Everything I Do is Art, But Nothing I Do Makes Any Difference by Chris Reilly from 2005

Running and Gunning in the Gallery:
Art Mods, Art Institutions and the Artists that Destroy Them

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In the 1990s, many factors combined to enable artists to develop and manipulate video and computer-based games as a new mode of artistic practice. This activity exists at the intersection of new media art and computer games,

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particularly in a genre of computer games known as "first-person shooters." This specific intersection itself became known as a genre of artistic theory-practice called "art mods," a subcategory within the more general area of art games.[i] Art mods are modifications of existing commercial games. These games, first-person shooters, are modified to create artworks that are themselves playable as art games and made possible by the technological and cultural changes that took place during the 1990s.

During this decade, a moment of genre formation occurred during which time new media and digital art cultures began recognizing the emergence of the genre of art games and art mods. As Christiane Paul stated, "Games are an important part of digital art's history in that early on they explored many of the paradigms that are now common in interactive art."[ii] Gaming has been a significant factor and force among media art histories and traditional art histories during the twentieth century. New media and digital art in particular feature this influence strongly as the basic tool sets (of software, programming, rendering, etc.) and the development environments (of the computer hardware, video processors, operating systems, etc.) are the same in commercial gaming as they are in the new media and digital art worlds. During the 1990s, video and computer based art games became highly recognizable and exciting forms for those involved in these media art theory-practices. For generations of media artists who had reached adulthood by passing through or along the rise of arcades, video games and computer games, the form, content, context and

implications of game culture are a natural home, holding promising possibilities for contemporary artmaking.

In this text, I will focus simply on the art mod as a subset of art games rather than attempt a general overview of digital or code-based art games. Furthermore, I will concentrate mainly on a specific discourse within art mods. Already, within the slightly more than ten-year history of these new media art forms, a discourse has developed that places various projects in conversation. Through their modification of commercially available games, these projects undertake to model or simulate a gallery, museum or art space that physically houses the project. In these art mods, players can then play game levels inside the real galleries, museums or art spaces that are rendered or simulated. Works such as these began in the mid 1990s during a time when the commercial first-person shooters games became recognizable, culturally codified and widely popular as a genre. These first-person shooter games take place in 3D simulated digital spaces that are constructed as more or less complex mazes filled with monsters of one kind or another. Technical developments in these commercial games pushed their engines (their underlying code bases) to render increasingly 'realistic' depictions of these mazes and monsters, the 3D environments and characters that provide the contexts, challenges and obstacles in these games. Depictions of increasingly 'realistic' violence within these games has been and remains a politicized issue of the first-person shooter. Artists who engage in this ongoing conversation have played with, altered, and critically commented on

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these structural conventions and cultural implications through the art mods they produce.

I will primarily address the *Museum Meltdown* project by Tobias Bernstrup and Palle Torsson as an important and influential art mod. Made in a number of versions from 1996 to 1999, *Museum Meltdown, w*hile not the first project to fit the description I have outlined above, did continue and extends a specific conversation that was and remains deeply influential. This continued conversation has and continues to inspire artists in this field. Projects such as *Arsdoom* by Orhan Kipcak, Curd Duca, Rainer Urban, XRay and collaborators (which proceeded *Museum Meltdown* by a year), *Museum Meltdown*, or the *Everything I Do is Art, But Nothing I Do Makes Any Difference* series (init. 2005) by Chris Reilly are all points of articulation in this conversation that connect the emerging technical possibilities of first-person shooters with critical artistic considerations. This text will also locate the emerging technical possibilities in these first-person shooter games in an important but not technologically deterministic role regarding the formation of the genre of art games and the subgenre of art mods.

Technological changes occurred in the decade of the 1990s, shifting computing, gaming and online networking into peoples' homes and artists' hands. During this time consumer computing, video and computer games became increasingly familiarized as household activities rather than remaining specialized activities taking place in designated social spaces outside the home (such as video arcades, university campuses, etc.). As these digital systems and games

became domesticated, the internet and World Wide Web became popularized and commercialized as social spaces. The introduction of and subsequent explosion in activity on the World Wide Web created social situations where digital files (such as art mods) were more easily exchanged through online communities dedicated to specific aspects of computer cultures (such as gaming). The core technologies of these digital products, the hardware (such as the graphics processing power of video processing cards) and software (such as the games themselves) developed rapidly at this time, encouraging artists who were a part of these computer cultures to consider these systems as both players and creators or modifiers.

