

Meta-visual/media/space – algorithmic “intersection,” the new aspect of media art exhibition

1. Introduction

When we start to think about “vision,” imaging, and our ways of perceiving the outside world, we must be clear about what we mean. Even in Japan, where imaging technologies play a central role, there are misunderstandings about what “imaging” is and what comes under its umbrella. By “imaging,” I mean the creation of images through any medium that is not simply manual: those that can be traced, reflected, photographed, reproduced, and projected. The term is not restricted to animation, video, film, or other means of creating pictures in motion. “Imaging” encompasses shadow play, magic lantern, anamorphose, and all the processes of visualization. Since the Tokyo Metropolitan Museum of Photography (TMMP) opened as a center for photography and other visual media, it has been important to discuss what “imaging” means.

Our view of the visual arts, including film and media, is too confined to the present. All forms of art have their historical roots, and neither film nor video has suddenly emerged from nowhere. To appreciate new works in electronic media, it is important to be aware of connections between the technological means employed now and the often-forgotten visual devices and techniques of the past. Even in Japan, where technology is advanced, many people do not correctly understand media art as a part of the history of imaging, which is leading to the present.

The Cybernetic Serendipity exhibition, presented in a space of 6,500 square feet at the Institute of Contemporary Arts in London, was a major early example of an exhibition about the role of computers in the arts. Among the 325 individuals whose work was shown were artists, composers, engineers, architects, poets, and scientists who used computers as tools in their creative work. Sixty thousand people came to the ICA exhibition. Among the artists featured in the exhibition were Nam Jun Paik, Wen Ying Tsai, John Cage, and Iannis Xenakis. Japan was represented by CTG (Computer Technique Group), a group of young students from The University of Tokyo and Tama Art University who presented some of the most compelling computer graphics, including portraits, in the whole exhibition.

As Jasia Reichardt, curator of this show, said our generation – people who were younger than five in 1970 – was not surprised about the application of technology to art or vice versa. We are not surprised by the “newness” of technology itself but rather by the new concept which emerges from it. Our generation's successors are members of the digital generation. By the time they were born, the world was already networked. Mine is a fortunate generation that has been able to study with teachers, curators, researchers and artists who were at the forefront of the new image-making technologies. In the 1980s, there was a growing interest in realizing the idea of the Musée Imaginaire, which Katsuhiko Yamaguchi, one of the pioneers of media art, called Imaginarium. It was this impetus which led to the founding of Japan's first museum of photography and imaging.

[Fig 1.]

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Figure 1: TMMP and its permanent collection

The Images and Technology Gallery, the B1 floor of the Tokyo Metropolitan Museum of Photography, is the result of that initiative. Here the broad field of image-making is divided into five themes based on its permanent collection from pre-cinema history to contemporary interactive installations like C. Sommerer & L. Mignonneau's work – themes on Imagination, Animation, 3rd Dimension, Magnified View and Documentation as “time and place remembered.” The following chapters describe the current situation of media art museums in Japan and how I realized those five themes via many media-art exhibitions in the past 10 years.

2. The current situation of digital art, media art and museums in Japan

In 2004, I did a study on Japanese policies and situations of institutions that are related to media arts. Our group, the Media Arts Research Committee (04-05), did a survey for 185 major museums in Japan and analyzed various exhibitions and international institutions such as ZKM, Ars Electronica Center, etc. We hope that museums or public facilities can be a center for the creative domain of media arts in the postmodern era. As many artists and researchers think that collaboration between scientists, engineers, and artists will be effective, we should seek alternative ways to introduce media arts because these arts involve their environments and interact with audiences in non-traditional ways.

The Agency of Cultural Affairs of the Japan Ministry of Education and Science promotes media arts through an annual Japan Media Arts Festival at TMMP. The Fundamental Law for the Promotion of Culture and Arts enacted in 2001 defines “media arts” as “movies, car-

toons, animations and arts that utilize computers and other electric devices.” From an economic point of view, the government enacted the Law for Creation, Protection and Promotion of Applying Contents in 2004, acknowledging the value of intellectual property of popular cultural institutions such as movies, games, music, photography, animation, and comics, all major Japanese industries in the international market. Beginning in 2002, all Japanese junior-high and high schools launched the new curriculum in which digital media/images are taught in the art curriculum.

According to our survey, 63 percent of art museums have already exhibited something in relation to media arts, and 17 percent are interested though they have not yet developed any such exhibitions. About 45 percent of major Japanese museums have less than five staff members in charge of exhibitions and public/educational programs, and most merely have specialists in exhibition engineering. Many people have pointed out that the shortage of curatorial staff and budgets is a problem. Some curators/educators regard media arts as hard to handle and costly. [Fig 2./Fig 3.]

