LEONARDO ELECTRONIC ALMANAC

VOL 17 NO 1 A collection of articles, reviews and opinion pieces that discuss and analyze the complexity of mixing things together as a process that is not necessarily undertaken in an orderly and organized manner. Wide open opportunity to discuss issues in interdisciplinary education; art, science and technology interactions; personal artistic practices; history of re-combinatory practices; hybridizations between old and new media; cultural creolization; curatorial studies and more.

Contributions from
Frieder Nake, Stelarc, Paul Catanese
and other important cultural operators.

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LEA PUBLISHING & SUBSCRIPTION INFORMATION

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Historical Perspective
Leonardo Electronic Almanac

by

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As *Leonardo Electronic Almanac* "rekindles" I can't help but be both nostalgic about the past and hopeful about the future. In looking back to when *Leonardo Electronic Almanac* (*LEA*) was founded I think of the challenges that the field faced in terms of communication, networking, and collaboration. So much was happening at the intersection of art, science and technology in the early 1990s, yet much of it was taking place in isolation, disconnected from other relevant and related activities. There was a clear need to raise the profile of work on a global scale, and to identify ways to improve interdisciplinary communication and collaboration. The leadership at Leonardo/ the International Society for the Arts, Sciences and Technology (ISAST) set on a path to play an important role in addressing these issues for its community.

Today there are some significant differences in the field – the remarkable blossoming of the Internet across the globe, the accessibility of the Internet by diverse communities, and the fluidity and availability of information – all solidifying the web as a crucial resource for both communication and research. My goal in writing this historical perspective is to provide background about the issues surrounding the creation and evolution of *LEA* as an emerging component in Leonardo/ISAST's publishing perspective in the early 1990s, to highlight areas where the grand experiment set out to address the identified needs, and to explore areas where aspects of our vision remain to be realized.

The environment was quite different twenty years ago when the seeds of *Leonardo Electronic Almanac* were being planted. The journal *Leonardo*, launched in 1968, was well established as the premier field resource for those working at the intersection of the arts, sciences and technology with over twenty years of history (http://www.leonardo.info/leoinfo.html). *Leonardo*'s Executive Editor and then ISAST Chairman of the Board Roger Malina and I, in my role as the ISAST Executive Director, were looking out towards the next twenty years, pondering the challenges and opportunities, to develop a long term strategy that would support the growth and evolution of the field, and create a sustainable organizational model so the work could continue long into the future. We wanted to ensure that our vision was comprehensive and long term, and we were seeking a new publishing partner whose goals were in alignment with that vision. We needed to build upon the great foundation already established, and create a comprehensive, integrated publishing approach that would supplement the existing journal with a plan to include books and electronic media, if we were to effectively respond to the needs of the field and a rapidly evolving global environment.

The journal *Leonardo* shined as a critical field resource and forum for articles about a variety of topics by different authors. Periodically thematic issues would assemble different perspectives and vectors into a particular topic of interest, such as the special double issue on Visual Math (*Leonardo* Volume 25 Numbers 3 & 4, Guest Editor Michele Emmer). It was clear that the field would benefit from probing more deeply into specific topics that would only be possible by publishing single author books, in the context of a curated book series that would establish a body of research and historical documentation in that domain just as the journal had been able to create in periodical form. It was also evident that electronic publishing utilizing the Internet would be critical as the third prong

in a three-prong publishing approach. The field was evolving quickly – quicker than the journal or book print media could serve effectively alone, given the extended development time from submission, review, development and publication. Major developments in technology, discoveries in science, and artistic creations were bubbling up all over the globe, and there needed to be a faster track mechanism for information exchange. New resources needed to be developed for both increased and improved networking. The field needed a repository for archives of content so people could quickly and easily find out what was going on where, and the host entity needed to be a reliable, definitive and long term source for the most current information. Now nearly twenty years later there are nearly forty books published in the Leonardo Book Series (http://www.leonardo.info/isast/leo-books.html), representing an incredible body of work, complementing in hard copy books what the journal *Leonardo* continues to this day as the most long standing and respected juried field journal. Similarly *Leonardo Electronic Almanac* has become established as a key field resource, complementing the journal and the book series.

