The Emperor's New Art?

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Abstract

Premature over-promotion of any and all "artwork" created with computers has caused the critical establishment to draw parallels with the tale of "The Emperor's New Clothes". Simultaneously, computer artists accuse the art critical establishment of being uninformed, myopic, and hopelessly out of touch with the new media concerns. Artists disdain the oft-exhibited science fiction grotesqueries masquerading as art: bad critical reception is blamed on the inclusion of this "nerd aesthetic" in *their* art shows. On the other hand, some more technical-minded factions also wonder when computer artists will actually learn to program, or produce something besides canned paint system imagery and indecipherable, bad video tapes. Such squabbling and shifting of the blame from one group to the next is not the way to correct the problem.

Many of the standards by which we have evaluated computer art have evolved outside of the "high art" community. Yet the standards in our own computer graphics infrastructure tend to be much lower. Often the concepts of science and tools of technology are merely appropriated and exhibited as art without any authentic artistic transformation or social context. Work, when it refers to contemporary art world trends, often does so as a form of commentary rather than genuine individual expression. Without true understanding of either art or science and technology, this work can hardly help being superficial.

We need to fairly evaluate work using standards as high as those by which the rest of the arts are judged. We need to extend beyond the isolation of our small community and address broader issues. Most importantly, we need to take advantage of the uniqueness of computing, and push those properties to their extreme limits. Only as these issues are addressed and resolved will computer art gain in significance and authenticity.

At the SIGGRAPH '89 conference there was a panel session entitled "Computer Art - An Oxymoron?" that was intended to bring some members of the more established art world institutions together to discuss the status of computer art. The panel's loose consensus seemed to be that "Theoretically, it could exist at some point, but in practice, now, there weren't very many examples of interesting work to be found". The lack of involvement with idea and content was referred to. Yet some panelists, through misuse of jargon, revealed their own unfamiliarity with computers and the technical milieu.

With each question asked after the session, the gap in understanding widened further. Audience members confused technical issues for content; some people seemed to think that the current state of hardware and software was too primitive for real art to emerge - yet. Others used the terminology of the marketplace in prognosticating the future: meaningless phrases such as "narrowing the gap between imagination and reality" were in abundance. It was also implied that many artists' work is bound by the limitations of the prepackaged software. How can artists do much with this tool without an in-depth exploration of its language? Why do they rerender the works of other 19th and 20th century artists? A computer artist wondered what it would take to have his photo realistic work recognized as art, and that he would have work ready and available for review in the fall. None of the panelists offered their services. There was a general feeling of dissatisfaction after the session: artists felt that their questions were left unaddressed and that they were being written off as insignificant. Panel members had seemed unable or unwilling or embarassed to articulate specifically just why computer art was falling short of expectation. The two factions seemed to exist in parallel worlds, unable to pass through an invisible though palpable barrier. Has the computer art establishment woven, promoted, and cloaked itself in some miraculous cloth - a cloak of legitimacy? Are the critics who are unable to see it unfit for their jobs, as those citizens in Andersen's fairly tale, or are they like the child who declares that the Emperor is, indeed, naked?

Unfortunately, this is not an uncommon occurence. Every year, visitors to computer art exhibits and animation shows voice their disappointment. Every year, the high hopes and promises we have for the technology in an artistic context fail to materialize. These aren't just the grumblings of the philistine masses: artists, enthusiasts, and engineers alike join in mututal complaint. Yet we hold a common belief that there really is something different in using computers in the visual arts. "Radically different", "revolutionary potential", "unique requirements", "transformation of space and time", and "novel medium" are the types of descriptions found in articles on computer art. Is this just the hyperbole of the marketplace?

What went wrong? Can computer art become a legitimate, significant member of the art world, and be respected also for its technical achievement? When can we expect this to come about?

- When we can fairly evaluate work using standards as high as those by which the rest of the arts are judged
- When "How did you do it?" is not the only appropriate question to ask
- When computer art stops imitating other art styles, and artists show a greater commitment to learning the language of computing

The Ghetto

The mainstream "high" art world early on dismissed computer art as a peculiar hybrid, a carnival novelty like "spin art" or orchestrated laser shows. Still convinced of the fundamental differences and revolutionary possibilities of computer art, rejected artists

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and engineer-artists created their own forum for theory, criticism, and exhibition of work. This forum has evolved into a community of organizations which have their own infrastructures; heros, critics, prophets, historians, public relations, conferences, awards and publications. Of course, vanguard art has always had to battle recalcitrant critics and a sometimes hostile public. This new art probably *does* need critics and criticism with a new viewpoint. But eventual recognition of the new work is assured only if the alternative work and infrastructure are equal in quality to that being challenged.

