



---

Leonardo Electronic Almanac Volume 13, Number 2, February 2005  
http://lea.mit.edu

---

ISSN #1071-4391

CONTENTS
----------

---

INTRODUCTION  
-----

EDITORIAL  
-----

< The Tyranny of the Possible, by Irina Aristarkhova >

FEATURES  
-----

< Crossing the Bridge: The Interactive Media Performance River of Many Sides, by Annette Barbier >

< One From the Vault - The Automatic Confession Machine: A Catholic Turing Test by Greg Garvey >

< One From the Vault - How can we talk about the aesthetics of interaction? by Stephen Bell >

LEONARDO REVIEWS  
-----

< Dutch Electronic Arts Festival '04 (Deaf '04): Affective Turbulence: The Art of Open Systems, reviewed by Stefaan van Ryssen >

< The Fourth Annual National Conference of the American Synesthesia Association, Inc., reviewed by Amy Ione >

< The Sixth International Research Conference: Consciousness Reframed: Qi and Complexity, reviewed by Dene Grigar >

OPPORTUNITIES  
-----

< LEA Special CFP: Locative Media >

< Art/Science Collision: Robotics in New York >

---

---

INTRODUCTION

---

In this month's LEA, Irina Aristarkhova starts things off with an editorial in which she reflects on the "tyranny of the possible" that artists are presented with in their work with various media. This tyranny, she argues, confronts artists with the need to make wise use of the myriad choices available to them.

In "Crossing the Bridge," Annette Barbier discusses the performance of River of Many Sides, an interactive media performance that involved the collaboration of artists from the U.S.A. and Vietnam, as well as the many cross-cultural issues that arose out of the process. Unsurprisingly, what is known to Americans as "The Vietnam War" and to Vietnamese as "The American War" emerges as a central influence on the work.

From LEA's archive, first published in July 1994, Greg Garvey provides insight into his Automatic ConfessionMachine (ACM), and Stephen Bell explores the aesthetics of interaction in an article and annotated list of characteristics.

Leonardo Reviews brings us discussions of a festival and two conferences with some interesting meeting points: DEAF (the Dutch Electronic Arts Festival) '04, in which a central concern was the nexus between the electronic arts and consciousness studies; a conference of the American Synesthesia Association; and Consciousness Reframed: Qi and Complexity, which explored notions of consciousness, spirituality and the arts.

---

EDITORIAL

---

THE TYRANNY OF THE POSSIBLE

by Irina Aristarkhova  
LEA Editorial Advisory Board  
E-mail: uspia [ @ ] nus [ dot ] edu [ dot ] sg

Several recent conversations with concerned colleagues during new media art events have compelled me to think over what I see as a "tyranny of the possible" in new media art practice. The following, therefore, are my reflections on this relationship between new media art and technological possibility [ 1 ] .

First, let us go back just a little, almost 100 years back:

The word "art," etymologically speaking, means to make, simply to make. Now what is making? Making something is choosing a tube of blue, a tube of red, putting some of it on the palette, and always choosing the quality of the blue, the quality of the red,

and always choosing the place to put it on canvas; it is always choosing. So in order to choose, you can use tubes of paint, you can use brushes, but you can also use a ready-made thing, made either mechanically or by the hand of another man, even, if you want, and appropriate it, since it is you who chose it. Choice is the main thing, even in normal painting [ 2] .

I would argue that this lesson of "choice" as "the main thing" in art-making - especially in relation to new information, communication and biotechnologies employed in the new media arts - urgently needs to be revisited. Unlike painting, which has been transformed and is still being transformed by that lesson, other art forms are particularly vulnerable to the tyranny of the possible, when little thought is given to the question of choice as the main thing. When the urgency of such reflexive judgment is not enacted, when one is not constantly vigilant about one's choosing (even if such awareness decides on "letting oneself go") among the technically possible options, then one's art becomes a mere exemplar of the possible.

It has been often stated that the art of the twentieth century has made the artist less subservient to the medium. Based on this, some have even claimed that the medium does not matter - whether it is new or not. One does not make art because one has a hand, or because there is paint in a tube, or one has a computer or a wireless device. Therefore, it does not matter, or better - it should not matter - what media an artist is working with; she or he can choose to be a painter, a performance artist, or a new media artist. Therefore, anything has become possible in terms of media. As de Duve puts it, after Duchamp we are left with the "tradition of whatever" in art-making. Anything is possible - anything whatever.

There is a tradition of the whatever, there is a history of the whatever . . . . It aligns judgments, since each work that is part of this history is made up of nothing but judgments, or choices . . . . The judgment through which the tradition of the whatever is transmitted . . . . that is, must I repeat? Translated and betrayed - is aesthetic judgment . . . . So that the name of art became synonymous with anything-whatever [ 3] .

More than any other artform today, it seems, new media art has benefited from and claimed this tradition of the art of "anything whatever" - code, robotics, virtual reality, proteins, stem cells - the list seems endless. This is the art of anything that comes after the "new"; or what I call any media art. When anything is possible it is, surely, both a freedom and a risk. One needs to invoke the ability to create by way of a making that results from a reflexive judgment about that which is available and a vigilance about the seductions of the simply possible. To move forward, it seems, one needs to resist the tyranny of the possible - to ensure that the reflexive moment is not swallowed by the immediacy of the Next Big Thing.

---

#### REFERENCES AND NOTES

1. I would like to thank in particular Alessio Cavallaro, Steve Dietz, Faith Wilding, Ken Rinaldo and Gunalan Nadarajan for sharing their ideas.

2. Marcel Duchamp quoted in Thierry de Duve, Kant after Duchamp

(Cambridge, MA: MIT Press, 1996) p. 161.

3. de Duve [ 2 ] pp. 363-365.

---

FEATURES
----------

---

## CROSSING THE BRIDGE: THE INTERACTIVE MEDIA PERFORMANCE RIVER OF MANY SIDES

by Annette Barbier, Northwestern University, Center for Art and Technology, 1920 Campus Drive, Evanston, IL, 60208, U.S.A.  
E-mail: abarbier [ @ ] northwestern [ dot ] edu  
WWW: <http://www.unreal-estates.com> ;  
<http://www.omik.com/as/prgl2/virtual.html>

### ABSTRACT

The collaborative, interactive media performance River of Many Sides brought together artists and traditions from the U.S.A. and Vietnam. Computer media and video joined with live performance in a dialogue on stage to address the experience of war and its aftermath. Navigable environments referenced video games but offered alternatives to the rehearsal of violence.

### KEYWORDS

virtual reality, virtual environment, media performance, collaboration, Vietnam

---

### PREFACE

In mid 2003, five artists from the U.S.A. and Vietnam were commissioned to collaborate on a work that would address their impressions of one another's countries, gathered during visits in June and July of that year. These artists were involved in theater (Vietnam) and new media (U.S.A.). Only two of the artists, those from the U.S.A, had collaborated before. Our impressions of our visits were undoubtedly influenced by our countries' common histories: what in the U.S.A. is known as the Vietnam war, and in Vietnam as the American war. The work we produced, River of Many Sides, was the result of a year's effort, and told the story of a country's struggle, devastation and attempts at reconstruction.

### MEDIA AND PERFORMANCE

Since its inception, media has been closely tied to performance. If we define media as contemporary media - that is

to say, media starting with the birth of projected film in the mid 1890s - then the Japanese institution of the benshi is a perfect example. Especially at the very advent of film, audiences needed a "translator" to explain what was happening onscreen. The benshi narrated the silent film, supplying an interpretation of the story, an explanation of the images, and sometimes dialogue. This practice largely disappeared with the use of intertitles and music, except in Japan where the institution of the benshi survived even into the 1930s [ 1] . The benshi would explain the film before it was screened and narrate and interpret from the side of the stage, always visible to the audience. This live accompaniment to pre-recorded images can be thought of as one end of the spectrum of media and performance, the other being media accompaniment to live performance. In theatrical productions, the use of video is now increasingly common, and even contemporary opera contains projected translations of the libretto. Hybrid forms abound, and numerous performance sites or troupes such as Troika Ranch [ 2] and The Builders Association in New York [ 3] , Random Dance in London [ 4] , Dumb Type in Kyoto [ 5] , and the University Theatre at the University of Kansas [ 6] , have practices in which performance is thoroughly integrated with media technology. River of Many Sides occupied a territory in the middle of this spectrum, as it included live performance and performed media in an equal partnership.

Some forms of media could not exist without the performance component. Beyond the obvious example of interactive media that requires involvement on the part of a viewer/user to unfold, at least one form of virtual reality (VR), the CAVE [ 7] , almost always employs an interpreter/guide. The CAVE is a VR system in which a room-sized space composed of rear-projection screens constitutes a stereoscopic, viewer-centered display. Although up to ten people can comfortably fit in the space, there is only one "head tracking system," and this is typically worn by a "guide," usually the artist or a docent, who navigates through the environment and explains the work. Despite the many experiments occurring worldwide, however, media/performance integration is still not entirely mainstream.

