The Aesthetics of Exhibition: A Discussion of Recent American Computer Art Shows

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ABSTRACT

Artists are using technological advances in their artmaking processes and are concerned about the difficulty of getting their work exhibited. The author discusses the aesthetics of exhibition and the nature of computer-aided art as seen in recent important exhibitions, as well as the problems associated with mounting these exhibitions. A brief history of computer-aided art exhibitions is presented, including the earliest exhibitions, the developments of the 1970s and recent major museum exhibitions. The author compares concepts and traditions in exhibition design to those that will be needed in the future, and finally discusses why certain art forms are exhibited.

The nature and purpose of art dictate how and where it is seen. The history of Western culture has witnessed a development that has taken art from the realm of the spiritual to the realm of the secular. The secularization of art has changed our understanding of art. This progression of art also has effected changes in the nature of art. The didactic replication of religious subjects was well understood by the medieval Christian faithful who contemplated the images for their personal salvation. The traditional Christian subjects that artists used, e.g. a Pietà, required only that the viewer followed the teachings of the Church. In the intervening centuries, as art has become more and more secular, it has become esoteric.

The viewing public has needed to become educated in art theory to understand the meaning and purpose of art. Modernists' concepts of art have led to a refining process in the understanding and appreciation of the arts. It takes an informed viewer to comprehend the abstract formal elements of twentieth-century art. Tom Wolfe in his book *The Painted Word* implies that Modern contemporary art has become so esoteric and literary that only a few cognoscenti understand it. Future art objects may be eliminated altogether, with only the conceptual elements of art existing [1]. The nature of Conceptual art and the current fashion for ephemeral art objects does affect the public's understanding of 'modern' art.

Although much contemporary art has an esoteric quality that some viewers may find obscure and meaningless, there are aspects of computer art that are extremely appealing to a large segment of the population [2]. Interactivity as an aspect of computer-aided artmaking, coupled with realistic imaging, mathematical visualization and the growing availability of implementation, make computer art interesting as an expressive vehicle.

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Fig. 1. Giovanni Paolo Panini, *The Gallery of Cardinal Valenti-Gonzaga*, oil on canvas, 78 × 105.5 in, 1749. (Wadsworth Atheneum, Hartford. The Ella Gallup Sumner and Mary Catlin Sumner Collection) Panini's painting demonstrates the early Salon exhibition style. This method of stacking paintings one above another on the wall was popular until early in the twentieth century. This painting is of an imaginary collection of artworks from the eighteenth century.

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Fig. 2. Two installations from the National Gallery of Art in Washington, DC. Austere designs for displaying artworks evolved as contemporary museum architecture affected interior spaces and as Modernism became a prominent style. (Courtesy National Gallery of Art)

The evolution of art includes an interest in the processes involved with creativity as well as the aesthetic experience.

A Historical Approach to the Display of New Art

The method of display of technical art is connected to the history of the development of museums and, in particular, to the development of the 'modern' museum. The Museum of Modern Art in New York was the first museum created for the display of contemporary artworks. After its founding in 1929, the display techniques of individual artworks became increasingly modern as well. "Beginning with the Museum of Modern Art, the first art gallery of world importance to be designed in a wholly contemporary style, American museums have immeasurably encouraged the acceptance of architecture relying on new technology and exploiting the potential of new materials" [3]. The earlier technique of stacking artworks was eliminated and single works of art were displayed in a clear, neutral setting (Fig. 1). A.W. Melton wrote in 1935:

> Whereas the museum can increase the frequency with which visitors see a specific object by increasing its isolation, by placing it in a favorable position within the gallery, and by placing it in a gallery visited early in the museum visit, it cannot increase the concentration of intensity of the visitors' interest in it by such manipulation. In order to do the latter it must resort to the use of printed labels which explain or interpret the art object [4].

In the modern museum an artwork is no longer viewed in its context as in the medieval Christian church but is seen as an isolated work. The main thrust of twentieth-century art exhibition design has been towards creating isolated, well-lighted spaces (Fig. 2).