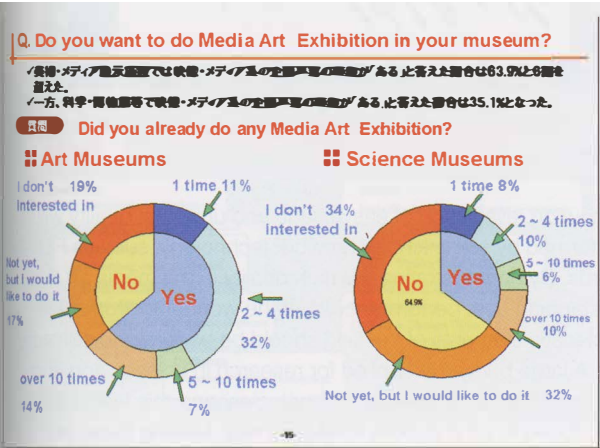


Figure 2: Graph 1

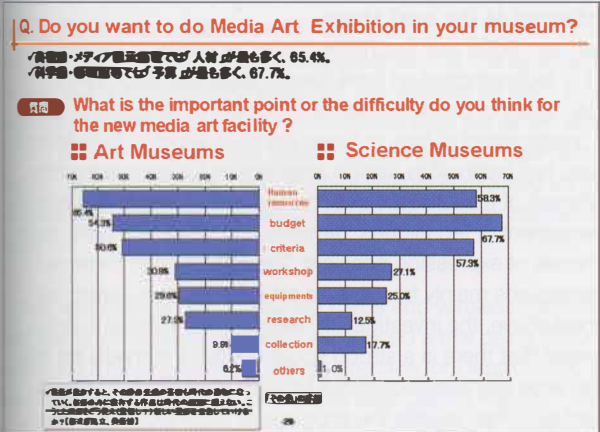


Figure 3: Graph 2

Through this research, we realized that we should develop touring exhibitions or packaged programs that share how to exhibit or organize them on common hardware platforms. Then, exhibiting media arts would be more economical and easy to handle by a smaller staff.

3. Various examples and analysis from media art exhibitions in TMMP

Tokyo Metropolitan Museum of Photography has gained more visitors since it began having many media arts exhibitions. Now, I would like to look closely at some “intersection” examples and suggest new systems to carry out media art exhibition more easily. [Fig 4.]



Figure 4: Documents/brochure of each exhibition; Mission Frontier, Global Media, Meta-Visual

There are various “intersections” between the five themes in our exhibitions. The history of visual image and visual art were equally exhibited in Re-Imagination –image/media/museum in 2002-2003, which traveled to the six public museums in Japan. Here, unlike many presentations, contemporary installations like Kazuhiko Hachiya’s multi-viewpoint experimental system Centrifuge, and historical visual devices like magic lanterns or peepshows were displayed in the same space in this exhibition.

In the exhibition A Universe on Storyboards: Birth of an Image in 2003, the intersection between workshop and exhibition was also introduced. We displayed storyboards, puppet models, and character sketches as the backgrounds of music videos, animations, computer games, and commercial movies by nine artists, including Koji Yamamura’s Mount Head.

The Digital Forest exhibition featuring Tamas Waliczky and other digital-image artists considered the meaning of healing and curing in our digital age. There again, the contrast between the natural and the digital was made prominent.

In the annual Global Media exhibitions, we have introduced the activities of Japanese artists whose works have been displayed in international festivals such as SIGGRAPH and Ars Electronica. 2005 was a fruitful year in regards to this triumphal return. While introduc-

ing three young Japanese student groups awarded in the “next idea” section of Ars Electronica, the exhibition included Death Clock by Tatsuo Miyajima & Hajime Tachibana. The installation enables one to enter the cyber network world by using beautifully designed RFID tag cards. This work obscures the border of the cyber and the real. This was also one of our attempts to bring ubiquitous methods into the exhibition space.

The exhibition Mission: Frontier –deep space of our perception focused on the frontier that unites art and science. We explored the new frontier that was born in the “intersection” of two different fields of art and science. Lots of works related to the new, beautiful technology in space, like Takuro Osaka’s visualization of cosmic rays from outer space, or the deep sea and the inner space of our bodies.

