The Future of Video Games as an Art:
On the Art of Playing with Shadows
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Playing by the Rules: The Cultural Policy Challenges of Video Games
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The following paper will discuss photography's impact on video games, with references to (art)^n's relevant work in documenting video game icons, and developing practical tools for artists to use photography in Virtual Reality. The paper also highlights the art community's recent interest in presenting games as art.

Keywords: videogames, art, photography, PHSColograms, interdisciplinary collaboration, (art)^n

In 1839[1], William Henry Fox Talbot coined the phrase the "art of fixing a shadow" to describe his invention of the negative-positive photographic process. For more than a century, photography has been a ubiquitous part of our everyday lives, and is perhaps the most powerful visual medium of the 20th Century.

Innumerable images have been amassed by our culture to date, revealing an engaging dialogue about who we are, where we have been, and what we would like to become. As we embark on the 21st Century, photography is eclipsed by the *art of playing with shadows*, that is, video games, unleashing new cultural territory to explore, with the potential to discover meaningful metaphors that express our radically evolving world.

For future generations, video games may become the most dynamic extension of cultural memory since photography was embraced as an art form. Players are currently practicing the fundamental basics of photography, as a cinematic, navigation tool, and in some cases, as a game objective, which is beginning to unlock new forms of shared, cultural expression.

"Chess Players," 1844 Vintage Salt Print by William Henry Fox Talbot, from The Sandor Family Collection

Nintendo's *Mario 64* is often cited by game industry professionals as an exceptional example of integrating gameplay with the game camera. As players move through the Mario 64 game environment, the game camera follows their every move. In essence, the game camera is the player's shadow. At the click of a button on the controller, players can center the camera behind Mario to make observations about the game from his visual point of view. Another click rotates the camera angle, showing players panoramic views of the environment, which can also be enhanced with zoom in and zoom out features. In *Mario 64* and other games, players can use the

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[1] In 1839, Louis-Jacques Mandé Daguerre invented the Daguerreotype, the first practical photographic process. Also known as "The Mirror with a Memory".

game camera to set the pace of their experience. Like photographers standing before their subjects, engaging the camera in the game world can provide players with a feeling of creative control over the game's destiny.

More recent games, such as Nintendo's *Pokémon Snap*, and *The Sims* by Maxis, offer players freedom to experiment with photography as a narrative tool. *Pokémon Snap* engages players as a Pokémon Trainer, embarking on a photo safari to capture candid shots of Pokémon characters. Collected images from each turn are rated by Professor Oak, based on a set of rules devised to teach players how to take desirable portrait photographs that are well framed, and ideally capture characters in states of spontaneous action. These snapshots can be saved in a player's photo album and printed.

The Sims foreshadows a new kind of creative empowerment, where players can be artists, and game environments can be 21st Century art studios. In *The Sims*, players have the option to capture screenshots from the game, introducing performance photography to computer games. Players can submit their family sagas and teleport their families to other players, which are also rated by most-viewed and most-downloaded categories. The photo essays and personal objects posted by this vibrant community are inspiring new directions for creating art in game worlds, and have the potential to unleash a new generation of artists.

Marcel Duchamp once said, "all artists are not chess players, but all chess players are artists." Man Ray declared in his essay, Photography can be Art "Some of the most complete and satisfying works of art have been produced when their authors had no idea of creating a work of art, but were concerned with the expression of an idea." One expression of an idea relevant to today's artists is the element of play, which was explored by the Surrealists and Fluxus artists, who experimented with chance, pranks, improvisation, and game design in their work. While 21st Century games may inspire art made by players, games will also continue to ignite the imaginations of traditional artists, expanding the range of our visual vocabulary.

"Marcel Duchamp & Raoul de Roussey De Sales",
1925 Vintage Gelatin Silver Print,
from The Sandor Family Collection

In the 1990s, Chicago-based collective, (art)ⁿ, began producing a series of virtual portraits in collaboration with artists, animators and game designers. In the spirit of Man Ray and the Surrealists, this collection of work renders the likes of Franz K., Donkey Kong, and Killer Instinct as early virtual icons, and further documents the evolution of character animation in video games and film.