A Brief History of Computer Art Shows

In 1965 several computer art exhibitions were mounted. The first was held in the Gallery Wendelin Niedlich at the University of Stuttgart in January 1965 and featured the works of Georg Nees. In April 1965, A.M. Noll and Bela Julesz had a show of their work at the Howard Wise Gallery in New York. Georg Nees and Frieder Nake mounted another show in November at the Niedlich Gallery in Stuttgart. In addition, artworks were published in the June issue of *Computers and Automation*, which held an annual art contest from 1963 to 1979.

In 1968 Jasia Reichardt curated an important art show that was held at the Institute of Contemporary Arts from August through October. A catalog was published that illustrated many of the works shown.

> Cybernetic Serendipity was mounted in a gallery of 6500 square feet, involved 325 participants and was seen by 60,000 people. The exhibits showed how man can use the computer and new technology to extend his creativity and inventiveness. These consisted of computer graphics, computer-composed and -played music, computer-animated films, computer-texts, and among other computer-generated material, the first computer sculpture. There were also cybernetic machines such as Gordon Pask's 'colloquy of mobiles', television sets converting sound into visual patterns. Peter Zinovieff's electronic music studio with a computer which improvised on tunes whistled into a microphone by the visitors; there were robots, drawing machines and numerous constructions which responded to ambient sound and light. Six IBM machines demonstrated the use of computers, and a visual display provided information on the history of cybernetics [5].

Following *Cybernetic Serendipity* the influential exhibition *The Machine as Seen at the End of the Mechanical Age* was held at the Museum of Modern Art in New York from November 1968 to February 1969. This exhibition was significant because of its survey of art and technology artifacts and because it included computer-aided works by

Schwartz, Harmon, Noll, Fraenkel and Raskin. The catalog from the exhibition has become a collector's item.

Technical Art in the 1970s

After 1970, many exhibitions of computer art were organized all over the industrialized world, from Japan to Brazil. There were several notable museum shows of the work of individual artists, including Harold Cohen and Jeff and Colette Bangert. Vendors of computing equipment sponsored art exhibitions and travelling art shows. Exhibitions were held regularly by the Computer Arts Society in London and the Association for Computing Machinery (ACM) in the United States (Fig. 3.) [6].

SIGGRAPH Art Shows

The Special Interest Group for Graphics (SIGGRAPH) of the ACM has sponsored computer art shows as an adjunct activity to the annual conference since 1981. These art shows have involved hundreds of computer artists and have been an important venue for technical art. Since 1982, an art show catalog has been printed to document the exhibitions [7]. The early SIGGRAPH exhibitions of computer imagery combined works showing technical innovations with fine artworks. The 1984 exhibition was devoted exclusively to computer-aided design (CAD). The 1985 art show was complex, involving installations held in conjunction with several San Francisco museums. The 1986 art show was an international retrospective of computers in the arts surveying the development of its use by artists over the last 20 years or more. More than 450 artworks were presented in all media. The 1987 art show was concerned with the 'unusual' in computer art. The SIGGRAPH art shows have consistently involved innovative exhibition design because of their use of temporary facilities. The art selected has reflected SIGGRAPH's focus on new technologies. One aspect of this focus has been the mounting of new art forms. Many of the installations supported by the SIGGRAPH art shows would have had no other venue.

The earliest computer art shows were held in conventional exhibition spaces, with temporary panels dividing the works into compartments. The original organizers of the SIGGRAPH shows were computer artists who were determined to make an effort to create the best possible viewing space for art that not only depends upon electronic light but also is interactive (Fig. 4).

Major American Museum Shows

In 1987, there were three major museum art shows featuring computer-aided art. The Bronx Museum of the Arts held the *Second Emerging Expression Biennial: The Artist and The Computer* from 17 September 1987 to 24 January 1988. The show was curated by Louis R. Cancel, the director of the museum, and juried by Shalom Gorewitz and this author.

In his introduction to the catalog Louis Cancel states,

> This catalog documents The Bronx Museum of the Arts' second exhibition (the first was in 1985) that seeks to capture the extent to which computers are being utilized as creative tools by visual artists. . . . All of the artists selected for this exhibition are pushing the boundaries of media, going that extra mile, and helping to establish a path where technology and art can converge in the creation of new tools for human expression [8].

More than 75 artists, technicians and programmers exhibited work in the show, which included installations, musical works, video, animation, sculpture and two-dimensional artworks. The museum has several galleries, two of which were set up for the show. The spaces were tall and elegant. Special areas were created to hold the works that required a low-light environment (Fig. 5).

