology in our lives was increasing. This was the period in which the home computer really began to be needed by millions all over Europe and North America. It is also the period when artistic expression seriously began to move in a manner independent of that of the traditional gallery-museum-collector-price-tag-critique shuffle. The exploration of technology in a performance setting it seems to me is a kind of departure point which is giving artistic creation a much wanted kick in the butt. Book for the Unstable Media captures a period of that movement which might in many ways be considered its birth. One might make a similar comparison between a general approach to thought that one finds in the articles in this volume with that of the traditional academic approach. It would seem that it was with writings on technology, and here one need only make the obvious examples of Roland Barthes, and on this side of the Atlantic, Herbert Marshall McLuhan, that thought and ideas were truly allowed to be freed from the parameters of the rational argument. Certainly, the freedom of the ideas in this volume and the freedom of its construction seems consistent with the subject matter.

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< Book Review: Engineering and the Mind's Eye,

by Eugene S. Ferguson >

MIT Press
Cambridge & London
194 p, illustrated, annotated, indexed
1992

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

Engineering and the Mind's Eye is an ambitious yet concise effort to debunk design engineering's professed reliance on pure analytical process. Ferguson (a history professor at University of Delaware) has given his argument an historical context, examining what he calls modern engineering- made in the last 500 years- in the light of the influence of non-verbal thought upon decision making in the creation of our physical world. Ferguson says, " Pyramids, cathedrals and rockets exist not because of geometry, theory of structures, or thermodynamics, but because they were first pictures- literally visions- in the minds of those who conceived them". He explains that the trend in engineering education away from the art of engineering which is based upon more fluid and intuitive methods and toward "engineering sciences" because it is easier to teach produces engineers ignorant of the ways that the world differs from mathematical constructs of it. This book in effect gives a basis for the popular belief that engineers may be book-smart but lack common sense. Ferguson would reaffirm the 1828 charter of the British Institution of Civil Engineers which defines engineering as "the art of directing the great sources of power in nature for the use and convenience of man", only adding the more inclusive "humankind" in place of "man".

However, the emphasis upon the need to develop and value imagination as well as other types of intelligence is a departure from "old school" methodology, much more characteristic of post modern ways of thinking. Nor does he negate the value of calculation's place in design and the use of tools such as computers to check for error, but he places them in service to the intuition which can take more aspects of a problem into account at once.

Ferguson tells the story of engineering's birth in the workshop of the artisan and how later during the Renaissance the worker-functions and those of the designer were divided to produce objects and systems more in the 20th century manner. All along the way the reader is provided with fascinating illustration of his points in anecdote, drawing and photographs.. As such this book can be a useful (if brief) reference on the history of technology.

But as in a murder mystery where much of the power of the story lies in its life-and-deathness, there is an underlying sense of urgency in Ferguson's tone. Even though engineers make up less than one per cent of the population in the world's most educated regions Ferguson asserts that their decisions concerning the material world affect everyone else to a degree far out of proportion to their numbers and therefore would have them trained in a much more wholistic manner. Implications for artists and technologists as well as as for engineers would be a world to work in less burdened by boundaries, with more respect and exchange between disciplines. Ferguson's clearly developed and well-reasoned arguments could provide foundation for such a movement.

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< Editor's Note: Coming Soon >

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Leonardo Digital Reviews is pleased to alert readers to two additions slated to appear in the near future. Excerpts from *Words On Works*, edited by Judy Malloy (currently available in the print journal *Leonardo* and on the WWW site <http://www-mitpress.mit.edu/Leonardo/WOW.html>) featuring artists working in digital form writing about their own work will be included. Also Kevin Murray (<http://werple.mira.net.au/~kmurray/key.html>) will curate The Compleat Web-ster. Watch for further details.