During 1994-1995, (art)ⁿ collaborated with Tim and Kevin Stamper, the highly acclaimed game designers from Rare in England, to create PHSColograms[2] for Nintendo of Donkey Kong and Killer Instinct. These unique art objects, three-dimensional digital photographs, were produced from CGI data Rare created for both games. (art)ⁿ worked with Rare on rendering the required

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[2] PHSCologram, pronounced skol-o-gram, is an acronym for photography, holography, sculpture and computer graphics.

frames for the PHSCologram process, and determined the ideal camera position for the final art piece. The stunning results were significant in that the material for these works came from the original game artwork, and also proved that artists and game designers can create a shared, visual language.


"Virtual Bust Franz K." 1994 PHSCologram
by Chris Landreth & (art)ⁿ
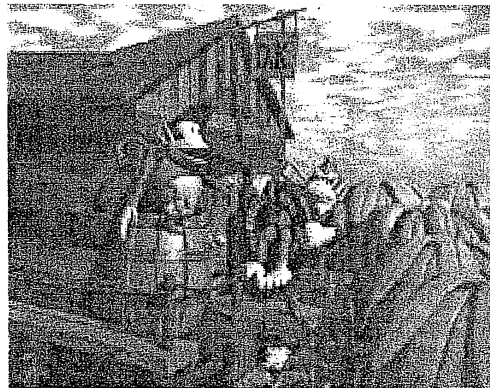
"Donkey Kong Country" 1994 PHSCologram by Rare & (art)ⁿ

These works were first shown in 1995 by Oskar Friedl Gallery in Chicago, in *The Equation of Terror- Interactive Pop Terrorism*. This noteworthy exhibition also included virtual portraits of early virtual actors created by Brad deGraf, SimGraphics, and Chris Landreth, and (art)ⁿ's 1991 political installation, *The Equation of Terror*. This intriguing body of work was juxtaposed with columns of video monitors, configured with a Super NES for visitors to play *Donkey Kong Country*. The well-attended show received a controversial review by Chicago's *New Art Examiner* for its daring juxtaposition of game content with WWII images and terrorism themes.
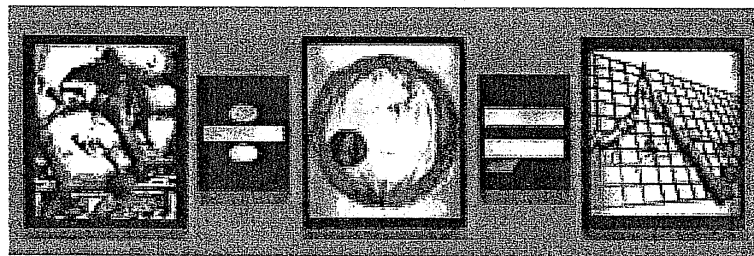
"The Equation of Terror" 1991 PHSCologram Installation by (art)ⁿ
This image was included in the Museum of Contemporary Art Chicago 1996 exhibition catalogue,
Art in Chicago 1945-1995, curated by Lynne Warren

The invitation for the 1995 exhibition included the following artists' statement, opening a dialogue for social policy that may be relevant to some current aims of the University of Chicago Cultural Policy Center and other academic programs in the U.S. "Pop terrorism cannot exist in the absence of media; an act of terrorism is, in effect, a media event, manufactured by the disenfranchised, as much for attention as a means to an end. The slower loop of word-of-mouth communication made historical terrorism less overt, more subtle. There would be no reason to blow up an aircraft, a building, a city, if the eyes of the world were blind to the result. To the

individual warrior, the world is a video game – a button is pressed on a remote control, followed by earthshaking special effects, and the score is tallied over a period of days, the loop closed by the media. It is, if you will, a form of graffiti, an act of creation – the ultimate high score list."

In light of our world's recent tragedy and challenges to abolish terrorism, it is (art)ⁿ's intention to continue exploring art, science and technology in ways that encourage responsible innovation and promote social discourse. *New Art Examiner* critic, Tina Wasserman, found the show unsettling, and commented in her October 1995 review "It appears that not only is physical reality waning in our quest for the virtual, but that our concept of history itself is fading into a flow of gratuitous information and imagery. In it, the complexities of history have been reduced and made equivalent to every other image, ready to be grabbed and manipulated with little attention to coherent meaning and responsibility."

