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28.WHERE HAVE ALL THE VIDEO GAME CONSOLE ARTISTS GONE?

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ABSTRACT
This paper offers insight into the brief history of those artists whose work utilizes, incorporates or subverts the aesthetics and/or technology of video games. It questions why artwork that subverts consoles is seen less frequently than other emerging forms such as sampling, modifications (mods) and machine cinema (machinima). The paper concludes by offering an examination of obstacles which face artists creating console based subversion and points to these as the reasons why this emerging form is seen with less frequency than the others.

KEYWORDS
Art, Machinima, Mods, Console-Based Subversion

INTRODUCTION

For the past 25 years a revolution in video game aesthetics and technology has built an industry and raised a generation. There is a culture of video games that pervades the everyday. It is a culture that is often hopelessly unaware of its history, but certainly not unaware of itself. We are at a moment as a savvy generation grown in the shadow of video gaming comes of age as artists. In video game culture the games are fetishized and the consoles are revered – a fact that has not been lost on these emerging artists. These artists are now creating work that utilizes, incorporates or subverts the aesthetics and/or technology of video games. While subversion of game technology and aesthetics has existed since the beginnings of this culture for reasons of pornographic nature, fan-games and piracy, these artists are experimenting with a unique blend of methods by which to comment on the nature and culture of video games. Through the exploration of various methods, processes and parameters these artists have envisioned a variety of unique emerging hybrid art forms. I will begin by offering an overview of the short history of these emerging forms in order to highlight what they are, some of the differences between them and how they are often incorporated into existing forms such as installation, multiples or performance.

The emerging forms which appropriate or re-contextualize game culture includes sampling, machinima, mods and console-based subversions. Of these, console-based subversions are seen with the least amount of frequency when compared to the other hybrid forms emerging as a counterpoint to video game culture. Yet, these works question the very objects of worship which exist at the thriving heart of the culture. Why are they not as wide-

spread as the other forms? I will address this question and offer a range of obstacles and difficulties that confront artists specifically creating console-based subversions in order to provide reasons as to why this is the case.

BACKGROUND

It can be difficult to draw a decisive line or point to a specific marker that speaks of the "first" subversion for artful purposes. Part of the reason for this discrepancy is that pornographic and pirate gaming have existed for quite some time. If one was to include the work of those subcultures then the history which I offer would seem hopelessly lacking. However, while the work of those involved in subversion for pornographic or derivitive reasons may be well executed, it is difficult to consider it artwork for the simple reason that the work itself is conceptually weak at best, was not created as artwork and does not consider itself artwork.

In this paper, the litmus test for inclusion is not for specific pieces, but rather on specific forms. The forms themselves are mutable hybrids which draw upon the video game dialect within the language of popular culture. There are several forms which I will go into detail to explain. Among these are audio/visual and conceptual sampling, mods, machinima, custom art games, custom emulation and console based subversion. I have chosen the strongest pieces representative of the given emerging forms so that the focus can remain on a discussion of the forms themselves.

Audio, Visual and Conceptual Sampling

Artists draw inspiration from the world around them. Video games exist within the context of a global cultural landscape, a fact which has not been lost on artists. DJ Spooky's 1998 *Riddim Warfare* is a hip-hop concept album which samples widely from Atari 2600 games. Some of the sounds are directly sampled from the Atari, others are highly manipulated. For those that have played early Atari games (*Pac-Man*, *Space Invaders*) there is an immediate recognition of these samples. Through the samples, the work refers to the video games, yet the album goes well beyond a simple commentary on the culture of gaming.

Another emerging form of audio sampling is performance based. Mark Denardo, a Chicago artist, plays music using combinations of Nintendo Gameboy, Nintendo Gameboy Color and traditional instruments. His use of the Gameboy is powered by custom software which allows him to control the samples, sequence and interface of the device, allowing it to function as a unique musical instrument. He is not alone in this pursuit; other musicians which utilize the Gameboy as a musical instrument include Bitshifter, 8Cylinder and the Gameboyzz Orchestra Project.