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< END LEONARDO DIGITAL REVIEWS OCTOBER 1995 >
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ANNOUNCEMENTS

< The Seventh International Symposium on Electronic Art (ISEA96) >

ISEA96
POB 8656, 3009 AR Rotterdam, The Netherlands
Tel/Fax: 31-10-4778605
Email: isea96@hro.nl
ISEA Website: [HTTP://WWW.xs4all.nl/~isea](http://WWW.xs4all.nl/~isea)

Rotterdam, The Netherlands
September 16-20, 1996

Including DEAF, the Dutch Electronic Art Festival
September 17-22, 1996, organized by the V2 Organization

In cooperation with the R96 Festival 'Media Man'
September 13-22, 1996, organized by Rotterdam Festivals

From September 16-20, 1996 the Seventh International Symposium on Electronic Art (ISEA96) will take place in the modern city of Rotterdam. Organizer is the Rotterdam Academy of Art & Design, part of H.R.&O. Rotterdam Regional College (Hogeschool Rotterdam & Omstreken) Included in ISEA96 is DEAF, the third Dutch Electronic Art Festival, organized by the V2 Organization. ISEA96 and DEAF are part of R96, 'the Media Man', a festival organized by Rotterdam Festivals.

ISEA96 is:

- An Academic Symposium, consisting of Paper & Panel sessions, Poster sessions, Round tables and Institutional presentations, mainly juried.
- Preceded by Workshops & Tutorials
- Accompanied by Concerts, Performances, Electronic Theater, an Exhibition, Publications and Public Events.

DEAF is:

- A curated Exhibition, accompanied by a Symposium, Performances and Special events. It is a continuation of the former annual V2 'Event for Malleable Media'.

R96 is:

- The 'R' stands for Rotterdam. A festival for the general public, spread over the city, including the specialized events ISEA96 and DEAF. The 'R-events' are annual international cultural and art events around the relationship between art, people and city. R96 questions the influence of electronic technology on people.

This Call for Participation invites proposals for all of the above

mentioned events. The full call is available on the ISEA 96 World Wide Web site.

TOPICS

Topics include: Computer graphics, computer animation, image processing, electronic and computer music, video art, interactive installations including VR, art & robotics, computer poetry and literature, computer aided dance, integration and synchronization of electronic art forms, research & development of new electronic media, aesthetics of electronic art, electronic art & electronic culture, interfaces for artists, etc etc.

THEMES

Special emphasis will be given to the following Themes:

- Education as a Bridge between Technology and Art.
- Networked Art (see below: 'Digital Territories')
- Design and the Web

DEAF SYMPOSIUM

The DEAF Symposium will be held during one day within the time frame of the ISEA96 symposium and at the same location. It will be on the theme 'Digital Territories' (see below). Although this symposium is curated, proposals for free papers will be considered.

CONCERTS & PERFORMANCES

During the ISEA96 Symposium, probably on Thursday September 19, an evening of Concerts and Performances will be staged in a 500 seat theater. This evening is meant for both the Symposium Participants and the general cultural public. The proposed Concerts & Performances should preferably be no longer than 20 minutes, although this is not a prerequisite. Proposers should include their equipment requirements in the proposal. A selection will be made on the following criteria: Aesthetic quality, Originality (preference given to premieres) and Inter-disciplinarity.

OUTDOOR & PUBLIC SPACES

Since the 'R96' Festival, of which ISEA96 is a part, aims at the general public at large -which, by the way, is culturally diverse in Rotterdam- a special call for proposals is included here. Proposals are welcomed for Performances, Concerts and Installations that can be shown or performed in public spaces and/or in the open air and will attract the positive attention of the ordinary passer-by. More information on the city of Rotterdam is available if desired.

SPECIAL EVENTS

Two large-scale public events are being planned for which proposals are invited. They are meant as part of R96 and as ISEA96 Special Events.

1. The Reality of Virtual Reality During ISEA96 the large harbor simulator of MarineSafety Rotterdam will be used for an artistic project. The simulator consists of 360 ° visuals, 3D sound and a moving platform (the pilothouse) with two degrees of freedom. The computersystem consists of 22 SGI Crimsons and a DEC Vax. The idea is to travel with groups of 10-15 people through an artistic impression of Rotterdam in the year 2096. Interactive special effects should make it even more attractive. We are aiming to make the event accessible via the WWW and the two way cable system that will be available in Rotterdam. Artists that think they may be able to contribute (visuals, ideas), can request an information package.