Our situation is not unlike that of science fiction writing vis-a-vis the world of literature. The Polish author Stanislaw Lem has made many astute observations worth presenting here for comparison [1]. He classifies the world of the literary arts into two general groups: The "Lower Realm", as exemplified by crime fiction, erotico-romance novels, science fiction, and the like: better known in the U.S. as "trashy books". The "Upper Realm" is characterized by the philosphers, novelists, and poets generally acknowledged to be worthy of distinction: Joyce, Sartre, Bellow, Sarrault, and so on. In this "Lower Realm", science fiction exists as a "socio-culturally isolated realm" of work, a ghetto of sorts. Its publications, conferences, and exhibits exist as "junior versions" separate from those in the mainstream. Rarely does any cross-fertilization with mainstream literature take place. Writers from what he calls the Upper Realm occasionally make excursions into genres such as science fiction or crime fiction, yet still retain their reputations as respected writers. They have already made their reputations in the cultural mainstream and are allowed such occasional lapses. (Although, it must be said that Doris Lessing was lambasted for having written what she calls "space fiction", in her "Canopus in argos archive".) Authors venturing into the Lower Realm are acclaimed and congratulated as one of the "brotherhood". Due mention is given in the publications, and their presence is offered up as proof of the validity of the genre. William Burroughs is an example of such an author who has not only been re-baptized as a science fiction writer, but has been claimed by cyber-punks in fanzines as one of their own! Lem also mentions that the "inhabitants of the Upper Realm are invited to the Lower; they accept the invitations, but there is no return service" [2]. People in the science fiction ghetto suffer from frustration and isolation when they attempt to gain invitation and acceptance into this Upper Realm, and are snubbed. (I offer the previously mentioned SIGGRAPH panel "Computer Art: An Oxymoron?" as an analagous situation: the critics were invited, yet provided little encouragement.) Out of this frustration, separate institutions and means of dissemination are developed. Consequently, people in their own in-groups tend to evaluate and promote one another's work. Criticism is sometimes more of a public-relations affair than an objective evaluation. Promotion is used as a method of justification. Honesty compels us to recognize these problems as our own.

Similarly, many of the standards by which we have evaluated computer art have evolved outside of the "high art" community. Much of what passes for computer art is judged by these lower internal standards. It is partly the fault of CG marketeers who have promoted everything indiscriminately as Art. The Arts as "softeners" and "humanizers" of the image of computers must be recognized as a powerful marketing strategy... In belief that the newest must be the best, dozens of premature efforts have been marketed as works by "great masters of a new age". And in our own short-term self interest, we have allowed it to happen. Some illustrators and image-makers of dubious talent have evolved as artistic savants.

This is a technology that seems to change overnight. Neither its inventors nor the critics of its uses are able to stop and reflect with much objectivity. Since artistic merit within our community is often linked with techniques and technical progress, work can become dated very quickly. Artists preface discussions of their work by informing us that "This is the first known use of ...", which is more appropriate to the marketing of the newest commercial product [3].

As a result of this early over-inflation of the value of computer art, seekers of authentic art were bound to be disappointed in having found only a few examples worth remembering. Instead of a new reality, they got the old one back, in pixels. In addition, it is now often difficult to filter out marginal work, because some of these practitioners have been long entrenched in the computer graphics establishment. One cannot fix the blame only on this establishment. Every year new artists join the cadre: often, instead of bringing in new ideas they merely rework old images with new techniques.

We need to extend beyond this isolated ghetto mentality, address broader issues, forge connections with the rest of the art world, and insist on higher standards.

How Did You Do That?

Considering computer graphics' origins in engineering, and its affiliation with industry, it should be no surprise that much of its imagery has evolved from the concerns and tastes of those groups. Often computer imagery is the visual result of the process of problem solving. The desired result is sometimes realistic in a photographic sense, and its desired appearance is anticipated in advance. It can also function as scientific illustration, and as a method of distilling large data sets into a format that enables easier analysis. Mathematical forms nonexistent in our everyday Euclidean space can be constructed and explored. New modeling techniques and photorealistic rendering algorithms have been invented to simulate the appearance of objects and scenes in the real world. In this context, the question "How did you do it?" is perfectly valid, and perhaps a compliment to the skill of the programmer. "Is that a photograph, or is it computer generated?" is a question often asked in admiration.