Other artists sample directly from the visuals of classic games. The digital video based artwork known as *All Your Base*, began circulating on the internet mid 2000 and was subsequently catapulted to the status of pop-culture phenomenon. This humorous work draws upon linguistic inconsistencies born from poor translations of a Japanese game into English. This piece has been widely documented, but I include it as a shining example of the wider phenomenon of artwork which refers to video games in order to provide commentary, humor or other insights. The authors of this work are not entirely known and additionally it is not particularly clear that the intention is one of creating artwork. However, the cult status that this work has achieved makes it a worthwhile example representative of a wide variety of visual game commentaries.

Alexander R. Galloway's *RSG-SMB-TAB* clearly has the intention of being artwork. This piece was commissioned by the Whitney Museum of American Art

for their web-presence Artport. The piece consists of two distinct parts: A collection of text files and videos. The text files are tablature, a short-hand musical notation style, but in this case, the tablature has been written for a Nintendo Entertainment System (NES). If played faithfully, the tablature is the "score" of how to win the NES game, *Super Mario Brothers*. The tablature archive is organized by game level and each is accompanied by a corresponding digital video. The videos are taken from a single, fixed-camera position above the hands of a game-player who happens to be playing *Super Mario Brothers*. In the background, one can make out the sounds of game-play that clearly demonstrate that the faceless game-player is in fact winning the game level using the tablature.

In these examples of work which samples from the audio, visual or conceptual structure of games, the level of technical understanding of game hardware or its creation is not addressed directly in the work. In this way, sampling provides an immediate method of referring to and commenting on games without requiring the creation of a game or, hacking commercial code or the disassembly of actual hardware.

Mods

Beyond sampling from games and synthesizing new experiences from those samples, some artists have turned to modification of existing games themselves in order to create new works. These mods emerge from specific game architectures although the end result often looks nothing like the original. Mods have been an ever present source of work in video gaming since its roots, although the earliest modifications exist solely as fan-art, pornographic or derivative games.

Some modifications have been made without the consent of game developers by reverse engineering or otherwise hacking commercial code. In addition to creating mods via hacking, there is a trend among 3D game developers to make tools available for game fans allowing them to customize their favorite games. It is a method to further instill brand-loyalty (as if having individuals play their games for hours at a time is not enough). The tools made available for fan-games allow gamers to create derivative works that can be shared with others. Artists have taken to using combinations of both of these methods to create original artwork. While some mods comment on the original game, in other cases the work is referential only to the engine itself.

In addition to distributing the mod via the internet for others to use, he uses this mod as a real time audio performance environment. Qthoth is an experiment in synthesasia, one which invites the viewer to explore a fractured visual surface infused with a localized three dimensional soundscape. As users explore the environment, the sound changes, so that users can actually "play" the environment like a musical instrument. Oliver uses *Qthoth* as a performance tool. Viewers can either download quicktimes movies created by him using *Qthoth* or they can download the mod itself to experiment, play and create compositions of their own.

Velvet Strike is the result of collaboration between Anne-Marie Schleiner, Joan Leandre and Brody Condon. This piece uses the *Counter-Strike* game engine to protest the methods used in the war on terrorism. This piece allows users to install anti-war grafitti inside of the online game. The *Velvet Strike* website manifesto is accompanied by "intervention recipes" which describe different tactics which online protesters can use to subvert the multi-player game by acting out of character while within the game.

Nullpointer's *QQQ* is a work created by hacking the code of the *Quake* engine. Rather than use tools pro-

vided by the game development company to create a modification, Nullpointer subverted the code of the core engine itself, allowing them to create a unique interactive installation in which the actions of real-time online game players are transformed into a virtual art performance. The game players are unaware of their role in the artwork, making the piece a masterful execution of tele-present invisible theatre for the 21st century.

Machinima

Machinima is closely related to the creation of mods, but there are a few key points which differentiate this as a unique form. The first step in creating a work of machinima is often to create a mod of a game. However, machinima is watched by the viewer, rather than played as a game – more like a movie. The mod is created so that the authors can use the game engine to act out parts within the game universe itself using the characters in the game as if they were actors.