In 1992, id Software introduced *Wolfenstein 3D*, a game in which the player travels through the maze-like architecture of Castle Wolfenstein, as seen through the first person perspective of an American soldier fighting Nazi soldiers, attack dogs, zombies, cyborg mutants and a cybernated Adolf Hitler. Through the form and structure of the game and game play, *Wolfenstein 3D* is widely recognized as establishing the first-person shooter as a popular genre of 3D computer games. The first person perspective of this game and all subsequent games in this genre positions the view of the player inside the main character's perspective such that the player sees the main character's hands (holding weapons such as knives, machine guns, crowbars, etc.) in front of them. The character's outstretched hands and weapons frame the experience of moving through the architectural mazes and enable the character to contend with whatever monsters they may encounter. This subjective point of view and embodied virtual camera position,

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with its presence and directness of action, contributed to the cultural interpretation or perception of the '"realism"' of *Wolfenstein 3D* in particular and the first-person shooter genre in general. This aspect of first-person shooter also contributed to the cultural critiques of, anxieties around and/or potential effects of the violence of these games.

The game *Doom* by id Software followed *Wolfenstein 3D* in 1993 and further established, popularized and codified the genre of the first-person shooter. With *Doom*, id Software advanced the core technologies of the game (including the aspects of game play, physics, rendering, etc.). Through these technological advances, id Software further defined the genre distinction of first-person shooters. *Doom* provided players with the ability to extend and customize the game to a greater degree. Extensibility became of principle importance to id Software as well as to the genre of the first-person shooter, contributing deeply to the popularity of the genre. This technological possibility of extensibility created the platform on which players could become a community of developers, building, editing and sharing their extensions (their modifications or mods) with one another and playing each other's game levels (the maze-like maps that constitute the architectural spaces inhabited and traversed in these games). id Software continued by releasing improved authoring tools with later editions of *Doom*. id Software has maintained an open, enthusiastic and supportive attitude towards hacks, modifications and creative recontextualizations of their games. As Tilman Baumgaertel wrote in 2004, the recent history of id Software's open attitude to

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these principles combined with the hard work of a dedicated community of players and the Net/Web facilitated rapid developments in providing improved tools for making mods and lead towards the realization of art mods as an area of artistic activity.[iii]

Modifications, and thereby the principle of re-programmability, became software features in these and subsequent games. The gaming culture surrounding these games values these features as primary principles of the first-person shooter genre. Increasingly, editing levels to create these mods did and does not require comprehensive or advanced computer programming skills. The abilities required were increasingly simple familiarity with the conventions of computer and game cultures. Being familiar with the experience of operating the GUI (Graphic User Interface), navigating online networks, installing and configuring software, selecting and applying properties from menus, and other such actions (that are most often acquired through playing computer-based games and exploring computer operating systems) increasingly became the necessary skill sets required to make mods. Time and patience are also necessary skills in this practice, especially when the community-developed tools are less than stable or require idiosyncratic or poorly documented measures to be taken in producing mods. Even still, in cases such as those, support for the scripting (written in specific computer programming languages or following particular conventions) that is needed for modding is often available online. The community of enthusiasts, developers and artists involved in modding often offer their

experiences and knowledge for free to those who are interested in tutorials and widely available cultural resources online. As Baumgaertel wrote, these approaches and possibilities "that computer games offered their creators did not remain hidden for long, especially from artists who worked with new media or the Internet."[iv]

Doom's relevance to media art histories was particularly highlighted when The ZKM Center for Art and Media in Karlsruhe, Germany, included *Doom* in their *Media-Art-History* exhibition in 1997. The ZKM (an important international site of media art research, exhibition and publishing) included the *Doom* game, the software itself, as a commercial application rather than any specific art mods built using *Doom*. As such, the ZKM's *Media-Art-History* exhibition ascribes cultural meaning and significance to the *Doom* game/game engine itself. As stated in the publication/exhibition catalog for the *Media-Art-History* exhibition, *Doom* "gained cult Status because it links up with primeval human experiences (of being hunters and collectors) and thus produces a feeling of being alive (due to the fight for survival in a hostile world), with which every player is familiar. Contrary to reality, however, the possibilities of adapting the game to one's own abilities in '*Doom*' are almost un-limited."[v] In this quote, the combination of modification as well as the basic aspects of the first-person shooter that *Doom* codified generates cultural importance for this commercial game to be considered and included among media art works in an early and influential tracing of current media art histories. The *Media-Art-History* exhibition text goes on to identify the way in which *Doom*

changed the cultures of gaming and media through id Software's development of the network functionality for multiplayer online play of *Doom* as well as the through the modding of *Doom* undertaken by the community of "enthusiastic '*Doom*' players". By the time this text was written in 1997, artists had already joined this enthusiastic community as players of *Doom* themselves and developers of art mods.