#### FORM

The U.S. media artists on the collaborative team of River of Many Sides, coming from a technology-rich country, had predictably all had experience with using media in performance contexts while our Vietnamese counterparts had not. However, the Vietnamese participants took a leap of faith and assumed that we would be able to produce something relevant and worthwhile, and our collaboration began. It began with a simple but rich idea, the river, which two of the artists had already begun working with as a concept and which seemed appropriate to this project. "River" is significant for its metaphorical as well as practical value. Rivers both divide (when they define boundaries) and unite (when they traverse them). They are emblematic of the connections among areas and peoples in that they carry things - debris, pollutants and vessels - from one area to another. Someone is always upstream, and someone else downstream. Rivers have margins, and marginal plants, animals, people and enterprises exist and flourish along their banks. The river is a stable entity and a flow, both static and in flux. The river is a metaphor for time. It is also a vehicle for transformation; witness the numerous works of fiction built on the river journey: The African Queen [ 8] , Huckleberry Finn [ 9] , Deliverance [ 10] , Apocalypse Now [ 11] , etc.

This structure of a voyage-centered piece suggested a progression (what became the performance time-frame of one day, from one dawn through the next) and a narrative (the story of a people struggling with nature but at peace with themselves in Act One, forced into a conflict which changed their way of life and their land in Act Two, and attempting to rebuild, but without forgetting the past, in Act Three). This story was our Vietnamese collaborators' way of telling us about their own lives, and giving voice to others in their country who had not been heard in the U.S. The video and computer media provided a parallel story, told from the point of view of the land itself.

>From early on, we thought of the work as a kind of triptych altarpiece in form, with a central projection surface and two "wings" on the sides. This form allowed us to create a space around the performers that drew them and the audience in by showing forward motion on the front and sideways motion (from the center out) on the flanking screens. Our screen arrangement somewhat resembles Japanese screens, which are used to divide space but also to provide a backdrop for an event, or to create a space for storytelling [12]. The side projection screens might be thought of as functioning like Chinese hand scrolls, in which the story glides by between the unrolling (left) and the rolling (right) hands of the viewer. [13] In our adaptation, motion on the screens was bi-laterally symmetrical, with movement occurring from the middle of the center screen towards the outer edges of the side screens.

Asian art forms like those just mentioned, and Vietnamese art forms in particular, influenced the shape and style of the work. The Vietnamese water puppet theater is a well-known tourist attraction in Hanoi [14], and was once an art form widely practiced by amateurs and professionals alike. Puppeteers are concealed behind a set of screens and control puppets on the "stage," which is the surface of a pool of thigh-high water in which the puppeteers stand. Daily village life is the subject of most performances. Water is a common element in many Vietnamese forms of art, including poetry. Verses (traditionally speaking of love, but later of politics) were traditionally exchanged by calling them across the Perfume River in the city of Hue.

## CONTEXT

Although we might have used the projection screen(s) (and indeed our media technologies) in many different ways, the idea of a river suggested the importance of place and movement in providing a context for and partner to the performance on stage. We were not searching for a way to create literal sets; we wanted the media to collaborate in creating meaning, help move the action forward, and be responsive to the performers.

The river was both metaphor and setting. To be a river, it must have banks. It then becomes part of a landscape. Land, territory and space are central both in today's global political situation and in the construction of video games. Julia Kristeva said, "every text is from the outset under the jurisdiction of other discourses which impose a universe on it" [15]. Because our technologies are not neutral, we were forced to consider the implications of our use of a navigable space which, as a method, is used both in defense training and in video games. Early funding for computer graphics research came largely from defense, and this is clearly reflected in the most popular genres of video games. >From first-person shooter video games

like Doom to military defense training (including the freely available America's Army game) [16], computer simulations are a way to engage in violence without incurring consequences. Virtual environments are frequently used for conflict - we wanted to both interrogate these uses and to explore the possibility of a broader range of uses and meanings.

#### INTERACTIVITY

Interactivity took several forms in River of Many Sides: performers interacting with the media, media artists interacting with the stage action, and audience members interacting with the performance. In addition, media interacted with media through software written to allow the center screen's web 3-D/virtual reality format to converse with the side screens' PD (PureData) [17]/GEM (Graphics Environment for Multimedia) [18] environment, which made extensive use of video. This gave us the ability to synchronize events such as explosions and lightning, as well as to insure that objects (computer models of bridges, boats, flowers, etc.) moved seamlessly from the center screen to the side screens creating the impression of one coherent world. The use of these various approaches to computer media and their integration was another opportunity for bridge crossing and translation. We wanted both the control of a navigable 3-D environment and the sense of the mythic that it affords as well as the specificity and "liveness" of video. VRML (Virtual Reality Modeling Language) [19] is not known for its handling of live video, although short movies can be easily incorporated, while PD/GEM gives flawless performance of high resolution video at full-frame rates and is an excellent performance instrument for live manipulation of media. In addition, the artists themselves were more comfortable with some sets of tools than with others. Although the media successfully complemented, enlarged upon and counterpointed the live performance, we were not entirely happy with the extent to which the media ceded control to the performers themselves, a circumstance that would have been remedied by additional time together. Effective moments, such as the performers' placement of lotus flowers in the virtual scene by their proximity to the screen, or times when the virtual gun onscreen followed the movements of the actor, were too few. This was somewhat compensated for by the presence of the media artists, who controlled the media live from their position adjacent to the stage, and reacted in real time to the performance. About the interaction of audience and performer, Kathryn Farley of Northwestern University commented in her review: "The most striking moments in the piece were the reenactments of the U.S. raids on Vietnam. Having the ability to vent my anger with [chop] sticks that were placed near our seats ... permitted me the ability to contribute to the stage action. However, realizing I was an American doing so, I immediately felt shame, guilt and remorse at my own country's behavior. I was making music and making war simultaneously - again existing in the space in between positive and negative, knowable and foreign, here and there. I found the participatory features of this section to be viscerally and intellectually stimulating" [20].

#### COMMUNICATION: TOWER OF BABEL

Jacques Lacan states that "The very entrance into language marks our irrevocable separation from the real" [21]. Although in working together our cross-cultural communications were not pre-verbal, they were frequently of necessity non-verbal. Many concepts were difficult to discuss thoroughly with our

Vietnamese collaborators, as their command of English was limited and ours of Vietnamese was non-existent. When our highly skilled and sensitive interpreter and translator of choice [ 22] was present, we could communicate freely. At other times, communication was more difficult. Better access to technology by our Vietnamese collaborators would have allowed us to use visual illustrations more extensively, thus making language less of a problem. However, as one of our colleagues, Nguyen Thao [ 23] , commented: "this difference [ in language between us] created a uniqueness to the production, making it more concise and succinct, using the language of movement more than spoken language." This language of the body, however, can only be spoken in person, and the artists agreed that more time together would have been extremely valuable.

In developing our vocabulary of visual language, we searched for symbols for each of our countries. Vietnamese conical hats were proposed as the symbol for Vietnam, and eloquently represented many objects in common use, as well as explosives and the bodies of war dead. Finding a symbol for the U.S., a less homogeneous society, was more difficult, and the process of discovering it was illustrative of our success in crossing a bridge of understanding. In one of our working sessions, our Vietnamese colleagues were searching for ways of visually representing water on the surface of the stage, and requested a large sheet of fabric. For pragmatic reasons, we suggested using a parachute, which yielded a wealth of associations and became, along with the media itself, the symbolic embodiment of the U.S. In working out how the parachute might be attached, raised and lowered, they suggested a device that required much miming and drawing to comprehend and turned out to be a pulley - a small but important triumph in communication.

#### LEADERSHIP

Because ours was not a traditional theater production, with a text and a director, we felt it needed a non-traditional approach, and our production process was as collaborative and interactive as we wanted the final work to be. Nguyen Thi Minh Ngoc said of our collaborative process, "It's a wonderful feeling to assemble like-minded people for the same objective in the absence of a traditional director" [ 24] . Leif Krinkle observed that our director was "different people at different times - everyone took leadership at one point out of necessity, appointment or desperation [ 25] ." Our work was not the vision of one person, an author, interpreted by another, a director, but rather the product of five visions. We hoped, in fact, that this multiplicity of viewpoints present in the creation of the work was emblematic of a world view in which people could participate fully and decisions could be arrived at by consensus rather than dictated by force.

