ART IN THE NET

by
Sandra Braman
Institute of Communications Research
University of Illinois, Urbana
BRAMAN@VMD.CSO.UIUC.EDU

As with every other social dimension, the conditions under which art is practiced, its distribution, and its effects are qualitatively different under the conditions of the "information society." The identity of the artist, the "meaning" of content, ownership of images and ideas, modes of distribution, the relationship between art and other cultural habits, and the economics of art are all unclear and the subject of heated discussion in numerous decision-making, public, aesthetic, and academic arenas.

There are three types of concerns when we talk about art in the net:

1. Concern for the values expressed by the arts and humanities.
2. Concern for the needs of individual artists, arts organizations, and arts distribution mechanisms.
3. Concern for the needs of art "consumers".

All of these concerns are pertinent to the range of issues emerging in the design, regulation, and use of the information infrastructure. Here, the economic, political, social, and cultural arguments for attention to the multiple needs of the arts in design of the net and its use are elaborated as a basis for thinking through what general policy principles and specific policy programs might be appropriate in response.

We begin by assuming that artists fulfill multiple roles in society. Artists create our myths (and therefore author our actions), innovate, store vast amounts of information in a highly efficient and accessible manner, provide visions of alternative futures and therefore are the most cost-efficient and effective "imagers" of alternative social realities, link the multiple dimensions of often distinct domains of human life, provide programming content, entertain, heal, and teach.

The image of the artist as a social deviant is historically recent and culturally contained. Across the wider domain of human experience, artists are the cross-dimensional glue that links the spiritual with the material, the past with the present, social continuity with the need to adapt and innovate. As the tellers of the stories through which we understand our lives, the artists therefore are the source of visions of coherence for individuals, for societies, and for political entities. Their works embed the accumulated knowledge of centuries, and they tell us what is going on in a rapidly shifting environment that may be qualitatively new in history.

Why Should We Care About Art in the Net?

Reasons for general concern about art in the net come from a number of directions. Here, they are discussed in several categories: There are arguments from economics, from politics, and from a co- evolutionary perspective.

The Arguments from Economics
Information creation, processing, flows, and use dominate today's economy globally. There are three categories of approaches to what is meant by the notion of an information economy. Some describe this as an information economy because those sectors of the economy categorized as "information industries" within the existing scheme have expanded. Some claim this is an information economy because the economy is expanding through commodification of kinds of information and information processing previously not subject to treatment as a commodity, such as information that is private (even our own genetic information is the property of the physicians who process it, not our own!) or public (surveillance data, or the census). And some argue that this is an information economy because information flows have replaced the market as the governing mechanism of the economy. Under all of these approaches, information creation, processing, flows, and use are key to economic survival today. Economists conceptualize what is happening with information economically by talking about an information production chain that includes information creation (creation de novo, collection, generation), processing (both cognitive and algorithmic), storage, transportation, distribution, storage, and seeking. From this perspective, artists create, process, and store information -- and in each of these processes the artist plays a separate economic function.

Just as each technological innovation is considered to "store" the information of all of its development process, so each piece of art "stores" everything the artist knows about what she or he is trying to express as well as what the artist knows about the medium (and the medium's needs, inclinations, and spirit irrespective of they are understood by the artist). Under network conditions of rapidly and enormously expanding capacity, the economic function of the arts as programming content is key and should continue to rise in salience.

Another economic function of art is creation of markets by innovating and establishing new trends, requiring another round of consumption; definition of new market niches through modulation of taste is critical to the continued expansion of market activity. This is a principle that Castro understood: For years, a small black market was permitted in Cuba as a means of determining the products and styles to be produced under government planning in official factories.

Art stimulates innovation not only through freeing the creativity of individuals, but also by stimulating interactions among individuals across disciplines that also results in innovation. The invention of the printing press was such a source of innovation not just because of distribution of the content of what was printed, but because in the process of printing itself a number of different craft skills that had previously worked in literal isolation were forced to come together around the printing press to communally solve multiple new types of problems. The result was an extraordinary amount of cross- fertilization and stimulation that lead to both development and innovation of technique.

Economists and others who have studied the conditions under which innovation flourishes point to the central importance of such cross-fertilization; the contribution of network relationships to the innovation process has come to be recognized as so critical to the success of firms in today's environment that the notion of the "embedded" or "network" firm are coming to dominate economic analysis. Art in the net brings together previously separated performance artists, visual artists, writers, musicians -- and computer programmers and technicians and theorists of all kinds. As with the printing press, this amount of cross- fertilization and stimulation in response to new types of problems cannot help but have an innovative spin-off useful in other realms as well.