In 1995 *Arsdoom*, an art mod running in/on the *Doom* engine/game, was exhibited at Ars Electronica in Linz, Austria. The *Arsdoom* project by Orhan Kipcak, Curd Duca, Rainer Urban, XRay and collaborators appears to be the first large scale art mod exhibited in an art space that it itself models. Tilman Baumgaertel goes further, stating that *Arsdoom* appears to be the "first attempt by an artist to use a computer game as an artistic medium".[vi] While this larger claim is contentious and impossible to substantiate, *Arsdoom* undoubtedly did open a dialog between digital and new media art and gaming cultures through level editing or modding. Julian Oliver (one of the founders of *selectparks*, a critical web-based resource for art games) has called the resulting activities "practically a tradition of work of this kind".[vii] In this text, I am interested in positioning this 'tradition' as an ongoing conversation that can be charted as beginning with *Arsdoom*, continuing through the 1990's and today. As briefly outlined above, this conversation was informed by game cultures, exists through the social networks of the Net/Web and runs on the game engines that were developed in the early 1990's. Furthermore, art modding (as an ongoing conversation) has and continues

to feedback into the technocultural influences that gave artists these possibilities. This conversation continues through the late 1990's with *Museum Meltdown* by Tobias Bernstrup and Palle Torsson being the next most visible project of this kind and connecting to related activities in projects such as *bio tek kitchen* by josephine starrs & leon cmielewski and *Q3* by feng mengbo (both from 1999) and then crossing over the threshold of the millennium during the turn of the century with projects such as *Everything I Do is Art, But Nothing I Do Makes Any Difference* by Chris Reilly in 2005 and 2006. Narrating this media art history helps to locate points of articulation in this conversation that began in the twentieth century and continues into the twenty-first.

Arsdoom, the work which is often consider to have initiated the conversation amongst art mods (and the specific kinds of art mods that I am concerned with in this text), involves all the basic principles of this practice. These basic principles are: the recreation/simulation/modeling of the exhibition space using a game engine; technically unaltered rules of game play inherited from the game engine itself (whose meaning is culturally shifted by being relocated and recontextualized inside the simulated exhibition space); an engagement with questions of "realism" and violence raised by the first-person shooter as a genre; and the mobilization of institutional critiques. *Arsdoom* accomplished these aspects of the art mod by modeling the Brucknerhaus, a concert hall and important venue for exhibitions and events related to the Ars Electronica Festival. Inside this 3D rendered model/simulated exhibition space players could choose between

characters/artistic identities such as Joseph Beuys, Arnulf Rainer, Georg Baselitz or Jeff Koons and wield weapons such as a "color gun and water hose".[viii] As the Ars Electronica Festival's online archive details, this project intended to create the conditions for "The desperate efforts of a misguided will to create – trapped in a loop of desperate creativity, tapping the aesthetic arsenal – and at the same time, destruction."[ix] *Arsdoom* was exhibited to play during the festival and available online at that time from the Ars Electronica servers as a downloadable level for *Doom*. As Axel Stockburger wrote in 2006, this project importantly played with the assumptions of digital and new media art by inverting the relation of the digital object and it's exhibition. Stockburger writes that "Rather than bringing an object from outside the art context into the white cube, the gallery or museum space itself was presented as a model that could be opened up..."[x] In this opening up exists the potential for mobilizing an institutional critique of the festival itself. This institutional critique is found within a game within a game. *Arsdoom* is a game of playing at breaking the rules, order and values of the festival. As documented by various writers, players particularly enjoyed destroying an image of the exhibition director Peter Weibel. Weibel's role as the most desirable target for destruction is a simple illustration of the carnivalesque inversion of the social order or hierarchical power structures of the festival.