#### CENSORSHIP

Not only the final content of the work, but all of our communications existed in the liminal state between what might and might not be said. In deference to concerns expressed by our Vietnamese colleagues, symbolic statements in the form of computer models of bombs and guns were repeatedly excised from the work (and later re-adopted.) As Drew Browning said [ 26] , "I think we were able to get over some of that with the understanding that we may have to make modifications when it's performed in Vietnam." E-mails were scrutinized for language that might possibly be misinterpreted to our colleagues'



detriment. This is not to imply that the arts in the U.S. are censorship-free. One has only to think of the days of (Senator) Jesse Helms, in which the NEA (National Endowment for the Arts) was gutted, or consider reactions to Dread Scott's 1989 installation, *What Is the Proper Way to Display a U.S. Flag?*, which "invited people to step on the flag as they responded to the question on a ledger. He was personally denounced by President George Bush Sr. and his installation was banned by the U.S. Senate for desecration" [27]. More recently, members of the Joint Terrorism Task Force have charged Steven Kurz, Critical Art Ensemble member and art professor at the University of Buffalo, whose work involves simple biology equipment, with bioterrorism (later reduced to mail and wire fraud but still carrying a maximum penalty of 20 years imprisonment) [28]. Numerous other examples are recounted in Antonio Muntadas' *The File Room*, an online database of worldwide arts censorship [29].

## RESULTS

The one-hour media performance that resulted from our collaboration told, in three acts, the story of the war's destruction of Vietnam through the eyes of two characters whose identity changed throughout the work. The performers mimed daily activities and sang love songs in Act One; fled, fought, and buried their dead while singing songs of bereavement in Act Two; and emerged from the cloud of war to begin to reconstruct their lives (symbolically represented by bridges) in Act Three. Live stage performance was accompanied by computer media and video projected on three 9 x 12 ft. screens surrounding the playing area. In the hands of the performers, Vietnamese hats became rice plants, fish and the bodies of war dead, while a large parachute was transformed into storm clouds, a sampan, a fishing net, a war memorial, etc. The center screen displayed a 3-D computer graphics environment through which performers and viewers traveled, while side screens showed actual video footage of rivers in the U.S. and Vietnam. An additional overhead screen displayed translations of songs and poems sung by the performers, as well as animations relevant to the action on stage and acted as a sort of visual score or simplified, schematic view of the piece. The time frame of the performance was one day, from one dawn through the next morning. In our visit to Vietnam, we saw objects that seemed important for their symbolic significance, like the turtle (symbol of long life) and the bridge (providing connection across a boundary), as well as objects of daily use such as the sampan, dragon boat, hut on stilts, etc. These objects modeled in the computer, in addition to silhouettes of people displaying attitudes appropriate to the content of the performance at that point, peopled the landscape helping to create context and meaning, and their movement "downstream" from the center screen through the side screens helped tie the three projections together into a cohesive whole. While projection was usually on the screen surfaces, the performance concluded with a scrolling of names, Vietnamese as well as American, directly on the suspended parachute. "Not everyone who died in the [Vietnam War] had his name etched on the wall in D.C." [30].

## CONCLUSION

Brenda Laurel states that "VR and its progeny may ultimately function to demonstrate that a hierarchical notion of control is a toxic philosophy in the contemporary world, not only in terms of culture and art, but also in terms of our relationships with individuals, societies and environments, and especially in terms

of how we define and measure our own freedom and self-esteem" [31]. These words work as both an affirmation and a critique of our methodology and final product: the choice to work without a director, to share control in the creation of the piece, produced a working climate and a final performance in which a multiplicity of voices could be heard without a diminution of clarity or conviction. Our environments referenced video games in their navigation and use of violence. However, we enlarged upon the gaming palette, whose only choice is conflict, by contextualizing violence in a pre- and post-war time, showing human consequences. An important goal for the media artists, that of creating a flexible and responsive media environment, was not fully realized. As Browning said, "With more time, we could have done the kind of theater games we did when doing video [in the past], introducing the technology to the actors and giving them an understanding of how they could use it to their benefit. That would have provided more opportunity to be a part of the creative process." Leif Krinkle would also have liked more interactivity between the performers and media on the stage, and summed up the issue thus: "We have a medium which lives mostly inside our computers. They have a medium which lives outside of technology completely. The challenge is to make media that is outside of the computer, that is, an environment" (and, I would add, that can be intuitively controlled by the performers). Although our goal of a fully responsive environment was not met, we nevertheless created an effective bridge between two cultures, two media and two worlds [32].

We hope the future awaiting this project will include its performance in Vietnam, to be determined by the success of continued fundraising efforts, and its re-creation as an installation, which will allow us to develop and refine additional interactive features. We are most grateful for the commission from Art Synergy to create this work, and for funding and support from the Illinois Arts Council, Northwestern University, the University of Illinois at Chicago, Columbia College and the National Vietnam Veterans' Art Museum.

\* IMAGES ACCOMPANYING THIS ARTICLE CAN BE SEEN AT THE LEA WEBSITE: <http://lea.mit.edu>

---

#### REFERENCES AND NOTES

1. See Tosh Berman, *The Benshi Tradition: Cinema = Performance*, 1995  
<http://www.altx.com/interzones/Kino2/benshi.html>
2. See <http://www.troikaranch.org/>
3. See <http://www.thebuildersassociation.org>
4. See <http://www.randomdance.org/random/index.html>
5. See <http://dumbtype.com/>
6. See <http://www.ukans.edu/~mreaney/reaney/>
7. The CAVE was developed at the University of Illinois at Chicago in the Electronic Visualization Laboratory by Dan Sandin and Tom de Fanti in 1991. For more information, see

[http://www.evl.uic.edu/research/res\\_project.php3?indi=161](http://www.evl.uic.edu/research/res_project.php3?indi=161)

8. *The African Queen*, dir. John Huston, from a novel by C.S. Forester, adapted by James Agee (1951).

9. Mark Twain, *Adventures of Huckleberry Finn*, from *The Writings of Mark Twain, Volume XIII*, Harper & Brothers (1912). Copyright 1884, Samuel L. Clemens.

10. *Deliverance*, dir. John Boorman, written by James Dickey (1972).

11. *Apocalypse Now*, dir. Francis Ford Coppola, screenplay by John Milius. Francis Ford Coppola (1979).

12. See *Golden Fantasies: Japanese Screens from New York Collections*, [http://www.asiasociety.org/pressroom/rel-japanese\\_screens.html](http://www.asiasociety.org/pressroom/rel-japanese_screens.html)

13. *Emakimono: Japanese Picture Scrolls*, from the Asia Society's Video Letter from Japan: Living Arts, 1988, p. 33. [http://www.askasia.org/teachers/Instructional\\_Resources/Materials/Readings/Japan/R\\_japan\\_4.htm](http://www.askasia.org/teachers/Instructional_Resources/Materials/Readings/Japan/R_japan_4.htm)

14. See David Taylor, *Vietnamese Water Puppets*, <http://www.sagecraft.com/puppetry/traditions/Vietnamese.html>

15. Jonathan Culler, *The Pursuit of Signs: Semiotics, Literature, Deconstruction* (London: Routledge and Kegan Paul, 1981) p. 105; cited by Daniel Chandler in *Semiotics for Beginners*, <http://www.aber.ac.uk/media/Documents/S4B/sem09.html>

16. See <http://www.americasarmy.com/>

17. See <http://www-crca.ucsd.edu/~msp/software.html> for more information.

18. See <http://gem.iem.at/manual/Intro.html> for more information.

19. *Virtual Reality Modeling Language*, <http://www.web3d.org/>

20. Kathryn Farley, from a review at: [http://www.artletter.com/html/review\\_1.html](http://www.artletter.com/html/review_1.html)

21. Dino Felluga, "Modules on Lacan: On the Structure of the Psyche," in *Introductory Guide to Critical Theory*; last update: 28 Nov., 2003. <http://www.sla.purdue.edu/academic/engl/theory/psychoanalysis/definitions/real.html>

22. Do D Hiep.

23. Nguyen Thao is a stage and television actor and director who focuses on helping young people articulate their experiences.

24. In her stage work and writing, Nguyen Thi Minh Ngoc has been very concerned about human and women's rights. She is well known and widely produced in Vietnam as a playwright, performer and novelist.

25. Leif Krinkle is a music producer and creator of interactive environments who teaches at Columbia College.

26. Drew Browning, Professor at the University of Illinois at

Chicago, is an artist who works with virtual environments in the Electronic Visualization Lab.

27. See Dread Scott: Lockdown, [http://channel.creative-capital.org/project\\_334.html](http://channel.creative-capital.org/project_334.html)

28. See Critical Art Ensemble Defense Fund, <http://www.caedefensefund.org/>

29. See The File Room, directed by Antonio Muntadas, <http://user.it.uu.se/~andersa/FileRoom/documents/homepage.html>

30. Justin Breaux quoting Nguyen Thi Minh Ngoc in UIC news: River of Many Sides Blends Art, Technology, Two Cultures. See <http://www.uic.edu/casp/depts/paff/uicnews/articledetail.asp?id=8818&IssueID=431&catID=2>

31. "Post-Virtual Reality, After the Hype is Over," in Brenda Laurel, *Computers as Theater* (Boston, MA: Addison-Wesley, 1991) pp. 210-211.