In the early 1990s Leonardo/ISAST was supporting an email-distributed text newsletter, *FineArt Forum*, informing people about field activities through a compilation of event calendars, notices and opportunity listings – mainly identifying conference, symposium and festival opportunities, some with very short notification and submission timelines, making it impossible to effectively use the hard copy journal as a forum to convey that kind of information. *FineArt Forum* was founded by Ray Lauzanna in the mid-1980s, and Leonardo/ISAST become involved in that project later in that decade. Paul Brown spearheaded the ongoing development of this important initiative well into the 1990s, and Nisar Keshvani continued to develop the electronic newsletter. Nisar followed my tenure as

Executive Editor of *Leonardo Electronic Almanac* in 2001, leading a new wave of *LEA*'s evolution as Editor-in-Chief. (A great historical piece about the origins of *FineArt Forum* can be found at http://www.keshvani.com/print/features/ray.htm.) Judy Malloy was curating *Words on Works*, a collection of profiles of artists' work, which also was distributed by Leonardo/ISAST in text form electronically, with some of those profiles appearing periodically in the hard copy *Leonardo* journal. Both of these initiatives served important functions on behalf of the field, but it was evident that the need was greater than what these two initiatives could service alone. Not only were there more and better ways to communicate this kind of information and improve accessibility, but there was increasing expectation among our constituencies that significant presence on the web was essential if the resource was to be viable. People were seeking more ways to have direct exchange around the globe, and it was clear that we needed to respond effectively to this evolving terrain if we were to remain at the nexus of this activity in the future. There needed to be a highly developed web-based aspect to our publishing paradigm to complement the ongoing hard copy publications, and it needed to be more than an electronic newsletter for information dissemination, and more than a simple "listserv" for bidirectional communication.

Very little was present on the web at that time that provided the kind of information that we perceived as being essential to effectively support the field. There needed to be an easily accessible forum to present in-depth articles as well as regularly updated event calendars, notices and calls for papers, exhibition and performance opportunities. The field needed an on-line Gallery to present current work; a comprehensive, ever growing archive; a variety of reference bibliographies to serve as a source for research and networking purposes. A database identifying work that was taking place around the world, educational resources and op-portunities needed to be created to facilitate access and to support growth of the field. The few initiatives that could be found on the web mainly served the needs of individual locations (universities or media art centers), or they were local or regional in scope; there were no international projects serving our field as a totality, and certainly no initiative that could carry the credibility, name recognition and longevity that the Leonardo/ISAST brand had to offer. There were no models to emulate, and we were forging new territory in the field and on the Internet. Similarly, there were very few examples of subscription based electronic journals or newsletters, and it was going to be difficult to establish a subscription base that would support the initiative. The common mindset was that everything on the Internet should be free, so it was always needing to be subsidized through other ISAST activities and contributions. We always struggled to find a balance between supporting the field through free access, and trying to support the developing project to simply be able to afford continuing to do it. In that terrain it was perhaps a bit easier to get visibility for the activity than it is today. In a way though it was like a lonely voice trying to shout loudly in the middle of a dense forest hoping that the voice would carry far, as opposed to today, which might be characterized more like trying to shout and be heard above many other voices shouting at the same time.

We knew that we had to establish an integrated publishing approach across media and platforms – journals, books, web resources, etc. The goal was to establish an independent electronic publication, not simply serve as an accessory or enhancement to the hard copy journal. We wanted to create a link between the journal *Leonardo* and the Leonardo Book Series, and a multi-faceted approach to content development was designed to utilize the best of what each format had to offer, with each appropriately supporting the other. In addition to having its own editorial and curatorial

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focus and agenda, the electronic forum could develop content that would serve as a feeder for either the journal *Leonardo* or the newly established Leonardo Book Series. Similarly, the electronic journal could serve as a forum for discussion and collaboration rising out of topics addressed in the hard copy media and create an ongoing exchange. With this kind of integrated publishing model in mind, we decided that an important component to have in the mix to attain long term success and sustainability would be a significant publishing partner that was committed to the vision. Merging the joint histories, good will and resources of Leonardo/ISAST and a significant academic publishing partner would add credibility and thrust to the initiative, and that began a formal association with MIT Press that has lasted for twenty years.

So *Leonardo Electronic Almanac* (*LEA*) launched in 1993 as Leonardo/ISAST and MIT Press' on-line subscription-based journal dedicated to providing a forum for those working at the intersection of art, science and technology. Material was contributed by artists, scientists, philosophers, technology developers and educators. *LEA* provided direct access to informa-tion on new activities, artists and organizations in the international art community, taking advantage of new developments in technology on the web as they evolved and as resources allowed, providing a venue for contributors to utilize text, hypertext, still and moving image, and sound to illuminate their activities. *LEA* provided a forum for artists to present their work, to solicit input from peers, and to facilitate development of new work.