OTAKU: persona=space=city was also a triumphal return. We exhibited a lot of the art work from the the Japan Pavilion at the 2004 Venice Architecture Biennale. As public interest in the little-known world of OTAKU, or Japanese Nard culture, grew during this exhibition, we had over 9,000 visitors per day at The Media Arts Festival Japan. The resulting huge numbers of visitors queued up in front of the entrance, waiting up to two hours. It was the moment of “intersection” of visual arts and OTAKU culture, in which a remixed, hybrid cultural field was recognized.

I tried to present spaces beyond the visual space in different kinds of ways in Meta Visual – the history and futurescapes of our perception. Strange feelings and splendid expressions of depth and illusion such as those in Kohei Nawa’s spatial installations were introduced. When this exhibition toured to France, I had to make it very compact and handy, and I carried many works by Maywadenki and Yoichiro Kawaguchi, as well as flip books in iPod photo and Toshio Iwai’s Electroplankton, a NintendoDS game. This exhibition enabled us to enjoy both large installations and small designed products, at the same time as a spatial “intersection.”

As I have been in charge of five or six of such exhibitions a year, and had many of them tour extensively, it is now essential for me to systematize the intersection I have described above. If more and more people are eager to go to media-art exhibitions, we have to make their realization easier. Therefore, I would like to propose the application of a genetic algorithm method as the technique of composing a media-art exhibition, as the “intersection” between art and engineering. This is a system that generates space arrangements automatically. It will adjust the characteristics of the works in an exhibition and draw the best positions for all the works to display their qualities to the best advantage. In an exhibition with many restrictions, each of the works also has its restrictive characteristics in the way it should be displayed, such as lighting, sound, motion, and operation. By evaluating all of those conditions, it will generate the arrangement automatically.

Usually, evaluation of the exhibition activities organized by local governments such as the city of Tokyo, is not based on any criticism etc., but judged only by the number of visitors. Even if everyone understands that is a problem, the method on which we can rely is yet to be generalized. However, we can see how media arts can reduce costs and increase the number of visitors, from 170,000 to 430,000 people in a year, as in The Media Arts Festival Japan in 2001. [Fig 5.]

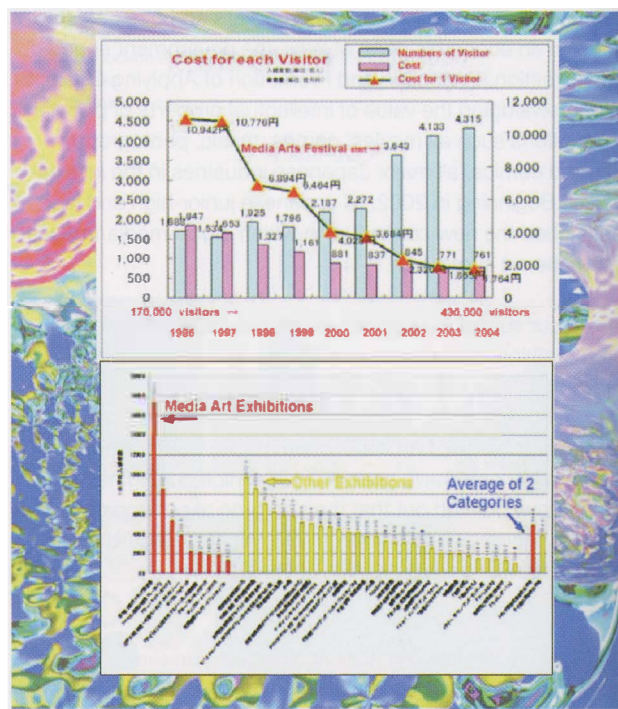


Figure 5: Graph; the comparisons after we promote media arts exhibitions

From now on, evaluation of easy usage and universal quality will be performed by some kind of network technology, such as FID tag cards. By demonstrating the high quality in the media art field, its outstanding cost performance, and the wonderful works, the characteristic elements of the field should be understood still more widely. A large budget is applied for research in science and engineering and their cutting-edge technologies, and this fact needs to be introduced to us in a more intelligible way. Making these technologies familiar via digital art/media art exhibitions is the mission of our age, where we can discover a new aspect of art in the new century.

4. An attempt at the next stage

Between the 1960s and the 1980s, those receptive to the growing field of technological art have always regarded discussion of technical details of the works with a modicum of skepticism. It is indeed unwarranted to look at these works in terms of their technology alone, but technology itself is responsible for generating new ideas. Pursuit of the fantastic and the curious has been responsible for development of techniques, devices, and ideas that have made many modes of expression possible. Though I quoted those various intersections mainly from media art exhibitions in Japan, as mentioned above, the investigation based on my exhibition activities showed that there is a strong social need in the media art field. Although large numbers of cultural facilities are willing to present media-art activities, usually the shortage of know-how and equipment is a problem. Many media-art works can't be exhibited or collected in the same manner as traditional paintings or sculptures. Some of them need the interaction of audiences and environments as site-specific projects; some involve cutting-edge technologies that may be obsolete in the near future, while others are multiple arts such as movie clip or software so that artists can easily publish them on the internet. Thus, the meaning of art exhibition and collection will change as technology develops.