32. See the River of Many Sides website: <http://www.soc.northwestern.edu/barbier/ROMSwebdoc/ROMSprospectus.htm>

#### BIOGRAPHIES OF RIVER OF MANY SIDES COLLABORATORS

Drew Browning, MFA, is an associate professor at the University of Illinois at Chicago in the School of Art and Design. He has been teaching electronic media and industrial design since 1976 and is the founder and director of the Design Visualization Laboratory. Browning has produced numerous video and computer graphic art works and has exhibited internationally. He has authored papers in electronic visualization and design and given lectures on these subjects at various conferences and professional meetings. His work is on line at: <http://www.unreal-estates.com>

Leif Krinkle teaches the production of recorded music in the arts entertainment media management department of Columbia College, Chicago, and has for the past 10 years been melding music and technology. In 1994, he began utilizing improvisational composition, prepared instruments and effect processors in theatrical stage presentations. By 1997, he had begun producing records for his own and other local bands. A year of travel in Europe, where he experienced electronic music and new media art, concluded with a move to Chicago in 1999, where he delved into the production of electronic music, experimenting with interactive composition, generative art and physical interactive multimedia environments. He continues to collaborate with local Chicago artists to create interactive multimedia performances and productions.

Quoc Thao (Nguyen Van Thao) (actor, director, playwright) graduated from the University of Theater in 1989. He has acted in numerous theater, television and film roles, directed theatrical and television productions, and written 3 plays. Quoc Thao has won three gold medals for best actor in the Contest of Professional Theater (1991, 1995 and 1998) and has participated in the International Conference on Theater for Social Development ("People in Movement"), the Performing Arts Center, the International Center for Theater in Education in cooperation with the British Council organized in Amman, Jordan, in August

2000 and runs a theater specializing in working with young actors, directors, painters, musicians and playwrights, helping them to articulate contemporary issues.

Nguyen Thi Minh Ngoc (director, writer, playwright) has written and directed 50 plays performed by professional theatrical companies as well as scripts for documentary and feature films including *Hai Nguyet*, which won the 1998 National Cinema Association Prize and appeared at the Three Continents festival in Nantes, France. She is a permanent contributor to Experiment Theatre as director, playwright and actress, and was a delegate in 2000 at the Second Conference for Asian Women and Theatre in the Philippines.

#### AUTHOR BIOGRAPHY

Annette Barbier is an artist whose work began in sculpture and moved through video to new technologies, including computer animation, virtual reality and Net art. Her work addresses home, domesticity and the ways in which identity is bound up with one's environment.

Barbier graduated from the School of the Art Institute of Chicago with an MFA. She dropped out of college to spend a year in France, which was formative in making issues of home, culture and identity central to her work. Years later, a Fulbright lectureship in India with her 3-year old daughter confirmed the importance of travel in questioning one's conceptions about the world and resulted in a travel diary tape. More recent work is growing from a profoundly moving trip to Vietnam in 2003.

Barbier is Director of the Center for Art and Technology and an Associate Professor at Northwestern University, where she teaches new media, computer animation, video installation and experimental video.

MANUSCRIPT RECEIVED 2 OCTOBER 2004

In "Metavirtue and subreality" he explores metafiction, ethics and mode changes in a range of cyberplaces from Disneyland and Jurassic Park through Firesign Theatre to SIGGRAPH.

---

ONE FROM THE VAULT FROM THE LEA ARCHIVES
---

---

THE AUTOMATIC CONFESSION MACHINE: A CATHOLIC TURING TEST  
First published: (LEA 2:7), July 1994  
[http://mitpress2.mit.edu/e-journals/LEA/TEXT/Vol\\_2/lea\\_v2\\_n07.txt](http://mitpress2.mit.edu/e-journals/LEA/TEXT/Vol_2/lea_v2_n07.txt)

Greg Garvey  
2338 Madison Avenue

Montreal, QC H4B 2T6  
Tel: 514 484 2946  
Fax: 514 848 8627  
Messages: 514 848 4626  
Email: GGARVEY@VAX2.CONCORDIA.CA

As the title of the piece suggests, a Catholic Turing Test is a computerized confessional designed and fabricated to resemble an automatic banking machine. Like an ATM the Automatic Confession Machine can be referred to by the acronym ACM, not to be confused with the American professional technical association.

#### INSPIRATION AND ORIGINS

The inspiration for this work derives both from the artist's experiences as a youth with the Catholic Sacrament of Confession and perhaps just as importantly, the now famous test for judging whether or not a computer can be said to think as first stated in the article by Alan Turing, entitled "Computer Machinery and Intelligence", which appeared in the philosophical journal "Mind" in 1950.

In this paper Turing shrewdly replaces the question "Can machines think" with the question "Are there imaginable digital computers which would do well in the imitation game?" Turing describes the game as follows: "It is played with three people, a man(A), a woman(B), and an interrogator (C) who may be of either sex. The interrogator stays in a room apart from the other two. The object of the game for the interrogator is to determine which of the other two is the man and which is the woman. He knows them by labels X and Y, and at the end of the game he says either 'X is A and Y is B' or 'X is B and Y is A'. The interrogator is allowed to put questions to A and B thus:

C: Will X please tell me the length of his or her hair?

It is A's object in the game to try and cause C to make the wrong identification. The object in the game for the third player B is to help the interrogator. In order that tones of voice may not help the interrogator the answers should be written, or better still typewritten. The ideal arrangement is to have a teleprinter communicating between the two rooms."

---

#### HOW CAN WE TALK ABOUT THE AESTHETICS OF INTERACTION?

First published: (LEA 2:7), July 1994

[http://mitpress2.mit.edu/e-journals/LEA/TEXT/Vol\\_2/lea\\_v2\\_n07.txt](http://mitpress2.mit.edu/e-journals/LEA/TEXT/Vol_2/lea_v2_n07.txt)

Stephen Bell

National Centre for Computer Animation,  
Department of Media Production,  
Bournemouth University, Talbot Campus  
Fern Barrow, Poole, Dorset BH12 5BB UK  
Email: sbell@bournemouth.ac.uk

#### Abstract

In 1991 I submitted a doctoral thesis to Loughborough University of Technology, UK., entitled "Participatory Art and Computers: Identifying, analysing and composing the characteristics of works of participatory art that use computer technology." In the thesis I proposed a system of analysis in which the principle characteristics are considered to be those

which contribute to the degree and manner of control afforded to participants.

This article is in two parts. Part I is an introduction and explanation of how I came to be pursuing the research, Part II is an annotated list of the characteristics. The often overlooked importance of participant skill is addressed at the conclusion of Part II.

[ THESE TEXTS CAN BE VIEWED IN ITS ENTIRETY BY LEA/LEONARDO SUBSCRIBERS AT:  
<http://mitpress2.mit.edu/e-journals/LEA/archive.html>]

---

LEONARDO REVIEWS 2005.02
-----------------------------

---

This, the last Leonardo Reviews update for 2004 [ 1 ], reports on the posting of more than 25 reviews this month. Too many to synthesize and certainly too diverse to generalize for an editorial; these editorials become more difficult by the month. A difficulty not ameliorated by the fact that each of the reviews has, in its own way, unique strengths. To report by exception at least allows me to welcome Katia Maciel from the Federal University of Rio de Janeiro, who here publishes her first review for Leonardo Reviews and Martha Patricia Niño Mojica Pontificia from the Universidad Javeriana de Bogotá, Colombia, who makes her debut with no less than five reviews. Leonardo Reviews is grateful for their insightful contributions. Apart from engaging a great diversity of artists from across the world, Leonardo Reviews also provides accounts of significant events that have a limited duration. Consequently, this month we are featuring below accounts of a festival and two conferences. Stefaan van Ryssen reviews part of the rich offering this year at the Dutch Electronic Arts Festival, always an event to be looked forward to. In particular he welcomes this year the mix and diversity of the conference. Another strong contributor to Leonardo Reviews this year, Amy Ione, reviews the Fourth Annual National Conference of the American Synesthesia Association, Inc. and in doing so touches on a crucial topic that has woven its way through the Leonardo community for several decades. Finally, Dene Grigar was one of the many members of the Leonardo team in Beijing for the sixth International Research Conference: Consciousness Reframed: Qi and Complexity. For those of us unable to attend, we are grateful for the report. These and all the new reviews along with the archive can be viewed at <http://leonardoreviews.mit.edu>

With best wishes for 2005  
Michael Punt  
Editor-in-Chief  
Leonardo Reviews

NOTE

1. Due to scheduling differences, Leonardo Reviews appears

slightly later here in LEA. - Ed.