The extreme variable bandwidth and access across the globe created significant issues of concern about access, speed, and multimedia resources. For the first several years of operation we continued to distribute a text email version of *LEA* while we built a comprehensive web site. We were initially quite restricted as to the size that an email message could be due to Internet mailer constraints, and we slowly allowed the text newsletter to grow in size and scope. I remember having several probing conversations with Roger Malina, where concerns were expressed about the limited accessibility to the Internet in many parts of the developing world, and how important it was to continue providing an email distributed version of whatever we created or risk excluding people from access and participation. There were similar concerns about access if we created a web site with a lot of graphics that would require even modest bandwidth access to the Internet. As a result, the design of *LEA* evolved incrementally, and its origin as a text-based, email-distributed document was still evident in the early years of *LEA*'s evolution.
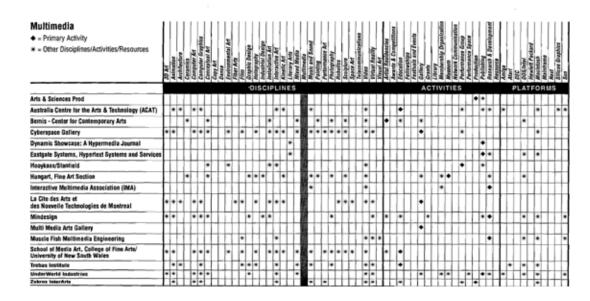
Also in 1993 we created a hardcopy book, the *Leonardo Almanac: International Resources in Art, Science and Technology*, using the material collected in serial fashion through our various email newsletter activities, in addition to solicited information, some components relating to Leonardo/ISAST's society activities (e.g. Speaker's Network, ISAST Artist Prize winner profiles,

Example 1. *Leonardo Almanac* Organization Tables

Words on Works profiles, bibliographies on a variety of topics developed in part by Judy Malloy as part of the *Leonardo Fine Art Science Technology* database and archive initiative), and a detailed survey assembled and organized into a group of human and technological resource tables. This was to become the foundation for creating the electronic version of the *Leonardo Almanac* (http://leonardo.info/isast/leobooks/books/harris.html) (ISBN: 0-262-58125-6). We were exploring ways to take things that existed in hard copy form that could be tremendously more effective on the Internet, and move them into LEA.

The vision for implementing some of these features included creating an online searchable and configurable database that would make it easier for people to find out what was going on, search for what they needed, make contact with those who were active in areas of mutual interest, allow people and organizations to create and update their own profiles, and solicit information, collaboration and networking opportunities on an as needed basis. At the time creating an interactive, self managing database and active social community was extremely complicated and expensive to develop, and as a result we were not able to move that aspect of the vision forward. Today, however, this kind of direct social community resource exists as off the shelf software from a variety of vendors, and linking something like that into the rest of the LEA resource assets is a much more viable activity. I hope that this provides an opportunity to move that part of the vision into reality, as I continue to believe that there is a definite need that Leonardo/ISAST could address. I would like to see a variety of resources develop in the next period of LEA's evolution:

» **Organization Profiles:** media arts facilities, research institutions, educational institutions, corporate entities working in related fields, nonprofit service organizations, galleries and performance

organizations all should have profiles online that clearly indicate the kind of work taking place and opportunities available. They should be able to easily update their information, and the community should be able to easily search through the data. Those of you who remember the hard copy *Leonardo Almanac* may recall the many pages of tables that attempted to do that in a book form. (Example 1) Clearly this kind of activity needs a web-based approach to remain current and be easily accessed; and people need to be in control of their own information – both to ensure that it is accurate and to establish a sustainable model for collecting the information.
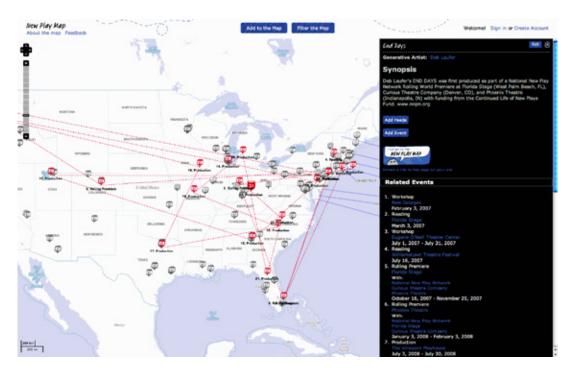
» **Individual Profiles:** individual artist and group artist profiles should exist in a similar kind of environment – showing work, soliciting information, offering opportunities, and notifying about exhibitions and performances. This could exist as part of or independent from a curated online gallery. In the hard copy *Leonardo Almanac* there was a discipline table illustrating individuals' engagement in various fields, similar to the organizational discipline table. That was a useful and informative way of perusing information. (Example 2) In both the organization and artist profile sections there could be an interactive map that could be used to assist orientation for those looking for people in particular areas to work with, or if one is traveling and interested in finding out what is going on in the area where they will be visiting. An interesting current example of this kind of activity is the New Play Map (Example 3) (http://www.newplaymap.org) that The American Voices New Play Institute at Arena Stage is currently developing to highlight where new work for the stage is being created in the United States. People can add to the map, look for specific activities and explore the trajectory of the development of a new work for the stage. This