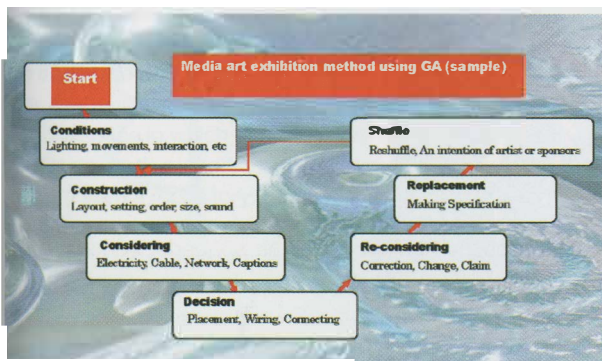
The institutions or museums that have performed pioneering activi-

ties must share the knowledge that they have. Also, we must be conscious that the prosperity of the present digital content has its foundation in the avant-garde art activities and expressions in the early 60s. This is relevant not only in the case of commercials or entertainment today but also in public spaces like museums. Research on this field must also continue.

What is the next stage of media art? There are three different elements to this:

1. Making products as multiple artworks.
2. Creating educational materials,
3. Public art.

Thus, I want to propose new cultural facilities, something like what Malraux conceived in the past. For this purpose, the exhibition-support systems I suggested and prepared are required so that exhibitions of media arts may be held in every institution. One approach to this problem is to make the exhibition plan using a genetic algorithm that materializes adjacent works effectively. [Fig 6.]



We set each artwork's elements (lighting, movements, interaction, etc.) as CONDITIONS, and also specify special conditions of the exhibition room such as CONSTRUCTION. And after the tentative DECISION, the trial is repeated as RE-CONSIDERING, REPLACEMENT, and SHUFFLE, as in GA theory. The troublesome management of power supplies or components that are different for each work becomes possible because the system connects the whole exhibition in a network and enables exhibition package management. Also, a system that feeds back the opinion of visitors is required so that an exhibition may not be appreciated only by the appropriate number of visitors.

Another approach is using RFID tag cards and wireless pens for an automatic questionnaire system. I introduced a trial using RFID tag cards in our OTAKU exhibition as an interface for Death Clock. We also exhibited another example, which used Japan Railway "Suica" cards to show where visitors came from. This project, entitled Share-log, was created by the research group CREST (Kotaro Hashimoto, Yasuhiro Suzuki, Tomohiro Tanikawa, Toshio Iwai, and Michitaka Hirose). In the exhibition Leading Edge Technology Showcase, they visualized each visitor's location, projected on a huge map of Tokyo. A tag card system like this can be applied to understand how visitors experience the exhibition and each installation. It helps us understand how to create effective exhibition design for media-art works.

ogy rather than the classic questionnaire on paper, to evaluate the exhibition's quality and provide feedback for subsequent projects. In the Meta-Visual exhibition at TMMP, (April - July 2005), which also traveled to France, the new questionnaire system was used to count the total number of opinions automatically. With this system, visitors can enter their answers in check boxes on a normal paper questionnaire. Then they can see their own handwriting characters in a computer display. At the same time, they can see their answers in a graphical display, where the data are totaled automatically. This system greatly contributed in the last Japan Media Arts Festival, which attracted over 67,000 people in 10 days. This kind of exhibition support system would be greatly appreciated in the next stage, as a new intersection.

5. Conclusion

Various experiments will be continued at media-art exhibitions. When these exhibits increase in number, more interesting works and new talents will emerge, and we can continue to develop our perceptions, as we have for thousands of years. Today's world is one of shared cultural aspirations and shared images. Imaging is at its center. Just like Andre Malraux's Musée Imaginaire and Katsuhiro Yamaguchi's Imaginarium, Jeffrey Shaw pursued the notion of a virtual museum, and other various exhibition alternatives are now realized on the Internet. An ideal visual space for recording the memories of a city is a museum dedicated to the art of imaging and perception. We await its realization. Meanwhile, as I suggested earlier, we should come to terms with the simple truth that, just as we must look to our past, so our future too will have its roots in the present.

References

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It was also used to carry out an opinion survey via digital technol-