Computers and Art opened at the Everson Museum of Art in Syracuse, New York, in September 1987 and is to travel to several galleries, including the IBM Gallery in New York in April 1988. Cynthia Goodman curated this survey. The show is ambitious and includes works by 150 artists, which are documented in Goodman's book *Digital Visions, Computers and Art* [9]. The works were selected for their suitability for inclusion in a museum show. Goodman's research led her to many well-known artists from New York who dabbled with technology as well as artists admired by their peers in the computer world. The interactive selections in the Everson show were wonderful and innovative. Many works of historical interest were shown, including an updated version of *Proxima Centauri* (1969) by Lillian Schwartz, Per Bjorn and Arno Penzias and *Computer Sculpture* by Georg Nees.

The museum devoted most of its gallery space to the show. It was displayed in several adjoining galleries, in a multilevel plan. The architecture of the Everson had its impact on the viewer's appreciation of the show. It

Fig. 3. A photograph of an exhibition sponsored by IBM in 1974–1975. (Courtesy IBM) The Art and Skill of People Using Computers exhibition featured artworks by several computer artists including Jeff and Colette Bangert. This exhibition toured several sites in New York and New Jersey. Many early computer art shows were seen in environments similar to this space.

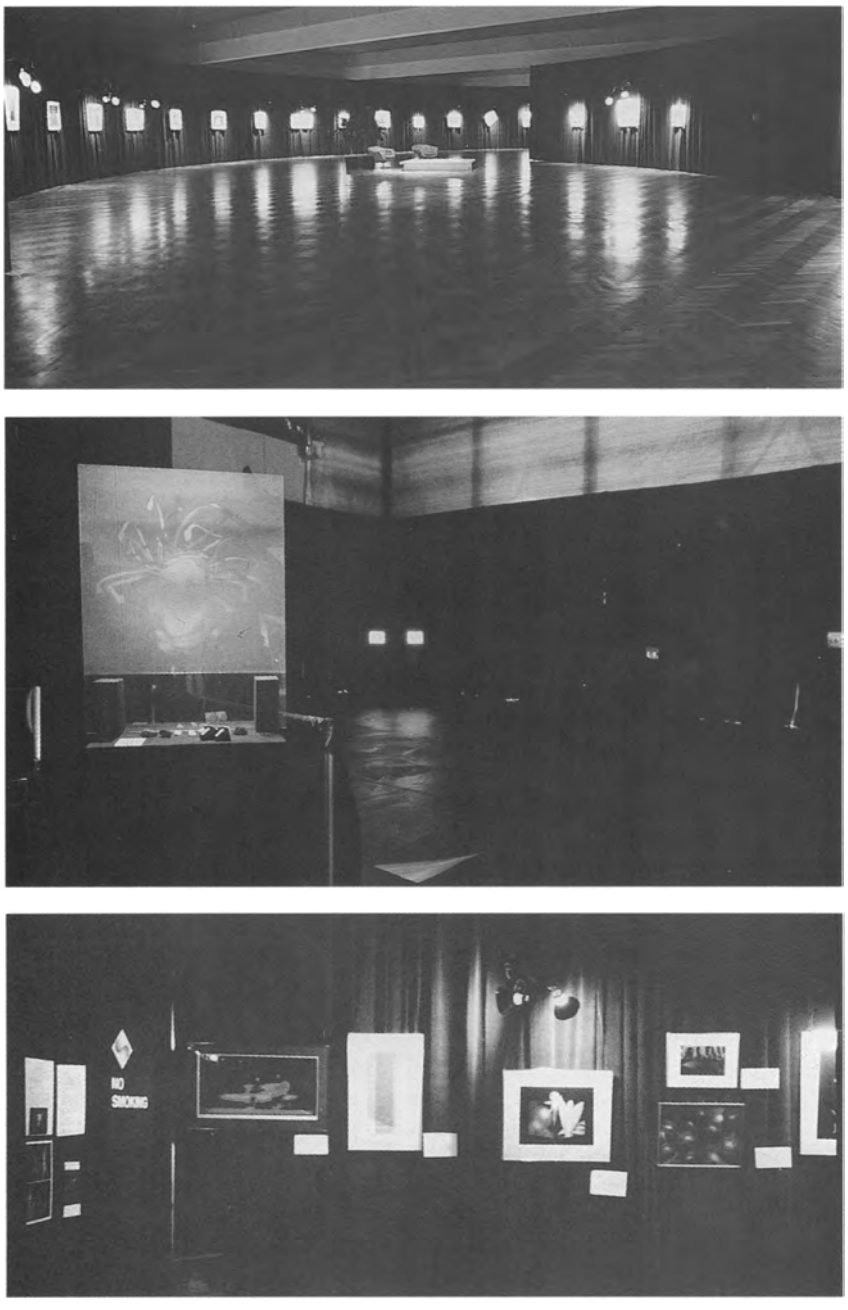

Fig. 4. SIGGRAPH art shows. (a) 1983, Detroit, Michigan, showing the low-light effect on the 2-D art (Photo: Copper Giloth); (b) 1986, Dallas, Texas, installation section with a large hologram (Photo: P. Prince); (c) 1987, Anaheim, California, showing the site and the nature of the art selected (Photo: P. Prince).

was far more interesting to snake around and down spaces than it would have been to see the work in a single large space (Fig. 6).

The Interactive Image, a computer graphics and imaging technology exhibition, was presented by the University of Illinois at Chicago College of Engineering and Electronic Visualization Laboratory. The exhibition opened at Chicago's Museum of Science and Industry and ran from 24 October 1987 until 10 February 1988. It will travel to SIGGRAPH 1988 in Atlanta, Georgia, in August 1988 and will become a permanent exhibit at the Computer Museum in Boston, Massachusetts. The show was curated by Thomas A. DeFanti, Dan Sandin and Maxine D. Brown of the Electronic Visualization Laboratory. The whole show is intended to be seen and used by 'participants'. It consists of 18 computer systems chosen to illustrate the "experiences and concepts of electronic visualization to a museum audience. Visualization is the art and science of creating images on electronic screens" [10].

The exhibition was designed by Vicki Putz. She worked on more than one level of design. All of the individual works have a similar control structure; they all have the same user interface, in terms of hardware (five buttons and a joy stick), and menu structures. The individual menus are varied for the sake of interest.