The final form is often either digital video, but other times it is a modification of the game application which is intended to run on its own, without user input. In the case of a digital video, the work is at least the same each time, but with modification-based machinima, there are often small subtle vagaries based on the specifics of the hardware which is used to run the application in the first place. Within the ranks of those who create machinima, there does not appear to be a hierarchy between these. Perhaps the best way to think about it is as low-budget cinematography.

One of the more prolific creators of machinima is artist Tobias Bernstrup. Among his earlier works is a piece entitled *Polygon Lover* which consists of a 20 minute looped video depicting a modified game character that masturbates for the camera. Bernstrup's work is uncompromising and raw; utilizing mods which render characters nude or provocatively clothed while acting out sexual performances which question the nature of gender.

Another artist creating machinima is Feng Mengbo, whose 2002 work entitled *Q3* utilized the Quake engine. His modification allowed him to insert himself into the Quake universe where his character played the part of a war-correspondent in the middle of the turmoil of a battle. In addition to creating machinima, Mengbo has also created modification-based installations that places digital manifestations of himself within the universe of Quake.

Brody Condon's *Chinatown* is a site-specific installation made for an art gallery in the Chinatown district of Los Angeles. The mod is a careful simulation of a pre-gentrified Chinatown, designed to be run as an application rather than as a quicktime movie. The mod runs like a game, but interaction methods for viewers have been removed. Automated characters wander the environment and we watch them from third and first person cameras. They twitch and stumble through an environment in which violence has been removed, but which bubbles directly below the surface. Condon is currently an artist-in-residence at Franklin Furnace in New York City, where he is expanding this modification to allow players to interact within the game world that he has created via remote locations.

Machinima is one of the most pervasive forms of video-game subversion. There are simply too many examples to go through in detail but some of the other notable figures creating machinima are Strange Company whose *Matrix* and *Tum Raider* are considered by some as the pinnacle of this form. Droma Productions created *The Buff and the Beautiful*, a soap opera about homosexual gladiators

living in the game world of Quake – and any discussion of machinima would be incomplete without a mention of machinima.org known as the "academy" of machinima art.

Custom Art Games

The distinction between custom art games and modifications exists because custom art games are derived from the overall aesthetics or experience of a given type of video game but the technology or methods used to create the work are not necessarily directly derived from commercial code or hardware. In short, custom art games often subvert concepts but not specific technology.

A good example of a custom art game is Eddo Stern's *Cockfight Arena*. The work is presented as an installation/theatre piece in which viewers must be present at the "arena". The game is reminiscent of a whole sub-genre of head-to-head martial fighting games. Rather than pit two human or super-human entities against one another the fight is between two virtual chickens. Viewers wear custom wireless suits that allow them to control chicken avatars. The end result is a thoughtful, brutal experiment in performance art and audience participation. The commentary on violence, cruelty to animals and human indifference is immediate and interactive. What is particularly interesting about this piece is how far it extends from the games that it references and yet how entirely game-like the experience remains for the viewers.

Another example of a custom art game is *SOD* from the pioneer net artists, JODI. This work is derived from the "first person shooter" subgenre of action games. In particular, it is reminiscent of the techniques used to create *Castle Wolfenstien*, often cited as the original first person shooter. The graphic treatment of *SOD* is formal and modern; frequent foreground/background reversals in the eye of the viewer make it next to impossible to negotiate or understand the dimensional space which is being represented. The challenge in the game is not to stay alive but to figure out what you are looking at in the first place. Custom art games are not a particularly new form, although the references to video games present a new avenue for this form. Conceptually, many custom art games can be compared to mods, but the technology and therefore the process of creation is not the same.