Evidences of technical advances comprised a signifiant proportion of earlier computer art shows, with new improvements showing up every year. Many of these advancements manifested themselves in forms familiar to us from the world of special effects: monsters, shiny reptilian forms, psychedelically complex environments, horrifying versions of the human form. As in special effects meaningless display of technical wizardry can be used to cover up nonexistent content. Remember "Howard the Duck"? Cleverness, verisimilitude, and complexity, and visual double-entendre are criteria for evaluation. Yet, in the art world such criteria have traditionally been a secondary issue at best. Thus, work like Arcimboldi's allegories of the seasons, human faces cleverly composed of tiny fruits, vegetables, and other appropriate seasonal items, or Dali's painting of Lincoln's face alternating with a lady's backside as a function of viewing distance will never attain first-rank status, and remain gimmicky technical curiosities.

In our small community, stereotypical imagery is recycled and reworked so often that it evokes laughter from the audience as a kind of in-joke. Shiny spheres, checkerboards, fractals, and warped human faces show up everywhere, as technical benchmarks,

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as calendar pinups, as stars of animation. Worried by such inbred imagery, artists have pointed out these errors to the engineers. However, it is not easy to clearly explain the difference between Arcimboldi and Leonardo, and misunderstandings have occurred. Being more "artistic" can be construed as rerendering old masters instead of more dubious historical pictures! Demo animations without content can be fixed by adopting stereotypical animation storylines! Mathematics can be turned into sentimental, romantic landscapes! And the the marketing departments of computer and software companies are only too glad to offer it up to the public as art.

Another misunderstanding and manifestation of the "How did you do it?" syndrome is the codification and reproduction of the work of some well-known abstract artists through the use of rules and grammars. Even if one could analyze the underlying picture structure, a re-creation made with those rules will never equal the original: the intent and the lengthy thought processes aren't there, the hidden mistakes - the pentimento - won't exist, the sum of tiny decisions making up the whole will be absent. What is left is a poor anemic impostor. Why be so obsessed with copying? Take those rules and use them to generate original work! Invent your own grammars!

On the artists' side, the misunderstanding could be said to be mutual. Nowadays computer artists' work comprise the bulk of computer art shows, but where is the revolution? After ousting the engineers from the limelight, their successors don't always offer much additional vision, innovation, or integrity. Why do artists, too, mimic other art styles, and use tools in trivial ways? This is an old lament: A. Michael Noll wrote in 1970 that "The computer has only been used to copy aesthetic effects easily obtained with the use of conventional media... The user of computers in the arts has yet to produce anything approaching new aesthetic experiences" [4]. Digitized, manipulated, scaled, warped, repeated colorized photo collages abound, creating their own family of stereotype. When artists work with canned programs with limited sets of options, they are hard put to put their own stamp on the result. More often what we see is appropriated imagery, clip art, instant image libraries which can be permuted endlessly, and carelessly executed virtual brush strokes added for extra "art mark" effect. And with great speed. "Faster and denser" might be added to the marketing belief that "newest is best". Just because one can do something, fast, doesn't necessarily mean everything *should* be done, fast. And even though recycling may be politically correct, it may not be healthy in the world of ideas, Postmodernism notwithstanding. Here too, computer art has many of the shortcomings of the rest of the current art scene. Epigonism is an accepted norm. "...work inevitably smothers itself in a receding spiral of stylistic vampirism" [5]. Artists must act as better filters and selectors of the perpetual stream of visual media detritus.

Many images from mathematics and science are presented as art. Often artists will simply appropriate some of this imagery as their own, and run it through format and color changes. Just using good design techniques and color selections does not automatically transform it into art, however. This appropriation and piggybacking on other disciplines is a bit of a cheat. Of course, artists and designers *can* be valuable partners with scientists and engineers in the thoughtful and aesthetic presentation of information. This is especially true in the realm of design. But computer artists can't just copy science and pass it off as art. The ideas must be assimilated, *understood,* and then transformed, otherwise they run the risk of being a bad simulacrum of science. The flip side of "How did you do it?" could perhaps be "But they don't even *know* how to do it"!