> The Interactive Image is a hands-on computer graphics and imaging technology exhibition that encourages museum visitors to learn about science and technology through interaction with computers. . . . The public is encouraged to create animations, manipulate four-dimensional spaces, discover the art of mathematics and explore astrophysical phenomena without fear of making mistakes, breaking the equipment, or getting lost in the software [11].

This show is art masquerading as science. It was obviously necessary to lean towards an 'educational orientation' to get support for the project. For example, DeFanti says, "The Interactive Image is Art and Science and . . . all the works were programmed by art students and faculty". The systems development was facilitated by computer science students. He also states that "the proper use of aesthetics gets more out of the science". The displays were of major concern to the curators and to the artists. Sandin says, "It didn't look like a computer art show, it looked like something else. It looked new, like Broadcast T.V." (Fig. 7) [12].

Gallery Shows

A recent example of a small gallery's computer art show was held at the Dundalk Gallery, Dundalk Community College, Baltimore, Maryland. It was curated by Harold McWhinnie, and it took place in March 1988. The show consisted of computer-aided works by 24 artists. The Dundalk Gallery is small, about 600 square feet, and located in an active community college. Janet Anderson, the director of the gallery, says that "the computer art reflects the interests of the college, which has three computer laboratories on campus". She did not consider this show to be an avant-garde exhibition, but said that "it was an ordinary show. College art galleries should include the introduction of new art forms" [13]. McWhinnie states,

> Exhibitions such as this will explore the world of technology and the arts, which as the last years of the 20th century are now upon us, will become an even more important arena for crea-

> tive and artistic activities.... The show is not necessarily a show of computer art. Not all the works are made by the computer, in fact many of the works appear to use standard artistic mediums. The emphasis is upon the use of computer technology at some stage in the creative evolution of the individual artist's work [14].

The Dundalk Gallery has an irregular, pentagonal floor plan: a single long wall, three short walls and a long glass window. Panels were hung from the ceiling to provide additional wall space for two-dimensional works. The computers for the interactive display, which were loaned to the gallery from laboratories on campus, were set up on tables along one of the short walls. A VCR and monitor were placed on a trolley and there were pedestals for three-dimensional objects. It was a simple design intended to involve the viewer with first-hand interactive experience and close-up contact with artworks (Fig. 8).