It is also economically significant that art is in some cases truly the most cost-efficient and effective way of reaching some goal. This is most obvious in the realm of imaging, a way of turning all kinds of data into visual images that reveal patterns among the data not otherwise available and that in themselves stimulate researchers and analysts to conceptualize in new ways. This is, of course, just what artists do -- synthesize vast amounts of information of often extremely diverse kinds and produce that synthesis in a tangible image.

A last possible economic dimension of the artist is offered here as a suggestion, and that is the role of art in stimulating innovation within the general population. Individuals, also, like to have art in their homes because it adds stimulation and meaning. The corporate world is beginning to recognize that the same has a positive influence in their environment. It is worth noting that it was Cray Research, the computer company that for years produced the largest computers in the world and that was legendary for the creative way in which corporate culture was shaped to encourage innovation, was the first corporation in the United States to hire a visual artist full-time on its staff to carry out whatever projects the artist conceived -- beautify the lunchroom, design paths, cover walls, whatever. Similarly, the choice to decorate corporate headquarters and private homes with paintings, photographs, and sculpture is not solely to denote class or provide an investment outlet, but also because -- as those of us who live with art in our homes know - - good art provides a lifelong stimulus and therefore improves the quality of life (and potentially the quality of the work that you produce) by increasing the complexity and pleasure of one's environment.

The Argument from Co-evolution
One of the most notable trends in science today is the spreading use of theories of self-organization (called variously systems theory, chaos theory, second- order cybernetics, catastrophe theory, theories of punctuated equilibria, etc.) to understand processes across the natural and social worlds. Unlike systems theory of the 1950s, which focused on stable systems, today's systems theory thinks about systems that are assumed to be healthy when they are in processes of constant change. This body of theory has also developed to include an emphasis on self-reflexivity, to pursue mutually beneficial processes, to be sensitive to what have been seemingly insignificant differences in initial conditions, and to acknowledge the critical role of the members of a system in sustaining and shaping the system.

As we understand it now, social systems, like other types of systems, move from order into periods of turbulence (or, at its extreme, chaos) during which the system either collapses altogether or the system identifies a new way of organizing itself and emerges from turbulence in a new configuration. Experimentation and play are considered healthy for any system at all times, but are particularly critical to the system's survival during periods of turbulence as sources of ideas and visions of how to alternatively organize the system if it is to survive. Contemporary systems theory pays a great deal of attention to how systems relate to each other. In the social context, this means thinking about questions such as how different cultures interact in a multi-cultural society, nation-states interact with each other in the international context, human societies interact with the natural environment, and so on. Successful interactions among systems require, among other things, relatively equal levels of complexity among the systems interacting (identifying another role for art, which does its best to increase complexity....). When the evolution of one system interacts with the evolution of another system, the systems are said to be co- evolutionary. Mutually beneficial causal processes are co-evolutionary processes.

From this perspective, there are several roles for artists in society:

1. The artist as a source of complexity.
2. The artist as the border crosser among systems.
3. The artist as the source of innovation, experimentation, and play.

The activities of artists are an important element of our social lives in an ongoing way, but are particularly

crucial during periods of turbulence as sources of ideas around which society may reformulate. As this is clearly a period of turbulence in any social dimension one might identify, this is a particularly important time to attend to the activities of artists. Those who study co-evolution emphasize that co- evolutionary processes emerge when systems interacting with each other contain within themselves a level of complexity equivalent to that of the systems with which each is interacting. Complexity itself, in other words, is a survival condition.

Co-evolutionary processes also require documenting experimentation, retaining archives of what has been done so that this information, too, is accessible to all.

The Argument from Art

From the perspective of the art world, the net offers several things:
- *Stimulation* within traditional genres and development of new genres. The technical issues around the net, engagement with others in the solving of those problems and as encountered in the net, and the access to information available through the net cannot help but stimulate artists.
- *Distribution.* Probably the most appealing dimension of the net for artists is the possibility of very cheap distribution with the possibility of, on one hand, reaching enormous numbers of people globally or, on the other hand, maintaining contact with a very small group with specialized tastes.
- *Leveling* the playing ground. Historically multiple types of gate-keepers in general determined whose work would even have the opportunity of distribution. Under network conditions, those gate- keepers are, at least potentially, gone. Thus use of the network much encourages the entry of a diversity of voices into society.
- *Enlargement* of potential audience. The flip side of characteristics discussed above.