Example 2. *Leonardo Almanac* Individual Discipline Tables

Example 3. American Voices New Play Institute New Play Map – visualization of a new play's development journey. © 2011 Washington Drama Society, used under a Creative Commons Attribution 3.0 Unported (CC BY 3.0) license: http://cre-ativecommons.org/licenses/by/3.0/

is an evolving project that recently launched, but it illustrates the kind of online interactive mapping referred to here.

» **Research Bibliographies:** the topical bibliographies that we published in 1992 would translate well into an online research resource, and could exist as something that people could update, add to and refine so that the entire community could benefit from the cumulative archiving of relevant sources. Naturally people can do their own searching today on the Internet to hopefully find things that might serve their needs, but having a field initiative and credible source is exactly the kind of activity that differentiates the Leonardo brand. At that time we included bibliographies on Computer and Electronic Music; CyberCulture; Fractals; Gender, Art and Technology; Multimedia; Television and Society; Video Art; Virtual Reality; and a General Art, Science and Technology bibliography.

These ideas were part of that original hardcopy *Leonardo Almanac* that were always part of our long term vision. It was evident even when it was published that

some of the information in that book would be limited in its long term use. It was just as clear that the kind of web-based, interactive forum was the natural platform for long term use and sustainability.

We knew when we started this grand experiment that we were embarking on an activity that would take several years to develop content, create effective multimedia resources, build credibility and establish an audience. It is heartening to see that nearly twenty years later the project is still alive, evolving, and serving the field in important ways. As the new *LEA* Executive Editor Lanfranco Aceti indicates in his introduction to the issue that launches the next era of this important initiative, "*LEA* aspires to be a place where speed and slowness meets." (Mish Mash, *Leonardo Electronic Almanac*, issue 1, 2010) (http://www.leoalmanac.org/index.php/lea/entry/mish_mash1/) Responding to the needs of immediacy in a rapidly changing world, maintaining a connection with the past to retain a historical perspective, and providing a forum for delving deeply into issues to support long term evolution of the field, are all critical aspects that were present as we created *LEA*, and a perspective that influenced all periods of its

evolution. I look forward to seeing how Lanfrenco, Co-Editor Paul Brown and the rest of the team take *LEA* to the next level, putting their own stamp and vision onto the project.

Leonardo Electronic Almanac rekindles now in a very different Internet landscape. Issues of access and bandwidth may still be a part of the complexion, but access to the Internet is so vast, and connection speed has evolved such that an electronic publication doesn't really have a chance of survival now if it doesn't employ multimedia resources in a significant way. It is noteworthy though that today many of the same questions are still being asked by any organization seeking to remain relevant in the new technological era:

» How does an organization engage their constituency using the available electronic resources?
» How does an organization create a critical mass of engagement, interest and activity to establish a sustainable community?
» How does an organization establish a viable economic model that makes it possible to survive, thrive, respond to current needs and continue to evolve?

Now there's a challenge to be visible among the many different web-based publications, galleries and discussion groups. The competitive challenge requires rising high above the din and be relentless and omnipresent. There still is a need for that reliable and credible source – the nexus that provides the credible editorial focus – the dependable resource that maintains a strong connection with the history, the historical perspective that comes from four decades of watching, documenting, commenting, and engaging with artists, scientists and technologists on a global scale. The active engagement with those working in the field is a key feature of the grand *LEA* experiment, and remains

one of the factors that supports Leonardo/ISAST's longevity as a force in the field in all of its activities. It isn't just about accumulating and assimilating resources, and it isn't there simply serving to document what is going on. By continuing to be involved directly with the various constituencies Leonardo/ISAST helps to drive the field forward and encourage networking and collaboration in ways that wouldn't otherwise likely take place. So in the end it will only continue to succeed and serve the field if the international community responds to the Leonardo engagement with equivalent force and intent. As *Leonardo Electronic Almanac* relaunches and enters a new era of engagement, I look forward to a similarly active heightened response from the international community. I toast to the next twenty years, and certainly hope that I'm around to see where it is then. ∎

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