Museum Meltdown by Tobias Bernstrup and Palle Torsson was produced beginning in 1996 and in 3 different versions until 1999. *Museum Meltdown* continues and extends the conversation begun by *Arsdoom*. By relying on the

same basic principles of this practice of art mods (as defined above), *Museum Meltdown* itself modifies the art mod genre in these early moments of the development of computer based art games. *Museum Meltdown*'s extension and modification lies in the simplicity of the act of reproducing a multi-layered 3D rendered reproduction of the physical exhibition space while maintaining the rules of play inherited from the commercial games being modified. Installations of *Museum Meltdown* are playable in the game space that constitutes and reproduces the conditions of *Museum Meltdown*'s exhibitions. Like *Arsdoom*, *Museum Meltdown* appropriates the games and the exhibition spaces it runs on and in. Players of *Museum Meltdown* stand at this intersection between the gameworlds controlled by the rules of play for first-person shooters and the artworlds created by the institutions that exhibit these projects. Bernstrup and Torsson extended and modified *Museum Meltdown* itself in three different versions, using updated digital technologies. These three versions produced over three years involved a transition through various game engines and authoring environments to model the institutions that exhibited the work in higher degrees of "realism" and with greater destructive abilities for players to violently express their desires to destroy these exhibition spaces and their collections while battling the inbuilt monsters of the games.

As Lev Manovich writes with regard to the subject of variability, "A new media object is not something fixed once and for all but can exist in different, potentially infinite, versions."[xi] Manovich goes on to describe new media as

"characterized by variability" stating that different versions typically replace identical copies in new media art.[xii] *Museum Meltdown* is certainly variable in this sense, having existed in multiple instances or instantiations of the larger project. Still, the artists intended each installation/exhibition of *Museum Meltdown* to be understood as an individual work of art as well as a part of the larger project. As Tobias Bernstrup recently stated in an interview with the author, "Each museum/game was a new different piece."[xiii] Each of these individual pieces was created for the institution that exhibited the work, virtually modeling that institution inside the art mod and as such they were, as Bernstrup states "site specific" and engaged with every particular museum's "long or short history." Playing with these museums, the versions of the *Museum Meltdown* project create a new media art form based on recoding the relationship between the art institution and the artist. Rather than exhibiting the artists, these museums are exhibited by the artists who have been invited to model them. These models (of the museums and their collections) are then virtually defaced and destroyed by the forms of play that are required or encouraged with these art mod projects.

As the different versions of *Museum Meltdown* were built with more and more advanced systems, the game play that was possible changed in subsequent versions. The first *Museum Meltdown* modeled and was exhibited in the Arken Museum of Modern Art in Copenhagen as a part of the *Borealis 8: The Scream* exhibition in 1996. In this first instance of the project only details of the architectural interiors of the museums could be destroyed during game play that

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was inherited from *Duke Nukem 3D*, the game engine on which this art mod ran.

As Bernstrup writes, they included architectural details such as "glass, and a

mezzanine floor that would explode" and toilets that could be "smashed to cause

a little fountain" to erupt. This was partially a technological limitation of the times

as well as an artistic decision. The physical architecture of the Arken Museum had

particularly inspired Bernstrup and Torsson to take this approach. As Bernstrup

explains, they were "struck by similarities between the museum and a 3D shooter

game. The museum interior had a lot of game like texture details such as fake

metal panels and big sliding metal doors." Or as Torsson recounts, they "paired

together the concrete setting of the postmodern architecture" through its'

resemblance to the first-person shooter games they were playing. Torsson states

that they "felt like the fake metal panel and distorted perspective for the museum

could be mapped to the in-world textures of games" because they felt the

museum was already a simulated space of game play, the game in this case being

the socially constructed worlds of institutionalized art making, sales and

exhibition.

The second version of *Museum Meltdown* introduced the ability to destroy

the museum's collection of artworks. This instance of *Museum Meltdown* recreated

the Contemporary Art Centre of Vilnius in Vilnius, Lithuania in 1997. This version

and the added ability to destroy artworks as well as architectural elements of the

museum. The context of the museum becomes a prerequisite for the possibility of

playing at destroying art inside the art institution. Gunning down, exploding or

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otherwise destroying established and recognizable art works in the museum space can been understood as an attempt to mobilize an institutional critique. The digital objects, that functionally render/represent the art works in the museums' collections, were given properties by the artists so that they could be interpreted by the game engine as destructible. The artists chose to set these properties such that the players could damage and destroy the works. This destruction becomes the game within the game, as with the destruction of the representation of Peter Weibel in *Arsdoom*. This game of institutional critique within the game of the art mod can occur within the existing rules of play offered by the game engines (as an existing and available structure), relying on and replying to the context of the museum. In this way, *Museum Meltdown* addresses both the game presented by the game engine and the game of the institutional artworld operating in the specific art institutions where *Museum Meltdown* was installed. Torsson explains that they were interested in this approach because it allowed them (as artists) and participants (as players) "to crack the codes and use them as you would in any social sphere." Torsson goes on to identify these codes as the "hierarchical self-manufacturing artworld where power upwards works as an isolating layer to the access of production of meaning." Confronting this gameworld of the institutional artworld, *Museum Meltdown* gave players a chance to exercise or experience an institutional critique by "blowing up masterpieces".