The Argument from Politics

When Anthony Rutkowski uses as part of his internet signature the statement, "The internet is the revolution," we know that we are in a qualitatively new political and communication environment. The concept of the public sphere has become central to nations around the world as we all struggle for redefinition under rapidly and significantly changing conditions, from the newly self-conscious nations of the former Yugoslavia and Russia to a Great Britain in which the boundaries between public and private are also being negotiated. The concept, under Habermas's influence, refers to a space outside of the state in which the members of society can communicate with each other. The existence of a public sphere is considered necessary for the continued health of "civil society" outside of the state, including in its relations to the state. Without a functioning public sphere, it is difficult to art to be created that is not determined directly or indirectly by the state.

Rutkowski's words suggest that the net itself may provide a genuine public sphere (or space for multiple and multiply overlapping public spheres at different levels of the social structure and in different geographic locations). Whether or not that will be so depends to significant extent on policy decisions that we in the United States are still in the process of making: Who will have access to the net, and under what conditions? What will the surveillance environment be like? How will intellectual property rights be treated and protected? Rutkowski may be right that universal access to low-cost broad-band digitized communication coupled with educational programs ensuring universal comfort with the net will indeed be the conditions that encourage the flourishing of public spheres. Alternatively, high-cost, restricted, technically difficult, constantly surveilled, net conditions in which one cannot necessarily claim the authorship of particular pieces of work are conditions in which it is likely that we will continue to claim that there is no public sphere, particularly if net communications continue their trend to becoming the backbone communication system of society.

The Intellectual Property Problem

Intellectual property rights are not only at the core of the present and future global economy, but of the practice of art in the net as well. Intellectual property rights were one of the earliest approaches to regulation of what was written and otherwise created. Their purpose was to aid society by encouraging individuals to engage in creative activity. The image of the holder of intellectual property rights as they emerged several hundred years ago was the starving novelist writing in his garret. Over time, however, the nature of the entity to whom the intellectual property rights attached has changed. Holders of intellectual property rights today are universities, Hollywood studios, mammoth data banks, nation-states, and transnational corporations.

Postmodern theorists have responded to this confusion of the concept of intellectual property rights by claiming that the author is dead, and that intellectual property rights therefore no longer apply. A more accurate description pictures a category created for legal treatment of a particular type of activity and actor, and that category has now been expanded to include such a variety of types of activities and actors that it is difficult to sustain the category. Rather than throw out copyright altogether, it may be more useful to distinguish the different types of activities and actors, and differentially expand our intellectual property rights law in such a way that it is sensitive to qualitative differences in the materials and entities to which it is applied.

Several types of issues directly arise around intellectual property rights in the net:
- Who will earn income from pieces that are widely distributed through the net, when under many conditions the spread of such pieces is essentially impossible to control?
- How do we deal with the erosion of intellectual property rights that occurs through the increasingly easy and prevalent pastiche mode of "creation"?
- How will identification of the creator of pieces through the net be verifiable?
- How will one be able to distinguish the "original" piece from mutations?

It should be the responsibility of the arts community to actively participate in conversations within the international copyright community as it struggles to resolve problems with a body of law recognized globally and within the United States as problematic in a range of areas. The arts community's ability to articulate its position would be strengthened with the results of a research program designed to document and elaborate the specific roles of the various types of arts organizations and individuals who needed to be protected.

Art in Society

Before introducing specific suggestions for a policy for art in the net, several working assumptions, based on existing research, are reviewed.

(1) Most people will continue to receive information received over the net on a screen the quality of today's color television screens. As a result, there will remain a distinction between "elite" genres that are not even visible without access to very sophisticated equipment, and "popular" genres, such as MTV, that are accessible via equipment that is widely diffused. Arts policy should focus on matters that affect the bulk of the population, and treat the elite genres as special interests or needs, albeit of such importance that they must be taken into account.

(2) Most people will continue to rely upon a small selection of channels to receive their information and entertainment. Research has shown that in this multi-channel environment, users will experiment with the range of available channels when they first become available, and then settle upon a very small set -- no more than three in general -- of channels to which they will devote their exclusive attention.

There are two implications of this for arts policy:

- While an audience devoted to particular genres in a multi-channel environment may be only a small percentage of the entire audience, it is likely to be a devoted audience that will spend a great deal of time with channels through which they can access those genres.