THE CHALLENGES INVOLVED IN THE MOUNTING OF COMPUTER ART

It has been very difficult for artists to get their computer art accepted by curators and juries. Museum and gallery staffs do not have technical backgrounds and cannot determine what the works will look like from the slides submitted for consideration. Curators need to have an understanding of the nature of the art form. For example, Cibachrome prints are not just photographic reproductions; Cibachromes involve a combination of photographic processes and dyes and are regarded as originals.

Another problem is the question of what is the original in many works of computer art. An aspect of this type of work is the challenge associated with art that is not concrete. There is no artifact in digital art. The images exist only in the computer's memory and are called up to be viewed on a monitor; they are pure visual information. Curators and directors have a genuine concern about hanging the 'original' work of art. It is that which makes the art unique. It may be an outmoded concept, but it still exists.

Another concern of the contemporary curator is the scale of much conventionally produced computer-aided art. Most of the two-dimensional artistic production seen is diminutive in scale as compared to contemporary work seen in other media. Plotter drawings are usually limited by the size of the plotting surface.

Recent technological advances allow for larger-scale production of works, but these facilities are not yet widely available. Robert Mallary relates an experience he had during an interview with the director of a New York gallery. Mallary was showing him his vector plots, and they were being warmly received, until the director asked Mallary, "What do you have that is big?" Only works of a certain scale were ever hung in the gallery. Mallary refers to this incident as "the Castelli factor" [15]. Harold Cohen and Mark Wilson create large-scale two-dimensional computer art by taking advantage of custom software in the production of their works involving automatic drawing.

For those artists who create complex large-scale works, especially multidimensional artworks, there are always other concerns related to mounting an exhibition. Large-scale works are costly to fabricate, to move and to install, and they occupy vast amounts of space. The electronic equipment that controls many of these works frequently gets damaged in transit.

Fig. 5. Bronx Museum of the Arts 1987 show, site and works, illustrating the nature and quality of the light in a museum setting. The walled-in space to the right contains a multidimensional sound installation. (Photo: P. Prince)

CONTEMPORARY ART SPACES: STATIC VS. DYNAMIC

The bright light that is required for an exhibition of conventional art forms contrasts with the low light that is required by much technical art. Modern art spaces have developed into white temples of light. "The art museum of the early 20th century is probably best symbolized by the placement of the Philadelphia Museum of Art as a Greek temple placed high on the hill above the city" [16]. How does the designer create totally darkened space in a 'white temple'? How does the gallery manage the large numbers of viewers in total darkness and still comply with fire regulations? In conventional gallery spaces, if a low-light environment is required, the standard solution is to create a static, theater-like design where the people are secured, usually by seats, and the art moves before them. Milton Komisar's large-scale computer-controlled sculptures involve electronic light and need total darkness in order to be viewed. He considers his works to be 'intimate' in nature; they need a space in which the viewer can become involved and explore the dimension of the work.

Display and Setup Requirements of Technical Art

Once complex technical works have been selected for exhibition, it is necessary to fabricate suitable environments. For multidimensional art pieces, there exist several layers of design and fabrication. There are external fabrications to be manufactured, software to be designed so that various displays relate to each other and equipment configurations to be arranged so that it all functions properly. There are problems involved in the acquisition of electronic equipment, although as industry standards are defined, no doubt, electronic equipment will become as commonplace as audiovisual equipment is now. Curators may have a reluctance to organize the specialized set-up required for this equipment. It is one of the fac-

Fig. 6. One of the larger spaces at the Everson Museum displaying a variety of artworks. Several pieces were interactive. (Photo: P. Prince)

tors that increase the costs involved in the display of computer art. Museum and gallery staffs will include professionals who are capable of mounting any type of artistic production, but who may not be sufficiently trained to install software and to maintain continuity so that these works can be seen. This is one of the advantages that artists have when their work is exhibited in connection with technical conferences; systems experts are usually available to offer advice. Galleries, on the other hand, must either rely on the artists themselves or hire consultants to perform this essential function.