---

REVIEWS POSTED JANUARY 2005:

Better Things: An Annotated Visual Essay of Photographs  
Interpreting the Collection of the Memorial Art Gallery of the  
University of Rochester, by Douglas Holleley  
Reviewed by Roy R. Behrens

Carnival of Perception: Selected Writings on Art by Guy Brett,  
by Guy Brett  
Reviewed by Katia Maciel

The Cubist Painters, by Guillaume Apollinaire; translated with  
commentary by Peter Read  
Reviewed by Michael R. (Mike) Mosher

David Ehrlich: Citizen of the World, by Oliver Cotte;  
translated by Sarah Mallinson  
Reviewed by Martha Patricia Niño Mojica

Designing with Kanji: Japanese Character Motifs for Surface,  
Skin and Spirit, by Shogo Oketani and Leza Lowitz  
Reviewed by Michael R. (Mike) Mosher

Digital Video Technology - Space and Time in the Exhibition  
Environment  
Time Zones, Tate Modern, London, UK  
Reviewed by Martha Blassnigg

DPM: Disruptive Pattern Material: An Encyclopedia of  
Camouflage: Nature, Military, Culture, by Hardy Blechman and  
Alex Newman, Editors  
Reviewed by Roy R. Behrens

Drug Wars: The Political Economy of Narcotics, by Curtis Marez  
Reviewed by Martha Patricia Niño Mojica

Dutch Electronic Arts Festival '04 (DEAF '04): Affective  
Turbulence: The Art of Open Systems, Presented by V2\_, Institute  
for the Unstable Media  
Reviewed by Stefaan Van Ryssen

Erkki Kurenniemi: The Dawn of DIMI, by Mike Taanila, Editor  
Reviewed by Martha Patricia Niño Mojica

Fecal Matters in Early Modern Literature and Art: Studies in  
Scatology, by Jeff Persels and Russell Ganim, Editors  
Reviewed by Roy R. Behrens

The Fourth Annual National Conference of the American  
Synesthesia Association, Inc., The University of California,  
Berkeley  
Reviewed by Amy Ione

Gyromancy, by The Mnemonist Orchestra  
and  
CMCD: Six Classic Concrete, Electroacoustic and Electronic  
Works, 1970-1990, by Various Artists  
Reviewed by Michael R. (Mike) Mosher



Human, by Argon-Evolution  
Reviewed by Michael R. (Mike) Mosher

The Sixth International Research Conference: Consciousness  
Reframed: Qi and Complexity, Sponsored by Planetary Collegium;  
School of Software, Peking University; Central  
Reviewed by Dene Grigar

The Maze Game, by Diana Slattery  
Reviewed by Dene Grigar

A New Definition of Art, by Lawrence Casler  
Reviewed by Wilfred Niels Arnold

The Object Primer: Agile Model-Driven Development with UML 2.0,  
by Scott W. Ambler  
Reviewed by Martha Patricia Niño Mojica

Problem Solved: A Primer in Design and Communication, by  
Michael Johnson  
Reviewed by Roy R. Behrens

Seurat and the Making of La Grande Jatte, by Robert L. Herbert,  
with an essay by Neil Harris and contributions by Douglas W.  
Druick  
Reviewed by Roy R. Behrens

Subtitles. On the Foreignness of Film, by Atom Egoyan and Ian  
Balfour, Editors  
Reviewed by Jan Baetens

Talking With Computers: Explorations in the Science and  
Technology of Computing, by Thomas Dean  
Reviewed by Martha Patricia Niño Mojica

Three Mile Island: A Nuclear Crisis in Historical Perspective,  
by J. Samuel Walker  
Reviewed by John F. Barber

A Time and a Place, by Rachel Davies  
Reviewed by Aparna Sharma

Where His Hands Decay, Mine Begin, by Rabab Ghazoul  
Reviewed by Aparna Sharma

Wild Reckoning: An Anthology Provoked by Rachel Carson's Silent  
Spring, John Burnside and Maurice Riordan, Editors  
Reviewed by Rob Harle (Australia)

The World Stopped Watching, by Peter Raymont, Director  
Reviewed by Michael R. (Mike) Mosher

---

DUTCH ELECTRONIC ARTS FESTIVAL '04 (DEAF '04): AFFECTIVE  
TURBULENCE: THE ART OF OPEN SYSTEMS

Presented by V2\_, Institute for the Unstable Media, 9-21  
November, 2004; Rotterdam, NL  
Festival website: <http://www.deaf04.nl/>

Reviewed by Stefaan Van Ryssen, Hogeschool Gent, Jan Delvinlaan  
115, 9000 Gent, Belgium

E-mail: stefaan [ dot] vanryssen [ @] pandora [ dot] be

This year's Dutch Electronic Arts Festival was held in the Van Nelle Ontwerpfabriek, a former tea and tobacco plant, in Rotterdam from 9-21 November 2004. Its main theme was Affective Turbulence, The Art of Open Systems, and it was a strikingly well-organized, not too modest event with more than a local or national significance. As usual, the festival offered a wide range of activities at several venues: an exhibition, conference lectures and debates, music and performances, a workshop and a symposium. The beautifully designed catalogue (reviewed elsewhere in LR) comments and documents the whole event.

DEAF is a biennial interdisciplinary festival for art and media technology. DEAF' 04 is the seventh edition of this international festival, and it was hosted by the worldwide renowned V2\_, Institute for the Unstable Media from Rotterdam. It presented and reflected on the current state of affairs in electronic art, at the same time serving as a platform for artists to confront their work with a wide audience and as a forum for artists, researchers and critics to exchange ideas about emerging trends and hot issues in contemporary (media) art. As such, the festival's debates and seminars were quite a success. The general theme was developed in two main threads: open systems properly and what I would call the importance of emotion and affection in human/machine hybrid environments.

Open systems have been a major theme ever since the very idea of systems emerged. From the very beginnings of systems thinking, with Von Bertalanfy and the cybernetic revolution of Von Neumann through Prigogyne's "Order out of Chaos" and the rhizome or network ideology of the 1990s, thinkers, artists, activists and engineers have been struggling to develop a convincing and sufficiently complex theory of open systems. Obviously, the description and analysis of hypothetical closed systems, with far less parameters to take into account, is mathematically and conceptually more straightforward. However, it always leaves an aftertaste of sleight-of-hand and even a failure to really understand what is important, since we know very well that no real system is absolutely closed and closed systems are not really what matters. Open systems are alive. Living systems, whether they be chemical, astrophysical, nucleotic, social, biological or technological, are open. Their very openness makes them interesting and dynamic and, at the same time, forces theorists to take systems of another nature into account.

Systems analysis must be interdisciplinary for the simple reason that all systems worth studying encompass several layers of description. The key concept here is "emergence." Looking at the subsystems is not enough to understand the complex behavior of the total. All major breakthroughs in artificial intelligence, robotics and social theory of the past decade or so are in some way or other indebted to conceptualizing that behavior as a result of "blind" actions or "simple" rules governing the building blocks of brains, machines and societies. Far from being the end of individualistic psychology, linear programming or mechanical engineering, the concept of emergence heralds the end of a deterministic and Cartesian view of the world and the beginning of a new roadmap for the development of a theory and praxis of hybrid biotechnological environments.

An important and, until recent years, quite underdeveloped

aspect of this exciting new program is the role of affect, emotion or feeling. In the big building of science, emotions and affections were generally treated as waste and consequently disposed of as disturbing factors. Economics and sociology, consciousness research and psychology, physiology and philosophy alike seemed unable to come to terms with the fleeting, unstable and unpredictable realm of the belly and the heart. Cognition and the senses overruled hormones. Of course, there has always been tentative speculation. Spinoza, Freud and James had some interesting things to say on the subject, but the general tendency of modern thinkers was to discard the emotional in favor of the rational. One could hypothesize that the coming of age of rationality and the scientific method prerequisite the treatment of emotions as suspect and unworthy of study for fear of recognizing how big their role might be.

As author Gerd Ruebenstrunk, a psychologist who wrote his thesis on "emotional machines," described during the Affective Systems seminar at DEAF, serious research into the nature and role of emotions has only recently taken off. Popular science writers, like Antonio Damasio and Robin Dunbar, have made the subject fashionable and respectable and many more are seriously developing promising new theories. Aaron Sloman from Birmingham and Andy Clark from Edinburgh, among others, have more or less successfully bridged the perceived gap between consciousness, cognition and affect. But there remains a lot of work to do, and artists seem to be the natural allies of scientists to show how to do it. At the same seminar, artists Angelika Oei and René Verouden (NL), Michelle Teran and Jeff Mann (CA/NL) and Phoebe Sengers (US) explained how they directly included machine emotion and feelings in their multimedia environments, haptic and hybrid interfaces and media works respectively. Owen Holland from Birmingham, in his inimitable way, made the reverse trip from scientific research into artistic expression.