Custom Emulators

Emulators are software applications intended to run on one machine in order to mimic the capabilities and functionality of another. There are emulators for operating systems, devices and machines. Among them, there are emulators for Mac and PC that allow users to play Gameboy, Atari and Sony games on their computers (though this list hardly scratches the surface). Specialized hardware is used to copy original game cartridges into files referred to as ROMs. A ROM is useless without the correct emulator and vice-versa. Theoretically, a game ROM and the game system emulator allow the user to play a given game on their computer. But because no emulator is 100% accurate in its mimicry of hardware, there are inconsistencies in the emulation of games ranging from visual annoyances to crashes of the system.

The goal of an emulator is to create a tool which mimics game hardware 100% of the time in spite of the impossibility of doing so. With custom emulators, the goal is to create a tool capable of "rendering" game ROMs in such a way that is not the same as on the original hardware. An example of this form is Corby & Bailey's *gameboy ultraF_ck*.

This piece allows users to load ROMs from any gameboy game. However, the emulator renders these

games in ways which were not intended by the creators of the games. Specifically, *gameboy ultraF_ck* causes the graphics of the given game to degenerate over time, exposing the text of the code as a visual element. The end result appears as a corruption of the game surface. This visual disturbance does not simply swap graphics, but which responds to the interaction of the user.

Console Based Subversions

Artwork which makes use of video game console systems in ways which are unintended by the manufacturers of those consoles fall into the broad category of work which I define as console based subversions. This emerging form requires a variety technical skills ranging from programming to electronics design. There are resources made available via home-brew game developers and the game piracy community which can be used by artists who want to develop projects which utilize, incorporate or subvert game consoles.

The first piece that I would like to mention is entitled *Atari-Noise* by Arcangel Constantini. This 1999 piece consists of a modified Atari 2600 which serves as a "noise pattern generator". The original Atari console is riddled with extra levers, buttons and dials that allow the user to tune *Atari-Noise*. The console utilizes graphics, colors and bits of sounds from game cartridges in the machine. In this way, the *Atari-Noise* device is capable of a seemingly infinite variety of audio-visual patterns completely controllable via the user. The game cartridge chosen serves as providing the palette for the audio-visual surfaces which the device generates.

In a similar vein, Tim Drage offers the *NesBender*, a device created by hacking the electronics of a Nintendo Entertainment System. The system was used as a generator for visual corruptions of games. Unfortunately, the system died after repeated electronic hacks were made of it. In many ways, *NesBender* is a performative, ephemeral work in which the viewers are simply left with the documentation of the process. Another similar device is the *Nestune,* by Ilett, which allows the artist to create noisy corruptions of video game assets.

These three projects are performance objects, existing as quasi musical instruments although the output achieved is a general audio-visual noise colored by the games chosen to be corrupted. The devices are not as important as the work that they create and in two of the cases, the device was never intended for use directly by the viewer. These devices are conceptually related to the *gameboy ultraF_ck* custom emulator described earlier although *Atari-Noise* predates its virtual cousin by two years.

In many cases, these works are not simply the product of one individual, but rather, collectives of like-minded artists. For example, the Carbon Defense League created a game for Nintendo Gameboy entitled *Super Kid Fighter*. The storyline is inspired by the writings of Wilhelm Reich and his views on the sexual rights of children. The final form of this piece is a custom video game which can be distributed via Gameboy cartridges. The game will play in any Nintendo gameboy without modification. This fact is what differentiates this piece from a custom art game. Because this work runs on Nintendo Gameboy hardware, it subverts the legal and technical obstacles placed in the way of artists who want their ideas to "run" on original hardware. This key difference lends the game a sense of authority and finality.

One of the most visible artists working with custom cartridges is Cory Arcangel. A founding member of *Beige*, this group is gaining wide attention for several strong pieces. One of their well-known works enti-

tled *I Shot Andy Warhol* consists of a hacked version of an early Nintendo light-gun game, *Hogan's Alley*. In this piece, Arcangel has replaced the characters of the game (which used to be criminals, innocents and police officers) with Andy Warhol and other pop/celebrity figures such as the Pope and Colonel Sanders. Players use a light-gun interface device to shoot at the characters on screen, gaining points for hitting Warhol and losing points for hitting the others. While the piece is offered as an installation, the cartridge will run on any NES.