The trend in museum design is towards specialized environments for art exhibitions, especially for the 'block-buster' travelling shows like the *Treasures of Tutankhamun* show that toured Europe and the United States in the late 1970s. Each museum treated the event in the context of the expected crowds and revenues. In San Francisco, for example, there was a "record of over 1,300,000 visitors" [17]. The differences here are that with much multidimensional art the curator has no choice. In order for the work to be seen, specialized environments must be constructed. Some of the recent exhibitions of technical art have been seen by large numbers of viewers, but few have warranted the expense of fabricating environments based solely on the attendance [18].

Sound in Technical Art

Sound is another aesthetic element of technical art that creates problems. Even though many computer-controlled artworks include a sound component, few galleries are prepared to offer effective sound equipment. Artists complain that they have to use alternate and in many cases inferior setups for auditory experience. Nicole Stenger reports that her composer collaborator insisted that she use earphones in one particular project because the environment was not suitable for broadcast of the sound [19]. Gallery curators must be concerned about noise pollution when works include sound. At SIGGRAPH '86, the organizers were very careful about the spacing and audible levels of sound installations; they sought a dynamic atmosphere, not sound intrusion. It is a difficult physical problem for a gallery because if a sound-tight space is obtained, it may not suit the flow of the exhibition. Future galleries will have to address this problem and find suitable solutions, such as glass enclosures that do not block sight lines but enclose the sound. Many exhibits of multidimensional art suffer from sensory satiation because of noise pollution. This is probably from the use of inferior equipment that allows only a single sound dimension. There is a need for auditory dimension controls in galleries.

There are other complications to the exhibition of technical art that I will only list here; they include specialized power requirements, separate insurance policies for the equipment (aside from the artworks), licenses for laser use (which are required in some states), fire safety considerations for low-light spaces, and the specific expenses related to the technology. These additional expenses include the cost of shipping the equipment to and from the site, the cost of fabrication of specialized environments and the cost of equipment maintenance. Specialists are needed to set up the equipment, and constant maintenance is required in order to keep it working. There is also the time necessary for the education of museum staff, so that docents are able to discuss the works.

WHAT GETS VIEWED

The majority of art pieces seen in formal exhibitions of technically advanced art have been conventional aesthetically. They relate to and conform to Modernist theories. The mediums are also understandable: print forms (ink-jet prints, screen prints, lithographs, engravings), paintings based upon computer-generated sketches, plotter drawings and sculpture (computer-assisted, computer-made, computer-controlled). Many exhibitions of digital art include micro-computer stations with interactive pieces, where the viewer becomes a partner in the process. Video walls and animation screenings are installed regularly in exhibitions.

The unconventional forms of computer art seen in recent exhibitions include laser light shows, computer-controlled environments (sound and visual), holograms and on-line art. A few exhibitions included 'frame buffer' shows, bringing in the complete computer system to display the works as originally conceived. Many contemporary art shows now have walls of written material explaining the art and giving artists' statements. Esoteric Modernist art is not yet in the domain of public comprehension; because most museums are public institutions supported by public funds, they are obligated to appeal to the public in the broadest sense. Most museum visitors relate to conventional art forms, that is, art forms that are imitative. If technological art is to be available to the general public, museum staffs and gallery directors must understand it first. That knowledge then can filter down to a mass audience as part of the ongoing historical development.

Software was an ambitious exhibition of technical art mounted at the Jewish Museum in New York City. In 1970, Karl Katz, the director, and Jack Burnham, the curator, put together a show using mainframe computers. There was a catalog printed to document the exhibition. However, so many problems occurred with the logistics of the exhibition that the pieces were hardly ever viewed [20]. The first really successful mainframe

show was not seen until 1982 at the SIGGRAPH art show in Boston.

The trend, however, is towards a more experiential art exhibition. The 1988 SIGGRAPH art show is directed towards interactivity and animation. It also will feature many of the works from the *Interactive Image* show from Chicago. The next Bronx Museum of the Arts computer art show will focus on environmental work and 'on-line' stations. The 1988 *artware* exhibition is devoted to "large-scale installations, many of which employ highly complex state-of-the-art equipment" [21].