Misuse occurs in both the realms of engineering and art -there are flawless yet woefully tasteless and content-free images made with the latest techniques. There are also images made by people with visual sensitivity and awareness of artistic issues, yet computer use has added nothing to the work except for the value of self-consciously embracing the new electronic age. Here we get the worst of both worlds: trivialized research and trivial art. The mutual lack of understanding between the groups is a problem that still needs addressing. Artists and engineers are not familiar enough with one another's milieu to know what is first-rate, and what is just a hack. The point is not to discourage one another, but to help and *respect* each other's knowledge by encouraging dialogue and experimentation.

Good work is possible, and has been done, with *any* kind of system, but most does not live up to the inflated claims for "radical difference" or "new ways of seeing", although it does has novelty value. A cautionary statement from seventeen years ago still hold true: "...[a] basic dichotomy is present: on the one hand, those composers and artists who are concerned only with the *act* of being involved with the technology; and on the other hand, those who use technological means to achieve an end more relevant to the world we live in. Much of the interest in the former tends to die out as the novelty wears off..." [6].

So, What Is Interesting?

We all go on, nevertheless, in the belief that there is *something* in computer art that will become significant. A technology that is already so integrated into so many levels of work and daily life must have implications for the arts! The computer is probably the most complicated invention of mankind: so complex that no one person can truly comprehend all the interactions and states taking place within. Yet this certain *something* remains elusive. It is not just the fault of hostile art-world critics, over-eager marketeers, nerdy engineers, or primitive tools.

It may be instructive at this point to talk about work that has been acknowledged to be worthy. The names of certain artists are cited rather often: Robert Mallary, Harold Cohen, Manfred Mohr, Vera Molnar, Larry Cuba, and Myron Krueger. Looking at the work itself, one could hardly say that it is all alike. Yet there is a fundamental premise that is the same: all of the artists have devoted a great deal of time and effort to learn how to use computers. They have developed their own programs and methodologies. Yet they don't all require expensive systems. Harold Cohen has developed his own idiosyncratic expert system which encodes elements of his own personal style. Larry Cuba has used transformations and interpolations in combination with music to produce wonderful abstract studies in rhythm. Manfred Mohr's exploration of space structures using the computer's repetetive and spatial capabilities results in spare and elegant studies. Myron Krueger is developing a system to enable a playful human-machine dialogue. Vera Molnar has pursued the idea of transformation, and Robert Mallary has worked with visualizing and creating sculptural forms under computer control. It becomes clear that the software and resulting images or environments bear the stamp of their authors. Perhaps this is why canned programs for artists have their own look, which the artist is often fighting. By learning a programming language the artist at least has a chance supplying

the direction for his or her work, rather than following the trends of the marketplace. However, not many artists have taken the advice of the composer Dick Higgins who, in 1970, published "Computers for the Arts", a pamphlet suggesting that composers, poets, and artists should all learn a programming language as a means of access to computers. It seems a rather obvious step to take, in retrospect. Musicians, writers, and filmakers all know the languages of their respective arts. Computer artists need to be more aware of the concepts of computing, and then be free to ignore those that they find irrelevant.

No one solving programming problems reaches a solution in the same way. (This is apparent to anyone who tries to modify someone else's code!) The artist is not constrained to one "correct" methodolgy or result. But learning the language is not necessarily easy. This is admittedly the harder road to travel. Anyone who is familiar with computers can give testimony as to how time consuming it is. Setting up one's work environment, the "getting ready to do some *real* work" syndrome is a real problem. But work does not have to look as "perfect" as that on television: if that is one's goal, perhaps one would be better off using the amazing systems already developed for that purpose.

Concepts that have origins in the world of computing offer many ideas and influences to consider: the modeling of complex behaviors, modularity, languages, self-simlarity, branching structures, procedural modeling, cellular automata and artificial life, expert systems and the promise of eventual AI. The social consequences are worth noting too. Consider the absolute *obsession* with technique, and the danger of becoming absorbed in computers to the exclusion of the "real world". Do we create these system so that we can be the gods of our own little universes? Consider the distance an artist puts between idea and execution. It is a torturous and circuitous route, this maze of instructions, hardware and code used to produce images. Why do we do it?