Affective Systems was, in my view, the key seminar of the festival. The main dish, however, was the series of lectures during the two-day symposium, "Feelings Are Always Local," where the themes of open, networked systems and feeling and emotion were connected. A quote from the festival brochure explains the first step: "In the symposium, we will on the one hand investigate how networks organize themselves from the inside out, expand, link up and rearrange themselves. On the other hand, we will investigate how people live in networks, how possibilities are created, and things sometimes go wrong. While the first question is scientific in nature - How do networks work? - the second is political: How are the networks made manageable on a concrete, everyday level?" The second step, to connect open systems and emotion, was not made explicit, but taken implicitly in some of the questions the speakers asked: are imagination, resistance, violence and cooperation in human networks similar or analogous to emotions in biological systems? And if so, are these political actions local expressions of a self-image of the network in a way that resembles the dependence of consciousness on a reflective mapping of the state of the body? None of the speakers at the symposium: neurologist Karim Nader (US), media artist Christa Sommerer (AT), biologist Thijs Goldschmidt (NL), anthropologists Christopher Kelly (US) and Arjun Appadurai (IN/US), economist Loretta Napoleoni (IT), historian Mike Davis (US), artist and programmer Alex Galloway (US) and philosopher Manuel DeLanda (MX/US) answered these questions directly, but the sheer range of contributors already indicates where the answers might lie.

It is impossible in the scope of this report to cover every event at Rotterdam, but with its well-focused and groundbreaking theme and its balanced mix of lectures, debates and seminars, DEAF' 04 proved to be a less conspicuous but welcome alternative to the annual Ars Electronica festival at Linz.

---

THE FOURTH ANNUAL NATIONAL CONFERENCE OF THE AMERICAN  
SYNESTHESIA ASSOCIATION, INC.

5-7 November, 2004, The University of California, Berkeley, CA,  
hosted by the Institute for Cognitive and Brain Sciences  
Organization website: <http://www.multimediaplace.com/asa/>.

Reviewed by Amy Ione, The Diatropes Institute  
E-mail: [ione \[ @ \] diatropes \[ dot \] com](mailto:ione@diatropes.com)

Although historical descriptions of cross-sensory experience abound, particularly in the arts, it is only recently that the public at large has found the idea to be a topic of interest. Perhaps the current enthusiasm is partially due to the way various technologies today titillate so many of our senses simultaneously. The current fascination may also be related to research reports on cross-sensory experiences, more properly termed "synesthesia." Synesthesia occurs when an individual receives a stimulus in one sense modality and experiences a sensation in another. Recent empirical studies, it seems, have buoyed the topic, often revising earlier conclusions about how the brain works. More precisely, we now know that historical commentators, who cast the phenomenon in terms of abnormality, philosophy and metaphor, were too quick to draw these conclusions. Their views today, in effect, remind us how hard it is to characterize subjective experience. The updates, on the other hand, show that despite the limitations of rigorous, quantitative analysis, data can nonetheless further understanding.

Indeed, advances in brain research have allowed us to enlarge our knowledge of this phenomenon. One compelling outcome is the evidence that laboratory studies comparing genetic characteristics with brain plasticity and development have furthered the nature/nurture debates. Equally exciting is the manner in which synesthetes and scientific research teams have extended their hands to one another. The communication among diverse populations was quite evident throughout the Fourth Annual National Conference of the American Synesthesia Association (ASA), at the University of California, Berkeley.

Held in early November 2004, and hosted by UC Berkeley Institute for Cognitive and Brain Sciences, the conference demonstrated how seamlessly some topics reach across disciplinary domains. Presenters, attendees, synesthetes and non-synesthetes exchanged information easily, despite the varied backgrounds of those in attendance. As scientists, artists, humanists and laypeople articulated various themes, the resulting blend underscored that quantification and communication are both necessary in our efforts to elevate our understanding of higher brain function. Even scientific studies designed to focus on limited areas (e.g. color-grapheme studies) seemed to reach beyond the laboratory space. It was clear that articulate descriptions provided by synesthetes helped

researchers to raise questions they used in the design and interpretation of research goals. In the symposium environment, moreover, it seemed that further refinements would come about because of how the synesthetes in attendance reacted to the data presented. The working lunch, led by Sean Day, helped the group to sort through some of this complex information and share their responses to nagging questions within the field.

A short review can hardly touch the tools and topics the symposium brought to mind. One highlight was learning of the history of the American Synesthesia Association (ASA), a story that offers a microscopic view of how the field as a whole has gained momentum. Carol Steen and Pat Duffy, two synesthetes, founded the ASA in 1995. Steen, who uses synesthesia in her art, heard the neurologist, Richard E. Cytowic on National Public Radio in 1993, the year his book *The Man Who Tasted Shapes* was published. This book was instrumental in bringing synesthesia to the fore for many. In Steen's case, his comments marked the first time in her life that she learned anything about synesthesia, although she is a synesthete. This led her to explore the literature, limited though it was. Through her exchanges with Simon Baron-Cohen, a synesthesia researcher, she met Pat Duffy, also a synesthete artist living in New York City. Steen and Duffy formed what became the ASA so that synesthetes could talk to one another. Since that time, the ASA has organized seven conferences, the Berkeley event being the latest.

As many of us know, interdisciplinary events often challenge us with a spectrum that mixes the "too-technical" and "overly naïve" with a number of strong, balanced presentations. This was not the case at the ASA meeting. All of the speakers were of the highest caliber. Given this, it is hard to separate out one or two. Overall Daphne Maurer's paper made the greatest impression on me. From McGill University in Canada, Maurer is an expert in cross-modal perceptual development in infants. Her earlier work proposed that infants experience a sensual bouillabaisse. What this means is that, for them, sights have sounds, feelings have tastes, and that smells can make a baby feel dizzy. She offered some perspective on the way the brain changes during development, how infants react when objects are presented to more than one sense, and on apparent remnants of the early synesthesia in adulthood. I believe this study is of great importance in reminding us that the genetic parameters that drive many studies should not lead us to forget developmental options.

Also impressive was the contrast among papers, which was both real and thought-provoking in an expansive way. For example, on the art side, the talks ranged from the photographer Marcia Smilack detailing how she, as a synesthete, translates her responses to shapes and geometry contained within architecture, to Christine Söffin's discussion of her creative use of synesthesia-based ideas in the art classroom. Similarly, scientific studies included Alicia Callejas' web-based descriptive study of grapheme-color synesthesia; Noam Sagiv's presentation of the prevalence of synesthesia and number forms obtained from over 1,000 naive volunteers recruited among visitors in the London Science Museum; and Richard Cytowic's discussion of examples based on fragrance and aroma (drawn from some of his recent lectures in Japan). Those who missed the

event can, fortunately, access many of the scientific ideas in *Synesthesia: Perspectives from Cognitive Neuroscience*, recently edited by Lynn C. Robertson and Noam Sagiv [ 1 ] .

While space does not allow a detailed discussion of the multi-colored threads that weave the field's tapestry, one area that came up in passing has lingered in my mind. Within the field, as several attendees pointed out, there is a debate over synesthesia as a projective experience as opposed to an associative one. The associative, as I understand it, would have the evoked perceptual experience within the mind's eye while a projective synesthete would place the synesthete experience within the world itself. To my surprise, several researchers rejected the projective even as a possibility. I have been thinking about this since the symposium primarily because I have always assumed that synesthesia is a projective experience. This definitional conflict brought to mind the imagery debates that surface periodically in the cognitive science/consciousness literature.

Briefly, the history of human thought in the West has long included debate about the mental image, which is generally seen as a type of perceptual experience that can occur in the absence of the relevant perceptual object. To oversimplify, this idea has fostered the view of cognition residing in the mind/brain, frequently translating into a tendency to put the role of the body and the environment aside. Sometimes "imagery" is framed in terms of the "imagination" and at other times characterized in terms of mental representation. In either case, the debates have revolved around the use of a pictorial analogy as compared to a descriptive one.

As a visual thinker, I have always come to understand my ideas through manipulating them in relation to the environment rather than through abstract operations in my mind. For this reason, I have questioned the validity of the basic assumptions that drive the debate. While doing so, moreover, I have met much resistance. Correlating my reservations with the synesthesia references to projective and associative possibilities now makes me wonder if studies of synesthesia might allow us to step outside of the brain (and into a shared mind/body/environmental space) when we characterize cognition.