ART GALLERIES OF THE FUTURE

Art forms of the future will involve a unity of the senses and will involve the participant in interactivity. Art galleries of the future will have to continue to expand our knowledge of what *is*, as well as to put what *was* (art of the past) into context. The purpose of the museum or the gallery is to inform viewers, not to limit access to new art forms, and these repositories will move forward with the times to overcome the physical limitations that relate to computer art.

Experiential and multidimensional art forms have led us towards an active participation in the viewing of art. A static relationship between the artifact and the viewing participant is no longer satisfactory. Since the turn of the century, artists have discussed the rejection of museums and galleries as sites for their art. This attitude was once part of a revolutionary gesture promoting the avant-garde in art. Because of the difficulties in putting together exhibitions of technically advanced art, artists are re-evaluating alternative display sites out of necessity. Advanced art such as that envisioned by the late Stan VanDerBeek, who publicized the idea of the 'Culture Intercom' that places the production and distribution in different continents that would be linked via satellite [22], and works by Tom Klinkowstein linking artists via telecommunications would be almost impossible to 'mount' in a static gallery under any circumstances. These artists are examples of those who have sought alternative methods of communicating their art to the public. Their work relates more to performance art than to conventional art and is part of the movement toward multi-sensuous experience.

David Carrier, in a *Leonardo* article, suggests that "the proper location for the type of art published in *Leonardo* is not a physical space at all, but in this journal" [23]. Stephen s'Soreff describes art experiences and sites using new materials, concepts and technology because "it simply takes too much time to travel to see firsthand all of the art being made today. Art criticism has become for many the only way to experience some artworks, and thus the magazine has become a de facto medium of art exhibition" [24]. s'Soreff's reviews of future works that he calls 'post-conceptual' describe visionary new art including attempts to interest the Army Corps of Engineers in poetry, 'Teleprivateering', freezing sound in paint, and weather art.

Jürgen Claus, Fellow of the MIT Center for Advanced Visual Studies, suggests that the proper place for technical art may be 'media centers' such as the Cologne Mediapark. In his words, this "project is meant to be based on a connection of research and development, for example in the field of applied computer science, telematics, education and further training in art and culture in the interface divisions. . . ." He believes it is possible that this type of center might become the new 'Electronic Bauhaus'. Claus also believes that "advanced art has no choice but to confront itself with contemporary research. This would at all events be much easier if we established

Fig. 7. ***The Interactive Image*****, Museum of Science and Industry, Chicago, illustrating the specialized fabrication of environments. The video wall installation repeated forms along a continuous plane. The space was designed to capture the viewer's curiosity through changing directions. (Copyright Electronic Visualization Laboratory, University of Illinois at Chicago)**