2. Virtual Community

This is a networked event, that anybody can join into. The idea is to build a virtual city, where anyone can have his/her own room.

Icons in the room reveal the interests of this particular person. People with compatible interests will have a possibility to be connected to each other. Incompatible interests will generate other effects. For the public, there are 4 levels of joining this event:

- By phone and TV, or by phone and teletext
- Via computer and WWW or via two-way cable
- Via special locations in town, with CD-i players and ISDN connections
- Via a central location, with computers.

Artists with experience in this kind of telematic, communal art and a desire to contribute ideas can request an information package.

< Merged Realities: A Synthesis of Art and Science >

Gail Hewlett
Merged Realities
Central Arts Collective
188 E. Broadway Blvd.
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Tel: (520)623-5883

Central Arts Collective, a nonprofit artists' cooperative in the Downtown Arts District of Tucson, will host a national juried exhibition entitled, "Merged Realities: A Synthesis of Art and Science" in February, 1996. Based on a prototype show in March, 1995 that brought almost 1000 people to the gallery in two and one-half weeks, we received a competitive grant of seed money from the Arizona Commission on the Arts to develop a larger project.

The Call for Entries has gone out to U.S. artists working in all media, with a submission deadline of November 30, 1995. There will be awards (Amount to be determined) and artists may receive a prospectus by sending a SASE to Merged Realities, Central Arts Collective, 188 E. Broadway Blvd., Tucson, AZ 85701, (520)623-5883. The jurors are:

Roger Feldman of Fullerton, California who has an MFA from Claremont Graduate School in Claremont, California. His current body of work includes a number of site-specific installations in the U.S. and England that deal with themes in the physical sciences. He is a "perceptualist" whose work is interactive. He also teaches computer design and graphics at Biola University where he is Professor of Art.

and

Michael E. Lee of Tucson, Arizona who is an independent artist with an MFA in sculpture from Indiana University. He has used his background in drawing, design and sculpture to develop science exhibits throughout the U.S. and Japan. His talent as an artist is applied to the presentation of the world of science and nature in museum settings and science centers.

The specific theme of Merged Realities is ---- "The world of art and the world of science are commonly assumed to be distinct and separate. Yet, art and science are but two different ways of viewing the same reality. This exhibition will explore the intersection of these views and the enriched vision of reality that results from this merger."

Work selected for the exhibit will be on display at one of two sites from February 3-28, 1996. The main body will be housed in the three room space of Central Arts. Dynamic and / or interactive computer generated art works will be displayed at the Flandrau Science Center

on the campus of the University of Arizona (about one mile from the gallery). For the run of the show the Flandrau will set up a computer station with enough hardware to exhibit whatever is accepted by the jurors. If we receive a strong turnout of entries, the Flandrau will also put all of the software together and present it to the Tucson public (free of charge) as an evening show in their dome theater.

One component of the prototype show was the merging of the temporal arts with the visual arts. We are expanding on this aspect with an evening performance Friday, February 2, 1996, open and free to the public, that will be a celebration of art and science. There will be a totally integrated piece made up of the following:

1. Musical score, computer generated from genetic sequences, by Tucsonan David Lane.
2. Dance choreographed by Jory Hancock, Head of Dance Division, University of Arizona.
3. Poetry / Dialog (composed for and performed at the event) by Alison Hawthorne Deming, Head of Poetry Center, University of Arizona (nominated for a Pulitzer in 1994 for her book, "Science and Other Poems"), and Martin Hewlett, Novelist and Molecular Biologist, University of Arizona.
4. Speakers who will address the importance of this merger are Roger Feldman (juror, and speaking from the viewpoint of the artist) and Chris Langton from the Santa Fe Institute (the inventor of the field of artificial life in the computer, speaking from the viewpoint of the scientist).
5. Slides of work accepted into the exhibition will be part of the performance.

We expect an audience of 500 for this opening celebration and intend to video the event and the exhibition. There will also be docents trained specifically to lead school children on field trips through the exhibition.

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AND
FTP
ACCESS

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<http://www-mitpress.mit.edu/LEA/home.html>

Back issues, submission guidelines and LEA Gallery files are

available via ftp anonymous, using the following method:

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

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