"Killer Instinct" 1995 PHSCologram,
by Rare & (art)ⁿ

"End Game" 1942 Vintage Gelatin Silver Print by
Man Ray, from The Sandor Family Collection

The (art)ⁿ group continued to explore interactivity in several areas, including the additional element of interactive sound to PHSCologram sculptures, such as *Telomeres Project on Imminent Immortality* shown in the N-Space Gallery at SIGGRAPH 2001 in Los Angeles. (art)ⁿ also spearheaded interdisciplinary research projects to develop practical applications for artists to experiment with digital 3D photography in Virtual Reality environments. This resulted in the collaborative development of IGrams for the Electronic Visualization Laboratory's CAVE at University of Illinois at Chicago, and other satellite research institutions. The IGram project was initially developed 1998-1999, and offers Virtual Reality artists an alternative way to capture their content, anticipating what perhaps may be the screenshot medium of the future. Moreover, the combination of (art)ⁿ's content and development of the PHSCologram medium offers a glimpse into the future of what video games could look like, and how they can represent a rich collection of ideas supported by even more diverse, alternative voices.

(art)ⁿ was formed by Ellen Sandor in 1983 with her peers from The School of the Art Institute. The original group included sculptors, a fashion photographer, holographers and video artists, and continued to evolve over the past 18 years to include computer artists. The (art)ⁿ group has also collaborated with scientists from the Scripps Research Institute, NASA, the U.S. Army, as well as animators, architects, painters, and Virtual Reality artists. (art)ⁿ is a model for successful collaboration, where works are produced as ensemble projects that require the skills and diversity of all involved to generate a rich collection of ideas, realized as a singular statement. This style

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of working, interdisciplinary collaboration, is one way that games may be produced as the community attracts new audiences.

In more recent years, games have caught the eye of the art community at large, opening a new channel for the future of games in art, as presented by artists using new media and museums. Austria-based Ars Electronica, for the first time in its 20-year history, awarded a 2001 Golden Nica prize to an online interactive computer game, *Banja*, developed by TEAMcHmAn in France. MASS MoCA presented *Game Show*, a 2001 exhibition and catalogue, aimed to explore how artists are using game structures in their work. The Whitney Museum of American Art presented *Bitstreams* and *Play's the Thing: Critical and Transgressive Practices in Contemporary Art* in 2001. *Bitsreams* included John Haddock's "isometric screenshots" which draw on the visual vocabulary of video games, to stage socio-political content like the assassination of Dr. Martin Luther King Jr. Also in 2001, SF MOMA hosted "ArtCade: exploring the relationship between Video Games and Art." This two-day event assembled artists, academics, industry pioneers, designers and technologists to discuss the dynamic between games and art.

In 2000, Kiasma Museum of Contemporary Art in Helsinki presented *Alien Intelligence*, which included a mosaic floor mural in the museum entrance of *Tomb Raider's* Lara Croft, titled *Output – 62.500 Materialized Pixels* by Arno Coenen & Rene Bosma. Moderna Museet in Stockholm presented *Museum Meltdow*n in 1999, produced by Tobias Bernstrup and Palle Torsson, artists inspired by the popular computer game *Half-Life*. *Museum Meltdown* immersed museum visitors in a virtual simulation of the Moderna Museet, with selected art objects incorporated as game targets for museum players to destroy.

In 1996, Larry Mangel, a former gallery owner founded Bozart Toys, a company in Philadelphia that produces educational children's toys and games designed by museum-exhibiting artists and designers. The company's web site states, "The world-renowned artists who design our toys are afforded the opportunity to reach a different audience – children – while combining learning and fun with each toy that's created. The Bozart Toys company is a wonderful vehicle for transporting creative vision to the world." *William Wegman's ABCards* use images of the photographer's iconic Weimaraner dogs to teach children how to associate words with letters and objects. *Kaleidoscope House*, designed by photographer Laurie Simmons, and architect Peter Wheelwright, is an "interactive creative play environment" set in a contemporary home, with interior objects designed by leading designers. Karim Rashid recently designed an attractive, affordable chess set and backgammon game that draw inspiration from the early Modernists. Man Ray, László Moholy-Nagy and Salvador Dali also designed chess sets, crossing art with play. Other artists of note, who have used toy objects and role-playing elements to make dramatic artistic statements include Hans Bellmer, Cindy Sherman and David Leventhal.

While the arts community continues to explore games as art, and artistic statements may emerge from game players, it is important to acknowledge that there are fundamental differences between both industries. The art world seeks to find new voices, explore new ways of making art, and also includes a large number of people dedicated to education, criticism and preservation of what has been made to date. Innovation through social discourse and examining public issues are a major driving force in the art community. The game industry is mostly composed of pioneering male programmers and animators, and exists to attract an audience for the sake of commercialized entertainment. Games are big business, with products produced as unlimited editions, in which the initial monetary value of the best selling game is higher than the value of the most successful, editioned, contemporary artwork sold today. The size of the audience is significantly larger for one game than for the edition of one artwork. Yet the diversity of people working in the art world and studying art as a profession is larger than those in the game industry.