The symbolic violence of *Museum Meltdown* connects this project to parallel institutional critiques and anti-art gestures from various art histories. Positioned

as more or less threatening in their depictions or realizations of violence, these parallel histories provide points of connection and distinction. Art movements such as Dada, Fluxus and the Situationist International are all punctuated by (real/symbolic) threats against artworld institutions. Specific works of art from the twentieth century such as Jean Tinguely's self-destructing *Study for an End of the World*, Richard Serra's *Prisoners Dilemma* performance/video or Chris Burden's *Samson* installation present related moments created from mechanized and/or virtualized games of self-destruction and an interest in potentially nihilistic critiques of specific artworld institutions and contexts. An important distinction with art mods lies in their dual functionality as art and as mod, placing them solidly in the fields of both media art histories and game culture. Both of these fields, as detailed above, relate to "realism" through representation and the rendering of simulations. The violence of art mods becomes more "realistic" as computing power increases.

The third and final installation of *Museum Meltdown* in 1999 rendered The Moderna Museet in Stockholm, Sweden. In this instance Bernstrup and Torsson upgraded to the game *Half-Life*. *Half-Life* is a game that is famously known for its game engine's ability to render increasingly "realistic" representations of space, characters and violence. According to Bernstrup, they rendered "about 75% of the originals works hung according to the collection. The debris was more realistic, for example when breaking Duchamp's *Large Glass* with a crowbar you would see both scattered glass and wood!" Torsson discusses how the simulations, "realism"

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and violent implications/suggestions crossed over from the virtual/digital to the real/analog worlds at exhibitions of *Museum Meltdown*. Torsson relates a range of experiences of this kind, from witnessing a child "pointing his finger formed as a gun at on of the real guards of the museum"[xiv] and playing at shooting them as if in a first-person shooter to how the Head of Security at one of the museums expressed anxiety that the project could be "used as a way to learn to master a robbery of the museum."[xv]

Players move at the intersections of these models (the material of the art mods) and the installation of these projects in the art institutions that exhibit them. Players literally stand and move through the simulated gamespace and the art institutions' physical architectural space that is exhibiting the work. In these moments, a sense of self-reflexive play or recursive presence occurs within the game and within the game within the game. The double-coded placement, being simultaneously within the physical and virtual museums that had invited these artists to virtually destroy them, contributed to Bernstrup and Torsson losing interest in the continuation of the project. Rather than simply modeling every museum that invited them, Bernstrup and Torsson stopped *Museum Meltdown* while continuing both individually and (more recently) together to work on projects that still explore the mediated intersections of analog/physical and digital/game engine environments and architectures.

Chris Reilly's *Everything I Do is Art, But Nothing I Do Makes Any Difference* series from 2005 and 2006 directly connects and converses with these previous

projects. Like *Museum Meltdown*, *Everything I Do is Art, But Nothing I Do Makes Any Difference* also exists in three updated/upgraded versions. In 2005, Reilly created an art mod that reproduced/responded to an installation by his friend and fellow artist/art student Pat Rios using the *Half Life 2* game engine. Rios's installation was a room in the School of the Art Institute of Chicago's exhibition galleries which was ambiguously but industriously filled with materials and in which Rios took up occasional residence as the "featured artist" of a fictional organization called "The Chicago Institute for Advanced Research & Discussion". Rios's installation was based on the implicit assumption that all of Rios' undifferentiated activities constituted his art. Reilly responded by modeling the installation and then personally performing the destruction (via his art mod) of Rios's work in an adjacent room. Standing in the gallery, observers witnessed Reilly's performative art mod during the closing reception for Rios' exhibition. One could watch Reilly destroy the simulated installation while keeping the real installation in view. This split vision presented another level of self-reflexivity to this performative art mod.