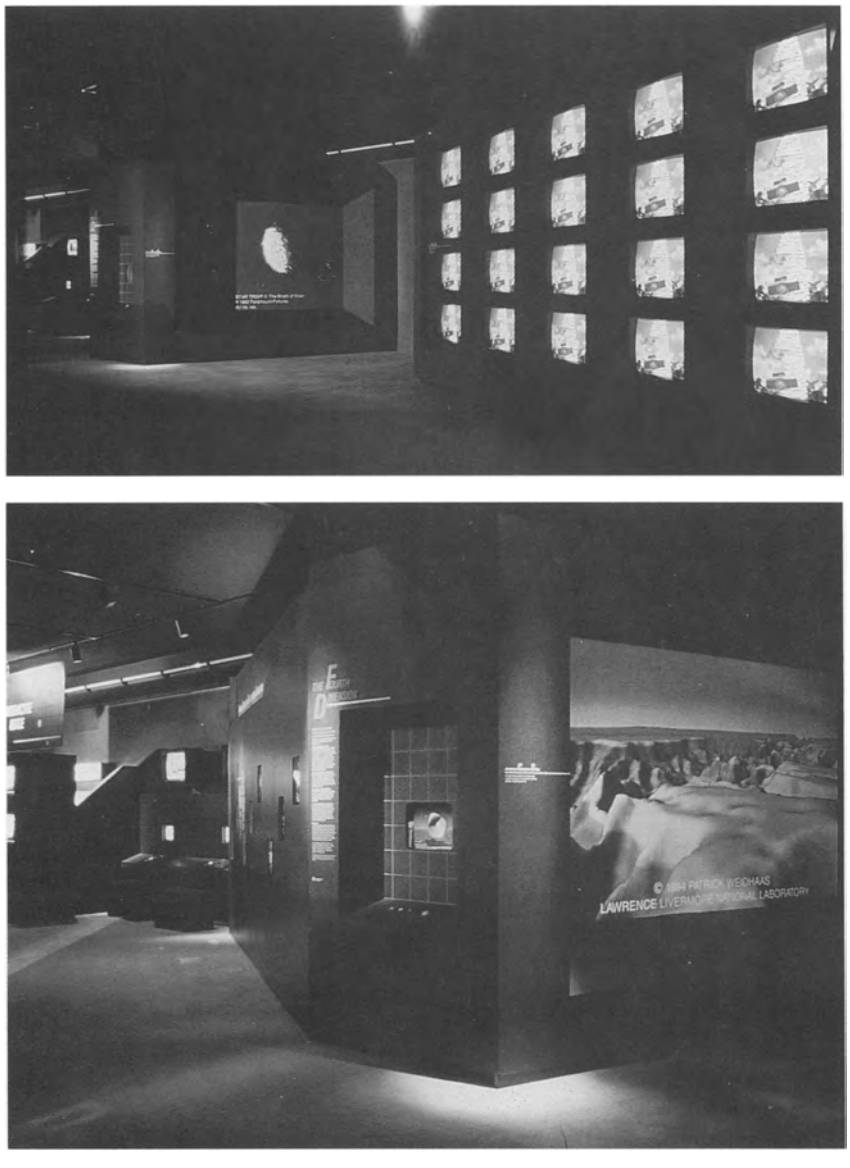

Fig. 8. Hanging panels from the Dundalk Gallery exhibition where Stephen s'Soreff's drawings of future art experiences are visible. (Photo: P. Prince)

appropriate conditions—in education, museum 'policy' and criticism—under which such discussions could be carried on in a well-informed, intelligent manner and with high demands as regards the visual field" [25].

Harold McWhinnie has expanded André Malraux's idea of the 'Instant Museum', that is, that all artifacts will be available photographically in a universal museum, to include the concept of the electronic museum. McWhinnie's concept involves an electronic bulletin board and an outer space site: "Works of art would be stored in an information retrieval system and could be beamed back and forth to the museum spectator both on earth, or under it in an art museum, and on other space stations as well" [26]. He has established three electronic 'museums' on floppy disks. Several large institutions have been working to develop systems that will offer the visual information suggested in McWhinnie's paper [27].

The exploration will continue and exhibition sites will evolve as the artist and the viewers/participants redefine what is needed. Whatever is invented in the future for an art exhibition will include art spaces. The evolution of experiential work demands more than that which currently can be given to the viewer in pure electronic experience. The tactile qualities of art are still very rich. Michael Fehr, Director of the Karl Ernst Osthaus Museum in Hagen, West Germany, in his essay "The Art Museum as Critical Locale for the 'New Media'" points out that in spite of the criticism aimed at museums as institutions, they are the appropriate sites for new art forms. Because museums are concerned with historical perspectives, the limited space is part of the timely process of delimiting art and therefore creating 'memorable images', and, because of the museum's individuality, it is not "accessible to arbitrary intervention" and can therefore be a fundamental site [28].

The important issue is the quality and the changing nature of communication between artist, artifact and the viewer/participant. Artists who create inaccessible art or predictable art because the process of creation is more important to them than the artifact or the experience must involve and communicate their ideas to the viewer. Conceptual artists wrote about their art. This literary adjunct to contemporary art is not totally satisfying. Perhaps in the future all viewers will be so well educated that art theories, technical concepts and digital processes will be fully understood; until that time the artist using technology must transform the viewer's reality as well as create or transform new art forms. This is part of a historical continuum dealing with process in art. Twentieth-century artists became intrigued by and involved in the process of creation. The viewer/participant will become more involved in process art in the future. In order to be seen and appreciated, artworks must be compelling, must address the viewer on some level—visually, emotionally, spiritually, intellectually, or in some unique way yet to be discovered.

"The past is prologue."

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24. Stephen s'Soreff, "The Malleable Memory of Avant Garde Art Review (AGAR): A Post-Conceptual Artwork", *Leonardo* **20**, No. 4, 387–390 (1987).

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26. McWhinnie [16] p. 8.

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