The idea of interactivity is often cited as one of the important concepts to evolve from the technology. It raises multiple issues in itself. In interactive systems, is the creator an artist, a programmer, an inventor, a dungeon master, collaborator? Is the participant an artist, a selector of limited options, or someone just having a good time? Do interactive systems show any real options for the participant, other than those already programmed in by the system's designer? Is being a participant rather like being the kid who was given a coloring book to fill in, in his own style, the lines which someone else has drawn?

The idea of a free-flowing dialogue between human and machine is still mostly at the stage of a "call-and-response", yet some environments like Myron Krueger's "Videoplace" are becoming more conversational. The everyday network communications mechanisms already in place that allow exchange of information all over the world are more flexible at this point, and are actually quite amazing. Networks, news groups, and email allow information flow all over the world between people who will never see each other. The technology is in the background, there is no conscious "art" to it, it just enables a channel whose content is constantly ebbing and flowing dependant upon the people involved. This "global community" of people hold ongoing conversations, send programs and data, as well as play. Network games are played amongst widely distributed people who are able to control the direction and activity of the game as it is being played. Additional bandwidth will undoubtedly allow for the flow of images and sound. New artist's networks have already been started and seem to be promising too.

We have embraced the technology and many of its concepts, yet seldom manage to push ideas far enough. It seems obvious that the problem is not with how much the system costs, or whether it can do ray-tracing or not. The problem is in whether the artist is able to direct his work and ideas as he or she sees fit, while dicovering the real possiblities and issues in the technology.

Conclusion

When will the cultural world at large become more interested in work generated by using computers? It will when computer art breaks out of its ghetto. It will when the promoters stop calling any image generated by a computer for whatever reason "Art". It will when we are more informed about different aspects of computing, algorithms, mathematics, visualization, and interactivity and how these ideas can affect our culture, instead of blindly appropriating them and passing them off, untransformed, as art. It will when we begin to learn more about our tools and the standards and issues of the mainstream. I am not implying that computer art should adopt the forms, ideas, and styles, of mainstream art- that would be denying its uniqueness. I refer, rather, to having an awareness, and a comparable high set of standards for discussing work.

Computer Art needs criticism that is fair, objective, and uncompromising. The trash and the noise must be filtered out. This means that the artists must stop depending on and listening to the apologists and promoters. Inflated marketing terminolgy won't provide any true understanding or direction for computer art. Instead of relentless public relations partying at conferences, let us instigate serious artistic and cultural dialogues, and engage in genuine self-reflection. "Nothing kills a legitimate movement faster than the failure to develop a principle of rigorous internal self-criticism" [7].

Some mainstream critics take computer art about as seriously as "spin art", and keep wishing it would die a similar natural death. Perhaps it will be noted as an historical curiosity, like Scriabin's "color keyboards", or the allegorical paintings of Guiseppe Arcimboldi. But, I believe that rather than abating like trendy fads usually do, computer art is increasing: these art-world critics should be at least wondering about the significance of its persistence. Criticism from the realm of computer art may assume more significance. This new generation may supplant members of established critical set, but let this new group also be committed to ideas and quality. Working with computers is difficult--and time consuming. It implies a long term commitment, a desire to learn the tools well, and leaving the expectation of instant art behind.

References

1. Stanislaw Lem, *Microworlds,* (New York: Harcourt, Brace, Jovanovich, 1984) p.47. From an essay entitled "Science Fiction-A Hopeless Case: With Exceptions", originally pusblished 1973.

2. Lem [1], p.67.

3. Suzi Gablick, *Has Modernism Failed?,* (New York: Thames and Hudson, 1984) p.13. Yet to be fair, it must be said that the same charge can be leveled at the art community at large. The point has been made that "Culture in postmodern society has been increasingly 'administered'...controlled by means of corporate management techniques, public relations, and professional marketing". In this sense, we are NOT isolated from the rest of the arts community!

4. Douglas Davis, *Art and the Future,* (New York: Praeger,1973). Davis quotes from an article called "Art ex Machina" published in the I.E.E.E student journal from September, 1970.

5. Dan Cameron, "The New York Problem", *Flash Art,* No. 152, (1990) p. 120. Referring to work of contemporary New York artists.

6. Davis [4], Quoting an interview with the sculptor James Seawright.

7. Newman, Charles, *The Post-Modern Aura,* (Evanston, Northwestern University Press, 1985) p.177.