In 2006, Reilly updated/upgraded his art mod to include not simply one room of the three-level warehouse style exhibition space of the gallery but rather to model the entire building as well as the streets and surfaces of adjacent buildings visible through the windows of the gallery. This instance of his project was exhibited as multiple playable levels (as with the previous art mods discussed in this text) as Reilly's thesis work for the 2006 Undergraduate Exhibition. His art

mod was installed in one of the last rooms on the top third floor of the gallery in order to require visitors/players to have traversed the entire exhibition before coming to his work. Within his work, Reilly modeled various pieces of art made by his fellow students as well as providing visitors/players the opportunities to create what Reilly referred to Abstract Expressionist works using the simulated walls as canvases and saw blades, bullets, harpoons and buckets of red, green and blue paint as the 'painting' materials. As with *Museum Meltdown*, Reilly included the game play inherited from *Half-Life 2*, filling the gallery with murderous monsters, robots and zombies that have to be killed or destroyed in order to survive in the maze-like structure of the Undergraduate Exhibition. Extending the form further, Reilly forced visitors/players to destroy the other artists/art students art works by hiding health points and extra ammo inside the artwork. Whereas, *Arsdoom* and *Museum Meltdown* made the game within the game of destroying art inside art institutions optional, *Everything I Do is Art, But Nothing I Do Makes Any Difference* foregrounds this destruction as a necessary part of survival in order to experience the work. Additionally, the ability to create 'Abstract Expressionist' works by mutilating the gallery interiors, underscores Reilly's insistence on engaging with questions of "realism" through simulated violence in order to play with and critique the institutional context of the exhibition of these art mods.

Although others have made the connections before between *Everything I Do is Art, But Nothing I Do Makes Any Difference* and *Museum Meltdown*, Reilly did not take direct inspiration from *Museum Meltdown*.[xvi] As a student of mine during

the time of his art mod production, Reilly was absent during a critical discussion of *Museum Meltdown*. Later, I introduced Reilly to the *Museum Meltdown* project, but not until after he had already begun work on *Everything I Do is Art, But Nothing I Do Makes Any Difference*. Similarly, in the interview I recently conducted with Bernstrup and Torsson, they do not identify *Arsdoom* as an influence or even acknowledge an awareness of the project. Instead they cite the first-person shooter games they were playing in the mid-1990s. And if Tilman Baumgaertel's desire to position *Arsdoom* as unprecedented is accurate, then these works cannot be considered in a fixed chronologically arranged genealogy of recent media art histories. Rather, as I have attempted to describe in this text, these art mods coexist in conversation, as points of articulation, amidst the game cultures they come from and feedback into, in the ongoing discourse of art games and the continued development of art mods.

[i]   The web-based *selectparks* project categorizes the intersections of art and game cultures in their "archive" section using the following subcategories: "art mods", "machinima", "sonichima", "art games", "location based games", "political games", "open source games", "mobile games", "browser games", "sex games", "performance instruments", "sculpture", "digital imaging", "exhibitions" and "DVDs". selectparks, archive, http://www.selectparks.net, 2007.09.01

[ii]   Christiane Paul, *Digital Art* (London: Thames & Hudson, 2003)

[iii]   Tilman Baumgaertel, "Modification, Abstraction, Socialization. On Some Aspects of Artistic Computer Games," Media Art Net, 2004, http://www.medienkunstnetz.de/themes/generative-tools/computer_games/scroll/

[iv]   Ibid.

[v]   Hans-Peter Schwarz, *Media-Art-History* (Karlsruhe: Center for Art and Media with Prestel Verlag, 1997)

[vi] Baumgaertel, "Modification"

[vii]   Julian Oliver, archive: *Art Decal*, 2006.10.20, selectparks, http://www.selectparks.net/modules.php?name=News&file=article&sid=604

[viii]   Orhan Kipcak, *Arsdoom - art adventure*, 1995, Ars Electronica Archive, Catalog Archive, http://www.aec.at/en/archives/festival_archive/festival_catalogs/festival_artikel.asp?iProjectID=8643

[ix]   Ibid.

[x]   Axel Stockburger, The Rendered Arena: Modalities of Space In Video and Computer Games," thesis, University of the Arts, London, 2006

[xi]   Lev Manovich, *The Language of New Media* (Cambridge: The MIT Press, 2001)

[xii]   Ibid.

[xiii]   Interview with Tobias Bernstrup and Palle Torsson by the author, August – September 2007. Subsequent quotations from Bernstrup and Torsson also come from this interview.

[xiv]   Ibid.

[xv]   Ibid.

[xvi]   Régine Debatty, *Everything i shoot is art,* 2006.10.20, *We Make Money Not Art*, http://www.we-make-money-not-art.com/archives/009212.php