There are a number of dedicated educators working to implement formal education programs for games, which may invigorate the community as a whole with fresh ideas, interest in other art forms, respect for history, and awareness of social responsibility.

In relation to cultural policy, real innovation may come from collaborative research facilitated by the art community and the game community to inquire about the very nature of play – as a social tool and as an art form. There are scores of articles written about video games and violence, yet relatively few games are dominated by violent content. The game industry draws much influence from the film industry, yet there are many other art forms, such as dance, sculpture, video art, photography, performance art, painting, literature, poetry, music and new media, that can be learned from, as well as all of the professionals and educators working in these areas. As the demand for games continues to grow, it is essential that people from all disciplines participate. If video games are to emerge as an accepted art form, we must establish channels of creativity for all voices to be heard. Collaboration skills and interdisciplinary backgrounds are new desires being voiced by game designers at conferences and in gaming literature, while artists and museums are exploring games as art. If we can open up the playing field, together we can mobilize a new literacy for understanding the world we are living in, and how it will be remembered, and maybe even, construct a better virtual playground for future generations to express new hopes and dreams.

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References

On The Art of Fixing a Shadow: 150 Years of Photography, National Gallery of Art
http://www.nga.gov/past/data/exh597.htm

"Smart shooting with 3D cameras", Steven Kent, August 31, 2001, MSNBC.com
http://www.msnbc.com/news/622389.asp

The Sims: http://thesims.ea.com/us/

Nintendo: http://www.nintendo.com/

Marcel Duchamp: http://www.palamede.com/graphics/duchamp.htm

Man Ray: http://www.icp.org/exhibitions/man_ray/index.html

(art)ⁿ: http://www.artn.com/

Rare Ltd.: http://www.rareware.com/

Igrams: http://www.artn.com/igrams.html

Electronic Visualization Laboratory at University of Illinois at Chicago: http://www.evl.uic.edu/

"Gamers Score at Arts Festival", Steve Kettmann, *Wired*, September 7, 2001
http://www.wired.com/news/culture/0,1284,46598,00.html

Game Show, MASS MoCA: http://www.massmoca.org/visual_arts/index.html#gameshow

Whitney Museum of American Art: http://www.whitney.org/

Alien Intelligence, Kiasma Museum of Contemporary Art
http://www.absolutearts.com/artsnews/2000/02/12/26557.html

John Haddock's Isometric Screenshots: http://whitelead.com/jrh/screenshots/index.html

"Once It Was Atari, Now It's Art", Kendra Mayfield, *Wired*, July 19, 2001
http://www.wired.com/news/culture/0,1284,45146,00.html

Museum Meltdown, Moderna Museet
http://www.modernamuseet.se/eng/utstallningar/35_page1_eng.html

Bozart Toys: http://www.bozart.com/

Hans Bellmer: http://www.icp.org/exhibitions/bellmer/intro1.html

Cindy Sherman: http://www.moma.org/exhibitions/sherman/

"David Leventhal's dollhouse history", Christopher Benfey, February 19, 1997, *Slate.com*
http://slate.msn.com/Photography/97-02-19/Photography.asp

The Sandor Family Collection: http://www.sandor-collection.com/

Bios

Ellen Sandor & (art)^n

Ellen Sandor, an MFA graduate from The School of the Art Institute of Chicago, is the founding artist and director of (art)^n. In 1983, in Chicago, she produced the first large scale, digitally immersive environment entitled PHSCologram '83. This compelling installation opened a dialogue in new media circles for what would later become known in the digital era as 'Virtual Reality.' For, Sandor's work not only catalyzed the evolution of photographic documentation into time-based environments, it sketched the potential for fine arts applications of virtual reality. Ellen Sandor is an Adjunct Associate Professor at the School of Art & Design at the University of Illinois at Chicago. She has co-authored juried papers and lectured by invitation in Europe, Canada and the United States.

(art)^n, is Ellen Sandor's Chicago-based collaborative group of artists who are dedicated to the aesthetic pursuits of imaging art, science and technology. (art)^n's works were first shown at SIGGRAPH in 1985. (art)^n is currently comprised of Ellen Sandor, Fernando Orellana, Pete Latrofa, Keith Miller and Janine Fron. (art)^n collaborates with outside artists and scientists including Chuck Csuri, Chris Landreth, Ed Paschke, Karl Wirsum, Miroslaw Rogala, Thomas McLeish, NASA, and the Scripps Research Institute. These interdisciplinary collaborations have spawned a body of work, which is unparalleled for its pioneering aesthetic and historical importance. Commissioned installations for 2001 include "Battle of Midway Memorial" for Midway Airport in Chicago.