This sense that synesthesia might enlarge our basic questions stems from a number of factors. One is that my environmental framework is perhaps opposite to that of a projective synesthete, yet both take place outside of the "mind's eye." Whereas I project inwardly from my hands-on manipulation, theirs is an outward projection. A second is the nature of the synesthete experience itself as described by synesthetes. Christopher Tyler's description in the Robertson/Sagiv book suggests that the dichotomy presented at the conference accentuates the projective/associative frameworks and ignores the limitations of seeing the phenomenon in this way. As I understand it, Tyler describes a form of synesthesia that is a combination of the projective and associative descriptions, one that was not entertained in the discussion.

At this point, the options are clearly more open-ended than well-defined, as the final paper, by Peter Grossenbacher of Naropa University reminded all in attendance. He opened his talk with the comment that he usually begins to speak on this subject by providing an introduction of synesthesia. Initially, due to the composition of the audience, he thought that he would be

able to skip this section. With each presentation, however, it became obvious that he had assumed too much. If nothing else, the range of viewpoints demonstrated that competing theories exist, as do definitions of what precisely we mean by the term synesthesia.

The range of topics covered in the two-day symposium leaves me in agreement with Grossenbacher. Of course, it is important to note when saying this that it was, in part, the lack of a clear definition that stimulated robust exchange. Indeed, it may just be that the expansive and elusive nature of synesthesia is precisely what captures the imagination.

#### REFERENCE

1. Lynn C. Robertson and Noam Sagiv, *Synesthesia: Perspectives from Cognitive Science* (Oxford, U.K.: Oxford University Press, 2005).

---

#### THE SIXTH INTERNATIONAL RESEARCH CONFERENCE: CONSCIOUSNESS REFRAMED: QI AND COMPLEXITY

25-27 November 2005; Beijing, China; sponsored by Planetary Collegium; School of Software, Peking University; Central Academy of Fine Arts; Central Conservatory of Music; Beijing Normal University,

Reviewed by Dene Grigar, Texas Women's University  
E-mail: dgrigar [ @ ] twu [ dot ] edu

The Sixth International Research Consciousness Reframed Conference: Qi and Complexity convened from 25-27 November, 2004 in Beijing, China. An annual conference generating from the Planetary Collegium (University of Plymouth, U.K.), it was co-sponsored this year by the School of Software of Peking University; the Central Academy of Fine Arts; the Central Conservatory of Music; and the Beijing Normal University. It is important to note that these many institutions were brought together by many of their deans and program chairs, but the event was largely organized and run by Drs. Roy Ascott, Director of the Planetary Collegium, and Kenneth Fields, Peking University.

As in all Consciousness Reframed conferences, artists, scholars, and scientists give formal papers, performances and/or demonstrations on such wide-ranging subjects as robotics, neuroscience, 3-D animation, mythology and spirituality, web interfaces, consciousness and game studies, to name just a few of the many topics discussed. This year, since it was held in Beijing, a location Roy Ascott calls the "interface between not only eastern and western culture . . . [but] between ancient and progressive knowledge" ("Introduction to Abstracts"), the conference took on the special themes of Qi and Complexity. While complexity may be a familiar term to most readers, qi may be less so. Difficult to define (a whole evening lecture was devoted to explaining it), qi was best encapsulated by Chinese researcher Wengao Huang (Zhejiang University) in his presentation, "How Far Are Chinese Arts from Media Art?," as "the theory of circular causality, which is at the essence of the universe and abundant in life." That said, many of the

presentations were either wholly devoted to it or touched on it in some way.

While it is impossible to review all of those presentations of merit, a few representative of the exceptional quality one generally finds at Consciousness Reframed conferences should be mentioned. For example, Korean artist Semi Ryu's "Ritualizing Interactive Media: From Motivation to Activation" looked critically at the notion of interaction, particularly at the blurred boundaries between user and object in ritual, our "desire" for which, she argues, is as ancient as it is instinctive. Ritual's goal, she claimed, is to "overcome the separation and become one" and, in the process, interactivity undergoes a primary passage from the physical to the spiritual.

In "Consciousness, Connectivity and Coherence: A Biophotonic Perspective," Roy Ascott argued that artists working in the twenty-first century may "become concerned with finding ways to allow us to sense the invisible in the visible." Citing the ideas of Werner Heisenberg, Marcel Duchamp, Heinz von Foerster and Francisco Varela, he posited that "reality is constructed, meaning is negotiated worlds built through participation." Atoms, neurons and genes exemplify those elements that were once invisible and unknown but are now accepted. From this point, Ascott moved to the main focus of his topic, biophotonic light, which represents what Hans-Peter Durr calls "immaterial connectedness." Ascott concluded with the potential of vegetal and virtual reality coming together to produce a new way of seeing and knowing.

Two excellent readings, which edged close to being performances, were given by Marcus Boon (Canada; "Tickets that Exploded: Psychoactive Drugs and Autopoiesis") and Claudia Westermann (Germany; "Greed. Love. Wisdom. And Labeling the Self"). In the former, Boon explored what he called "consciousness and the phenomenology of intoxication," specifically in the works of Henri Michaux and William Burroughs. In the latter, Westermann looked at the "processes by which [we] . . . reach wisdom," arguing that brains learn by stretching forth in chaotic systems.

Scientists, such as Neil Greenberg, added to the discourse between the arts and science. His presentation, entitled "Truth in the Brain: The Neuroethology of Belief," discussed "two general processes critical to doubt and the veracity of belief . . . used to determine truth: correspondence and coherence." As he told the audience, truth "represents a high confidence in our beliefs including a sense of self." Likewise, John Dougherty, LeAnne Dougherty, Mateja de Leonni Stanonik and Charles Licata's "Neurobiology of the Aware Ego" gave a powerful presentation that discussed the anterior cingulate cortex (ACC) of the brain and its influence upon Alzheimer's Disease and hence its relation to consciousness.

Two noteworthy projects were presented. First, Tony Lewis-Brooks' work described in "Soundscapes: Multisensory Reciprocity through Subliminal Non-Control" saw the use of motion tracking technology for "enhanc[ing] the senses" in "real-time causal interaction" during rehabilitation therapy. Chris Nelson's project, discussed in "An Exploration of Bah: Spiritual Experience in Virtual Reality," demonstrated a virtual game environment that explored the mystical treatise, The Seven Valleys, key to the Baha'i faith.



Lively debates followed those presentations involving robots and consciousness. First, Owen Holland's presentation, entitled "Methods in Machine Consciousness: The Need for a Synthetic Phenomenology," asked, "What is machine consciousness?," and laid out the problem involving the "assess[ment of] the internal processes of the machine." He ran aground quickly when he defined art as "decorating," which, of course, belies the complexity and required intellect and sensibility for creating and understanding it. That definition did not sit well with the numerous artists in attendance. That Holland came at art secondarily himself can be understood, since he is a scientist; however, anywhere in his argument we could have substituted science for art and come up with the same conclusion about science as he did for art. And finally, he argued that consciousness has evolved from a specific set of circumstances dependent upon sexual and natural selection. Yet the robot he described in his project could not have benefited from these circumstances, and still he talked about its consciousness. Thus, it was not clear if he was arguing that the robot would still develop consciousness, or something else instead.

Just as lively was the discussion that came from Shigeki Sugiyama's talk, "Rainbow in Consciousness," which described a sensorially enriched robot. Like Holland, Sugiyama wondered if such a creation has consciousness or not. Arguing that "consciousness exists in the brain, is raised in the process of growing from baby to an adult, becomes identifiable by itself as a quantity of consciousness grows and expands, and can exist in the brain without any stimulation from the outer world," he arrived at the conclusion that "consciousness itself will not exist as a real entity physically, but it [is] a phenomenon induced by the neuron activities . . . like a rainbow seen with mist in the air and by reflected sunshine." Questions arose about the place for spirituality in such a model. One does not need to wonder where the paranormal belongs.

Accompanying the presentations was a media arts exhibition held at the Red Gate Gallery, featuring works by Semi Ryu (Korea), Margarete Jahrmann and Max Moswitzer (Switz./Austria), Victoria Vesna, Norbert Herber, Margaret Dolinsky and Diana Gromola (U.S.A.), Rees Archibald (U.K.), Katia Maciel (Brazil), Robert Lisek (Poland) and Stefania Serafin and Michel Guglielmi (Italy/France). Each of the three days of conference was punctuated by special events. On the first evening, Ken Rose gave his lecture on the nature of qi. The following evening saw a standout concert of digital music, featuring many of the conference presenters as well as local musicians from The China Electronic Music Center. The final evening took the participants to the Summer Palace, the place where emperors once escaped the heat and noise of the city, for a special dinner and entertainment by musicians expert in traditional Chinese instruments. That we ended the conference in such a way belied the reality Beijing presented: a city in the midst of transition and hungry for the new - seeming so very far away from the concept of the ancient tradition of qi but just right for a contemporary study of complexity.

