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LEONARDO THINKS

Opinion: Virtual Realities and the Future of the Arts

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The impact of simulation technologies such as virtual reality and, eventually, holographic projections, will be as profound in the arts as in all other aspects of our social institutions and conventions. In the beginning, the changes will be seen as mostly beneficial [1]. For example, laser discs can bring the collections of the most remote museums-famous and obscure alike-to the remote-control access of potentially millions of viewers. The relatively near future will bring high-definition, large-screen, liquid-crystal or laser-projected video displays of lifelike resolution and scale; the entire history and world of art will then be available by "downloading" from optical storage libraries via direct broadcast satellites, fiber-optic cable or the Internet, so that nearly anyone can "directly" experience almost any work from almost any period at any time (along with expert analysis) at the touch of a button or a verbal command-as if the work itself were actually right in front of them.

As the resolution of immersive virtual reality improves and costs decline over the next decade or so, the virtual art gallery will provide the experience of visiting any available collection, including its environment, without leaving the media "cocoon." Holographic projection of real images that recreate sculptures and paintings in life-sized, volumetric three dimensions will eventually be common in holographic galleries and homes.

Among the broad societal consequences of these simulation technologies may be that people, who will be able to travel in cyberspace or call up a hologram, will be less inclined to crowd thoroughfares and consume resources to visit what they can experience at home without the crowds and the expense. The bad news---at least the initial bad news---is that attendance at museums (and everything else) will likely suffer. And it could get much worse.

As the arts and their audiences continue to fragment, a decline in gallery attendance would limit both the audience for and the patronage of new work. Perhaps by then most new artworks will be created-and appreciated-in cyberspace, by members of SIGs (special interest groups) who gather at electronic galleries via the Internet.



Even more disturbing to the status quo will be the empowering of individuals to "do their own thing." It will someday be possible for anyone with consumer electronic equipment to create whole worlds (it is even now called "world-building"), populated with electronic beings that are likewise of their creation. With this explosion of self-expression-folk art, if you will-what about the formal arts? Film theoretician Rudolf Arnheim wrote: "Art exists by virtue of its limitations." What happens to art when there are no longer any limitations? Will formal art and its dissemination be a viable pursuit when nearly anyone can create nearly anything? What then can real genius do to distinguish itself? And who will tell us-who will know the score when there are no rules?

And what of our technological offspring-computers? What happens to our creative sovereignty if and (more likely) when they become self-aware, conscious or whatever it is that confers the urge to create? It seems likely that their works would represent "experiences," "emotions" and "world-views" alien to our own. Their "reality" may be more surreal to us than any of our most bizarre dreams.

Indeed, at the most fundamental level, the issue here is "reality." We have used technology over the millennia to reflect ourselves and the "real" world around us. Nearly all art---even abstract art [2]---has been a chronicle of the world and/or our reactions to it. But now we are about to create new realities that are viscerally, if not logically, indistinguishable in plausibility from ordinary, objective reality: In fact, the brain uses the same mathematics in reconstructing reality from sensory input as is inherent in the mechanics of holography. So, in our mind's eye, holographic illusions may be just as good at conjuring up the environment as impressions from any person or thing in the real world. And the mind's willingness to suspend disbelief, often in thrall of the simplest of deceptions, renders highly probable the prospect that holography and virtual reality will put users at risk of being completely immersed and consumed in their own self-created worlds-worlds in which they wield absolute power and creative license. Acting as God in his or her own world, the user alone is the arbiter of art, to its great peril.



Endnotes

[1] The author is the creator of Laserium laser shows and a pioneer of the laser entertainment industry. He is currently working on creating new technology for immersive, interactive laser displays and is closely following developments in holographic projection. This article was based on an excerpt of his book in progress, *Electronic Apocalypse: How Virtual Reality and Other Simulation Technologies Will Transform Our World in the New Millennium*.

[2] It is true that an artist can create a kind of alternate, or "virtual," reality; but it is acknowledged to be just that—a stylization, an icon. It is not the same as an alternate world in which one can virtually set up housekeeping.

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