Another Arcangel project, *Super Mario Clouds,* is not a game at all. Intended to run on the NES, *Super Mario Clouds* is a hacked version of the once popular *Super Mario Brothers* game. This piece reduces the game to the clouds in the sky of the game world rolling by. There are no characters, there is no landscape. By removing all traces of game play or interactivity, the work makes an important conceptual leap: the devices created for making games can be used to create work that has nothing to do with playing a game. This important piece marks a move toward the treatment of game consoles as systems for artwork rather than simply systems for games.

Similarly, the 2003 *Super Ichthyologist Advance* installation by artist Paul Catanese was not created as a game, but as a repository for show-quality Koi. In this piece, the Koi appear to be trapped within the Gameboy which functions as a virtual tank. Each Koi has its own cartridge, so that viewers can collect them all. The inspiration for trapping the Koi in this way comes from the fanatic "gotta catch them all!" mantra which fuels the collection of *Pokemon*. This work uses the cartridge as a multiple, addressing the Gameboy as a surrogate container for electronic books. This piece forms conceptual links not only to gaming but also to multiples, book arts and intermedia.

WHERE ARE THEY?

I am convinced that there are many more artists creating or who have created work that qualifies as console based subversion, but they are currently harder to find than they should be. In the past few years there have been several exhibitions dealing with art that subverts the aesthetics or technology of games. In particular, *Trigger Game Art* in Melbourne, *<ALT> Digitalmedia* at the American Museum of Moving Image and *Loading* at La Gallerie Civica di Siracusa have all contributed to raising a general awareness of this type of work. Alexander R. Galloway's *RSG-SMB-TAB*, described earlier in this paper was commissioned for the Whitney Museum of American Art – so, it is not to say that these forms are not becoming recognized. But these forms *are* young, which is a very good thing to be for an art-form. The parameters which define these forms remain mutable to the artists creating this work. Overall, the processes and rules which define these forms are not set, so it remains an exciting time to explore these ideas since there are no specified boundaries.

Console based subversion is interesting because it directly uses the hardware of the video game industry to create work. The console and the game cartridges are fetishized objects within game culture. The software is intangible, the images and sounds referential – but the objects *are holy*. To subvert them for uses other than the preordained is to question the very foundations on which video game culture is built.

I believe that it does occur to artists to subvert the hardware but there are factors which limit them from doing so. The two main reasons are technical and legal difficulties. Overcoming technical difficulties is a matter of research, experimentation and discovery. Legal issues are not as forgiving. In addition, the legal issues of subverting consoles make it difficult to even

find some of the necessary technical information from time to time and the overall journey toward a finished piece is made that much more difficult.

Sampling, mods, machinima and the other forms described do not suffer from these problems. Or more specifically, they do not suffer from these problems intertwined. Certainly sampling has its host of legal issues, but technically the act of sampling is not difficult. Mods and machinima are technically difficult, but the legal problems do not exist because the tools are often provided by the game development companies themselves. Custom game art falls into a category of its own because it is often not about the subversion of hardware, but of aesthetics. Custom emulation does suffer from the difficulties of console based subversion, and in a way, it functions as a virtual counterpart to the physically based subversions. However, there have not been enough examples of this type of work to truly begin understanding it as a form. Console based subversion takes on an entirely different character than the other types that I have described. The work is inherently physical; it generally requires the presence of the viewer. It lends itself to performance, installation and multiples. Of all the forms described, it needs the least amount of alteration for collection and display because the work can be understood in terms of objects which house the intangible.

During a workshop session at the Museum of Contemporary Art in Chicago, Cory Arcangel of Beige Records said "We started doing [console subversion] a few years ago... when we did, we wondered why there aren't more people doing it too." It is the same question that has been on my mind for quite some time. I would like to continue by offering some suggestions for why this is the case and why I believe that this will change.