- There will continue to be a need for "gate- keepers" who will choose content and organize it for viewers who find themselves satisfied by what is provided this way. We don't all want infinite choice all the time -- often we just want what we know falls into a specific category of material and wish someone would just hand it to us.

(3) Not everyone will want to become a long-term producer of arts material for distribution over the net -- but many will want to experiment with doing so, and/or to do so from time to time. Often programs such as arts in the schools are cut in response to the argument that "not everyone wants to be an artist." While that is true as a lifetime commitment, it is also true that almost everyone does enjoy playing around with materials and creating things -- and psychiatrists and psychologists have learned that doing so is so good for the health that practicing various art forms is increasing prescribed for therapeutic purposes. The implication for arts policy should be a working assumption that one goal is to create conditions in which everyone has access to the tools with which to make art, and feels welcomed by the social setting to do so.

(4) Making art is a healthier activity for children than killing people. Yet we know that an extraordinary proportion of network activity among the general population consists of participation in various types of games on the network, a very large proportion of which are violent, often violently sexual. One explanation for the allure of these games -- undergraduates at the University of Illinois spend more time on the net than they do with television today --or at least an explanation for part of the allure, may be that these games are interactive and require the exercise of various skills in repeated problem-solving. Everyone likes a challenge. The implication of this for an arts policy that seeks to be proactive socially would be an explicit interest in training children in the skills they need to practice or consume art as an alternative, but equally challenging, use of the net.

(5) Access is a multivocal concept. While we have a long habit of talking about "access" as if it were a single thing which one either had or did not have, we now know that access is comprised of a number of dimensions, including education, economics, access to technologies, maintenance of technologies, cultural constraints, and so on. All of these issues must be dealt with in ensuring universal access to the net for arts and other activities.

(6) People cognitively process information differently depending upon the medium through which information is received. Those who receive most of their information through print, that is, actually think differently from those who receive most of their information from broadcast sources. Use of the net, too, will have an effect upon the way we think. While we know a fair amount about how children brought up on broadcasting think, those research findings have not yet been incorporated into either theory or practice in education. Today we are going through another set of cognitive transformations.

A Policy for Art in the Net

Below are a few suggestions for appropriate policy for art in the net. The specific policy goals of each program are not discussed, as most would address several of the needs identified above.

- Require a percentage of any funds spent on development of the infrastructure be devoted to arts issues. This type of requirement is already in place in many places for the construction of buildings, and Nebraska, at least, does so for its roads, so that there is spectacular roadside sculpture along the interstate. Because arts issues can be seen to be related to/in support of/complementary to issues of health, education, and multicultural adaptation, devotion of such a percentage to the "arts" will not seen to be wasted even by those who truly have no time for them at all.

Minnesota offers at least one highly successful model of the impact of such a commitment on the part of the

private sector, and the ability of the private sector to decide on its own to make and retain such a commitment. The multinational corporations in the computer and grain industries headquartered in Minneapolis/St. Paul were concerned about how to keep their top executives, and as part of their response made a commitment of 5% of pre-tax income annually to support the arts. (There has been deep concern about the impact of the sale of these multinationals to transnational corporations "headquartered" elsewhere....) The result was one of the more thriving art communities in the United States, with world-class theater and art museums, a cluster of the most significant literary small presses, and an extremely active scene among young visual artists. It has also become a recording center.

- Provide arts community support for general policy goals. Many of the needs of the art community would be met if larger policy goals, such as ubiquitous and affordable access, were met. The arts community ought to be at least signatory to such efforts, and participate as appropriate in lobbying efforts. This is also fundamentally good citizenship.

- Develop programs for embedding computer art in education. There would be two prongs for such a program:

- Taking the steps necessary to develop such programs and implement them within the school system (eg, development of software, training teachers, development of syllabi and curricula, ensuring that the requisite technologies are diffused, etc.).

- Developing a research program on differences in cognitive processing and behavioral and social consequences.

- Develop and maintain an archive of arts resources and art accessible through the net. In addition to institutional, economic, and logistic issues that will arise here, there are extremely important intellectual property issues.

- Actively participate in discussions over intellectual property rights. Again, there would be two facets of this activity:

- Representation during international discussions.

- Support of research necessary in order to fully articulate the ways in which intellectual property rights might meaningfully be applied to the various types of entities involved in art in today's technological environment.

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