---

OPPORTUNITIES
---------------

---

LEA Special Issue: Locative Media

\* Worldwide Call for Submissions \*

Guest Editor: Drew Hemment  
lctvmedia@astn.net  
<http://mitpress2.mit.edu/e-journals/LEA/LEA2004/authors.htm#lmedia>

The Leonardo Electronic Almanac (ISSN No: 1071-4391) is inviting papers and artworks that deal with the emerging data-based spatial practice of Locative Media.

Across a broad range of contexts the interface between data environments and location has emerged as a central concern, reversing the trend towards digital content being viewed as placeless, or only encountered in the amorphous space of the internet. An emerging field of creative practice is coalescing around artists and technologists who are exploring the use of portable, networked, location-aware computing devices for social interfaces to places and artistic interventions in which geographical space becomes a canvas. Artists have long been concerned with place and location, but the combination of mobile devices with positioning technologies is opening up a manifold of different ways in which geographical space can be encountered and drawn, and presenting a frame through which a wide range of spatial practices may be looked at anew. Locative Media as an emergent culture is further characterised by an emphasis on the social and user led, and as a site where technological utopianism rubs up against a critical understanding of Locative Media's own axiomatic of control.

Submissions are sought which foreground not the technologies but rather issues to do with participation, perception and process, and that explore the critical context of Locative Media. What is Locative Media's relationship to dominant logics of representation, and how does it force a reassessment of accustomed ways of representing, relating to and moving in the world? How may methodologies within Media Art and other disciplines be developed to meet a convergence of geographical and data space, and a practice that works across international boundaries, mediums and genres? How can collaborative or user-led mapping and cartography offer new possibilities for community organisation? What metaphors are available for these new kinds of spatial experience other than mapping and navigation? How may artists respond to the abstraction inherent in Locative Media as a data-based form, and look beyond the reductive understanding of location that comes from Geographic Information Systems - in which place is considered as a set of geographic coordinates or a wireless cell - to explore, for example, context, co-location and material embodiment? What is the relationship between this emerging critical art practice and both the surveillance and control technologies it deploys and wider mechanisms of domination? What taxonomies of Locative Media projects can be discerned, and how may terminology evolve to meet this new interdisciplinary environment?

Locative Media is in a condition of emergence, simultaneously opening up new ways of engaging in the world and mapping its own domain. For this issue, submissions that present the exploratory movements of Locative Media in historical context are of equal

interest to submissions that offer a snap shot or polaroid of its current state of emergence.

Topics of interest might include (but are not limited to):

- Antecedents and historical context
- Taxonomies of Locative Media projects
- Art and technology collaborations
- Social applications
- Critical analyses
- Cultural analyses
- Scalability and ownership issues
- etc ...

LEA encourages international artists / academics / researchers / students / practitioners / theorists that engage with locative media to submit their proposals for consideration. We particularly encourage authors outside North America and Europe to send proposals for essays / artists statements.

As part of this special, LEA is looking to publish:

- Critical Essays
- Artist Statement/works in the LEA Gallery
- Bibliographies (a peer reviewed bibliography with key texts/references in Locative Media)
- Academic Curriculum (LEA encourages academics conducting course programmes in this area to contact us)

Expressions of interest and outline should include:

- A brief description of proposed text (300 words)
- A brief author biography
- Any related URLs
- Contact details

In the subject heading of the email message, please use "Name of Artist/Project Title: LEA Locative Media Special - Date Submitted". Please cut and paste all text into body of email (without attachments). Detailed editorial guidelines at: <http://mitpress2.mit.edu/e-journals/LEA/submit>

Deadline for expressions of interest: 7 March 2005

#### Timeline

- 7 March 2005 - submission of abstracts
- 11 March 2005 - short-listed candidates informed
- 1 April 2005 - contributors to submit full papers for peer review

(please note the timeline is subject to changes)

Please send proposals or queries to:

Drew Hemment  
[lctvmedia@astn.net](mailto:lctvmedia@astn.net)

and  
Nisar Keshvani  
LEA Editor-in-Chief  
[lea@mitpress.mit.edu](mailto:lea@mitpress.mit.edu)  
<http://lea.mit.edu>

ART/SCIENCE COLLISION: ROBOTICS IN NEW YORK

Thursday, 17 February 2005, 7:00 p.m.  
American Museum of Natural History  
New York, NY  
Linder Theater, First Floor  
Program Code: EL021705  
\$15.00 (\$13.50 Members, students, senior citizens)

Many New York-based artists are using robotics to explore what it means to be human. This evening includes demonstrations illustrating the wide range of robotic expression and discussions with some of the leading individuals and collectives, including Chico MacMurtrie, Artistic Director; Amorphic Robot Works; Eric Singer, founder of LEMUR (League of Electronic Musical Urban Robots); and Eva Sutton and Sarah Hart, who will present Sumi-ebots, robotic artists that do not need humans to create art.

Details:

American Museum of Natural History  
New York, NY, U.S.A.  
1-212-769-5200  
<http://www.amnh.org>

---

CREDITS
---------

Nisar Keshvani: LEA Editor-in-Chief  
Patrick Lambelet: LEA Managing Editor  
Natra Haniff: LEA Editor  
Michael Punt: LR Editor-in-Chief  
Andre Ho: Web Concept and Design Consultant  
Roger Malina: Leonardo Executive Editor  
Stephen Wilson: Chair, Leonardo/ISAST Web Committee  
Craig Harris: Founding Editor

Editorial Advisory Board:

Irina Aristarkhova, Roy Ascott, Craig Harris, Fatima Lasay,  
Michael Naimark, Julianne Pierce

Gallery Advisory Board:

Mark Amerika, Paul Brown, Choy Kok Kee, Steve Dietz, Kim Machan

fAf-LEA Corresponding Editors:

Lee Weng Choy, Ricardo Dal Farra, Elga Ferreira, Young Hae-  
Chang, Fatima Lasay, Jose-Carlos Mariategui, Marcus Neustetter,  
Elaine Ng, Marc Voge

LEA
PUBLISHING
INFORMATION

Editorial Address:

Leonardo Electronic Almanac  
407A, #24-17  
Fernvale Road  
Singapore 791407  
E-mail: lea [ @ ] mitpress [ dot ] mit [ dot ] edu

---

Copyright (2005), Leonardo, the International Society for the Arts, Sciences and Technology  
All Rights Reserved.

Leonardo Electronic Almanac is published by:  
The MIT Press Journals, Five Cambridge Center,  
Cambridge, MA 02142  
U.S.A.

Re-posting of the content of this journal is prohibited without permission of Leonardo/ISAST, except for the posting of news and events listings which have been independently received. Leonardo/ISAST and the MIT Press give institutions permission to offer access to LEA within the organization through such resources as restricted local gopher and mosaic services. Open access to other individuals and organizations is not permitted.

---

< Ordering Information >

<http://mitpress.mit.edu/catalog/item/default.asp?ttype=4&tid=27&mode=p>

Leonardo Electronic Almanac is free to Leonardo/ISAST members and to subscribers to the journal Leonardo for the 2005 subscription year. The rate for Non-Leonardo individual subscribers is \$35.00, and for Non-Leonardo institutional subscribers the rate is \$77.00. All subscriptions are entered for the calendar year only.

All orders must be prepaid by check (must be drawn against U.S. bank in U.S. funds), money order, MasterCard, VISA, or American Express. Where student subscription rates are available, a verification of matriculant status is required.

Note: In order to place orders electronically, you must be using a browser that is SSL-compliant. If you are unable to open the ordering link listed above, then your browser does not support the security features necessary to use this interface. Please use the addresses below to submit your order. Address all orders and inquiries to:

Circulation Department  
MIT Press Journals  
Five Cambridge Center  
Cambridge, MA 02142-1407 USA  
TEL: (617) 253-2889 (M-F, 9-5)  
FAX: (617) 577-1545 (24 hours)

For queries contact:  
journals-orders [ @ ] mit [ dot ] edu (subscriptions)

---

ADVERTISING
-------------

Leonardo Electronic Almanac is published monthly -- individuals and institutions interested in advertising in LEA, either in the distributed text version or on the World Wide Web site should contact:

Leonardo Advertising Department

211 Sutter Street, Suite 800  
San Francisco, CA 94108  
phone: (415) 391-1110  
fax: (415) 391-2385  
E-mail: isast [ @ ] leonardo [ dot ] info  
More Info: <http://mitpress2.mit.edu/e-journals/Leonardo/isast/placeads.html#LEAads>

---

ACKNOWLEDGEMENTS
------------------

LEA acknowledges with thanks the Rockefeller and Ford Foundations for their support to Leonardo/ISAST and its projects.

---

< End of Leonardo Electronic Almanac 13 (02) >

---