(art)^n is represented in public and private art collections including the International Center of Photography, Smithsonian Institution, The Art Institute of Chicago, Fred Jones Jr. Museum, Musée Carnavalet Paris, Santa Barbara Museum of Art, Museum of Contemporary Art Chicago, Museum of Jewish Heritage and others. 2000-2001 exhibitions include "Chorus of Light: Photographs from the Sir Elton John Collection", High Museum of Art, Atlanta, "The Print Biennale", Brooklyn Museum of Art, N-Space Gallery, SIGGRAPH 2001 Los Angeles, "HIFA 2000", National Gallery of Zimbabwe, and "Paris En 3D", Musée Carnavalet Paris.

PHSCologram® is a trademark of (art)^n. U.S. Patent Numbers: 5,113,213, RE: 35,029, and 5,519,794.

Janine Fron

Janine Fron is a Visiting Artist and Creative Director of Chicago-based collective, (art)^n, and the Managing Director of The Sandor Family Collection. Ms. Fron has collaborated on numerous works with the (art)^n group since 1991, produced (art)^n's first website in 1994, and co-authored two published papers for *Computers & Graphics* and IEEE. Recent projects with (art)^n include commissioned *Battle of Midway Memorial* for Chicago's Midway Airport and *Telomeres Project on Imminent Immortality*. In 1994, Ms. Fron began producing a digital archive for The Sandor Family Collection, in which she is currently the Managing Director. Ms. Fron's work with the collection facilitated independent study of the history of photography and the relationship between photography and other media. Ms. Fron received a Bachelor of Arts degree in Journalism from Loyola University Chicago, where she also studied art history and literature. She was born in Chicago, Illinois in 1969, lived abroad in Finland 1999-2000 and currently resides in Los Angeles, California. In her spare time, she plays games and studies all things related to art and play.

All Game Play is Performance: The State of the Art Game

Jane McGonigal
University of California @ Berkeley / 42 Entertainment
(www.avantgame.com)
May 13, 2005

Richard Schechner, theater practitioner and founder of the field of performance studies, famously argued in the first major performance theory treatise of the 21st century: "Playing is at the heart of performance" (4). In any performance act, Schechner believed, the performer is always already playing. There is no performance without play.

For game studies and game designers, the time has come to acknowledge and to explore the converse of Schechner's proposition: *Performing* is at the heart of *play*.

All game play is performance. There is no gaming without performance.

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John Reaves, artistic director for the groundbreaking digital performance group The Gertrude Stein Repertory Theater, once made a bold proposition on behalf of theatre practitioners everywhere. In the mid-1990s, from the front lines of digital, interactive theater practice, he wrote: "In the coming century, we can take a timid, parochial view of what theater is, or an aggressive, imperialistic one. [...] Why not be aggressive in the tumultuous context of the Digital Revolution? Why not claim all interactive art in the name of theater?" (3) The future of new media, Reaves believed, belonged to the performance artists. All new media art installations provided sufficient grounds for a theatrical event. All new media art installations were playgrounds for performance.

Reaves presented two cases for claiming all interactive art in the name of theatrical performance — the first, phenomenological, the second typological. "Multimedia as art is much closer to theater, and the performing arts in general, than it is to film, video, or the visual arts," Reaves wrote. Because new media art tends toward the live, collaborative and mimetic, it has an essential theatrical quality. This is the phenomenological case. There is also the typological case. "Theater has always been an integrative, collaborative art which potentially (and sometimes actually) includes all art: music, dance, painting, sculpture, et cetera," Reaves argued. Theater is a total art capable of incorporating all other arts — why not the emerging digital arts, as well?

Reaves claimed all digital art in the name of theater in order to call attention to the potential for live performance as an end-product of digital networks, broadcasts and platforms. His theater company had a vested interest in locating opportunities for embodied action and interaction in an increasingly mediated culture.

For the same reasons, I choose to make a corollary claim. I stake out all digital *game* art in the name of theatrical performance. Art games are not new media installations, objects or systems. They are scripts for embodied action and interaction. They are opportunities for live, collaborative mimesis.

I claim all digital games in the name of theater.