Technical difficulties

The chief technical difficulty which faces the artist who wants to subvert consoles is the fact that game console companies do not regularly publish information regarding their consoles for everyday use. One facet of the business model of a game console company is in licensing and selling rather expensive, proprietary development kits to third party game developers. These kits are comprised of both hardware and software solutions and can only be purchased after a licensing agreement has been signed. In addition to the kits, there are support systems in place for publishing, replication and distribution of games; not to mention access to the technical specifications for the hardware of consoles themselves.

In spite of these difficulties, there are resources for the artist interested in working with consoles systems. In particular, there is an underground home-brew game development movement as well as a thriving game piracy industry. These two groups have handled the difficult task of reverse engineering the console hardware for nearly any system imaginable. In terms of console subversion, this is the worst task of all. To have this problem already solved, the job of subverting the console hardware is made exponentially easier to those with basic programming and electronics knowledge. In addition, the home-brew development community is quite open to sharing and collaborating with artists in order to help realize ideas. The game piracy industry also makes hardware available for tinkering with game cartridges and customizing consoles.

Home-brew developers have created methods for installing the Linux operating system on a variety of newer consoles such as Microsoft's Xbox, Sony Playstation, the GP32 handheld system and the defunct Sega Dreamcast. Because these systems can run Linux, artists can develop projects to run on

Linux which can then be run on consoles themselves. Because the Xbox and Playstation can play back DVD quality video, are network capable and output NTSC, PAL or SECAM video signal in formats up to component video, this technique of installing Linux on the systems is often used by audiovisual engineers for distributing the playback of video loops throughout dance clubs and bars. The current generation of consoles are powerful as compared to their predecessors not to mention most home computers. Yet consoles are often more affordable than the average home computer. For this reason, the drive to use these devices in subversive ways will only increase with time. This will further force console manufacturers to implement more difficult security routines. Luckily, this sort of challenge is exactly what drives some hackers to do the hard work of reverse engineering consoles which artists can then take advantage of.

Legal difficulties

Artwork which involves console based subversion exists in a legal grey area. When dealing with the recontextualization of electronic devices, the specter of the Digital Millennium Copyright Act (DMCA) looms ever present. The DMCA is a federal law in the United States which allows corporations to sue individuals and other corporations for a variety of reasons. In particular, the law is designed to keep up with the needs of copyright protection and intellectual property rights in our technology infused culture. The law also has stipulations which make it illegal to reverse engineer digital technologies intended to copyright material or to create devices that circumvent copyright protections embedded within hardware or software. This stipulation is what causes trouble for artists. Not because of a direct infringement of the DCMA, but rather how this law impacts the game piracy community.

Since much of the technical support and hardware for reverse-engineering and tinkering with consoles is supplied for the purpose of game piracy, companies which sell these materials are often sued and shut-down. Of course, these materials *are* primarily used to pirate games. In particular, since game companies are concerned with preventing piracy, forcing those companies which aid game piracy tends to be rather high on the list of things to do for their lawyers. Artists should certainly consult with their own lawyers, but if ones work can be construed as game piracy or copyright infringement, that artist could be in for serious trouble. In addition to piracy as a chief legal concern for game companies, they also have a direct interest in controlling the games that have been created to run on their hardware. It is important to their business models that they know who is creating work for their systems so that they can receive a percentage of the sales and protect the image of their device. Subverting a console for the purpose of creating original artwork is no different than subverting a blender for artwork. Again, this is not legal advice, tread carefully and subvert at your own peril.

CONCLUSIONS

Unlike other emerging forms which draw from the aesthetics and technology of gaming, console based subversions require more resources to create. There are legal obstacles that make duplication and distribution of work difficult. However, the difficulties in creating console based subversions can be overcome. There are resources and support systems available to artists in the form of the game piracy and home brew game development communities. I believe that the reason why we have not yet seen more console based subversions is simply a matter of timing. Many of the artists working in the other forms mentioned are capable of subverting consoles. It is only a matter of time before they begin exploiting these devices in force. As consoles become more powerful but less expensive, the push to use them for non-gaming purposes will become a question of economy, let alone subversion.